INTRODUCTION

Metro Aluminum Products is an entirely Canadian owned company manufacturing and distributing Architectural Aluminum Glazing Systems that utilize Canadian manufactured aluminum extrusions and finishes.

With our head office and main manufacturing facility in Surrey, British Columbia and a satellite warehouse located in Calgary, Alberta, Metro Aluminum is the supplier by choice, to the majority of glazing contractors throughout Western Canada.

Metro Aluminum is an innovative company with an on-going commitment to improve and expand its product line to meet industry changes and standards. Metro Aluminum is dedicated to providing the the best possible quality and service to our customers at prices that are always competitive.

Locations and Contact Information

Web Site www.metroaluminum.com

Head Office, Sales and Manufacturing
19045 – 24th Avenue,
Surrey, B.C. V3Z 3S9
Telephone 604-535-5316 / Toll Free 877-535-5316
Fax 604-535-5319 / Toll Free 877-535-5315
Email: info@metroaluminum.com

Alberta Manufacturing
261108 Wagon Wheel Way.
Rocky View County, Alberta, T4A 0E3
Telephone 403-735-5014
Fax 403-291-2695
Email: info@metroaluminum.com

ARCHITECTURAL ALUMINUM CATALOGUE

METRO ALUMINUM Products Ltd.

SWING DOORS

A

Part 1 - GENERAL

Scope - The doors shall be _____ as manufactured by METRO ALUMINUM Products Ltd. Supply and install aluminum doors, as described on the architectural drawings and as specified herein.

Work Not Included - See: Specifier's lists of excluded items; Items furnished but not installed and/or Items installed but not furnished.

Related Work Specified Elsewhere - See: Specifier's lists and related Sections.

Design & Performance Requirements - Doors to fully comply with applicable standard specifications as typically referenced to the following performance requirements criteria: Air Tightness, Water Tightness, Wind and Other Load resistance, Temperature Index and Energy Performance. (Specifier's selection)

Submittals - Shop Drawings & Samples - Submit all documentation and samples for review by Consultant at one time, prior to fabrication of door products.

Quality Assurance - Provide all necessary information to show that all involved products meet or exceed the requirements of these specifications.

Delivery, Storage and Handling - Deliver, store, handle, protect and schedule materials and products so as to avoid any damage. Follow recommendations of AAMA CW-10 "Care and Handling of Architectural Aluminum from Shop to Site" and others as applicable.

Part 2 - PRODUCTS

Materials - All materials to meet the minimum design and materials specifications as applicable. Any defects impairing strength, durability or appearance are not acceptable. Extruded aluminum shall be AA 6063 T6 alloy and temper - Fy = 110 MPa (16 KSI) minimum. Sufficient strength and size fasteners shall be made of corrosion-resistant and compatible material such as cadmium or zinc plated carbon steel, stainless steel or aluminum, to prevent any galvanic action (electrolytic corrosion). Standard weathering at perimeter frame shall be pile cloth with a vinyl fin – minimum, or an extruded thermoplastic elastomer tubular profile with a semirigid setting key (Specifier's selection). Optional weathering at the bottom rail shall be a sweep blade type strip secured with concealed fasteners. Dry glazing method to utilize extruded dense Neoprene, EPDM, or other equal material; spline (and/or wedge) gaskets set into extruded aluminum stops. Gasket profile shall be designed and sized to fit tight and properly seal glass-metal interfacing. Glass setting to be compatible with glass unit seals and/or other parts involved as required.

System Description - Door System shall be type out-swing/in-swing _____. METRO Series for single glass (for sealed insulating glass units), uninsulated (insulated) - Specifier selection - as manufactured by METRO ALUMINUM Products Ltd.

Reference minimum thickness of extruded metal shall be:
Frame 3 mm (0.12") and Glazing Stop 1.3 mm (0.05") minimum.

Frame nominal dimensions of extruded metal shall be:

Depth of frame	_____
Width of stile	_____
Height of top rail	_____
Height of middle rail	_____
Height of bottom rail	_____

Glass retention, as for dry glazing method, shall be achieved by extruded aluminum glazing stop profile and inorganic rubber gasket. Whenever substitute/alternative products are considered, supporting data to be submitted ten (10) days prior to bid date to allow for valid comparison. Approval of alternates to be confirmed in advance of bid closing by addendum only.

Fabrication - Tubular profiles of rails and stiles shall be accurately fabricated and assembled to provide tight fit hairline joints only. Corner joinery shall utilize assembly spigot-bracket. Parts involved shall be fastened by means of anticorrosive steel screws and bolts with additional securing welds to allow for permanent true and square set of frame elements. Extruded aluminum square glazing stops, equipped with hollow gaskets, shall secure glass on both sides. Specified hardware shall be connected accurately to aluminum framing as per manufacturer's specifications. No exposed fasteners are permitted. Each door leaf to be equipped with adjusting mechanism, set at the top rail, to allow for necessary installation adjustments. Both stiles of centre hung single door, hinge and meeting stile (1) sides of centre hung pair doors shall be furnished with hard-backed poly pile weather-stripping, as required. Perimeter frame of offset pivoted (or butt hung) doors to have weather-strip stops at jamb and head. Active meeting stiles of pairs to be furnished with matching weather-strip device set and secured in appropriate reveal-groove. Bottom rail to receive weather-strip sweep as required.

Finish - All exposed surfaces shall be finished as specified. The finish, as per AAM designation, shall be (Specifier's selection):
Standard clear anodizing to AA - M12C22A31
Standard perma bronze to AA - M12C22A44
Standard black anodizing to AA - M10C21A44
Duracron acrylic enamel to AA - M12C4XR1X
Custom paint qualities and colors - Specifier's selection.
Hardware to have manufacturer's standard finish.

Hardware - Hardware shall be supplied by METRO ALUMINUM Products Ltd. for factory installation, and to include: (Specifier's selection):
Top and bottom offset pivots.
Intermediate offset pivots where required, or
1 pair or 1.5 pairs of 100 mm x115 mm (4" x 4.5") butt hinges, or
Centre hung pivots compatible with centre hung closers.
Push-pull - Metro standard.
Door closers - streamline or concealed.
Standard 150 mm (6") threshold with reinforced pivot anchor point.
Panic device. Various types available - Specifier's selection.
Alternative hardware clause: Hardware as specified under separate section of the Specifications. The manufacturer shall furnish all necessary templates for assembly and installation.

Part 3 - EXECUTION

Installation - Doors to be installed in prepared openings, at correct locations as shown on drawings, set level, plumb, square and aligned with other work in accordance with manufacturer's instructions, approved shop and erection drawings. Operating hardware, checked and adjusted as required, shall be left in ready for use condition. Perimeter joints to be sealed/caulked as specified and detailed to ensure weathertight assembly.

Protection and Cleaning - Work to be protected from damage during and after installation. Consult with manufacturer and installer to determine appropriate protective measures. The General Contractor shall be responsible for protection during construction and for final cleaning. After installation, aluminum work and glass to be cleaned according to instructions/manuals provided by product manufacturers and glaziers. Use appropriates cleaning materials and methods. Do not scratch or damage glass or finishes.

Note: The above Specifications should relate to The Product Specifications by METRO ALUMINUM Products Ltd. as applicable to the specific door types such as: 250, 350 and 500 Series.

METRO ALUMINUM Products Ltd.

DOOR CONSTRUCTION
PICTORIAL (3D) PRESENTATION

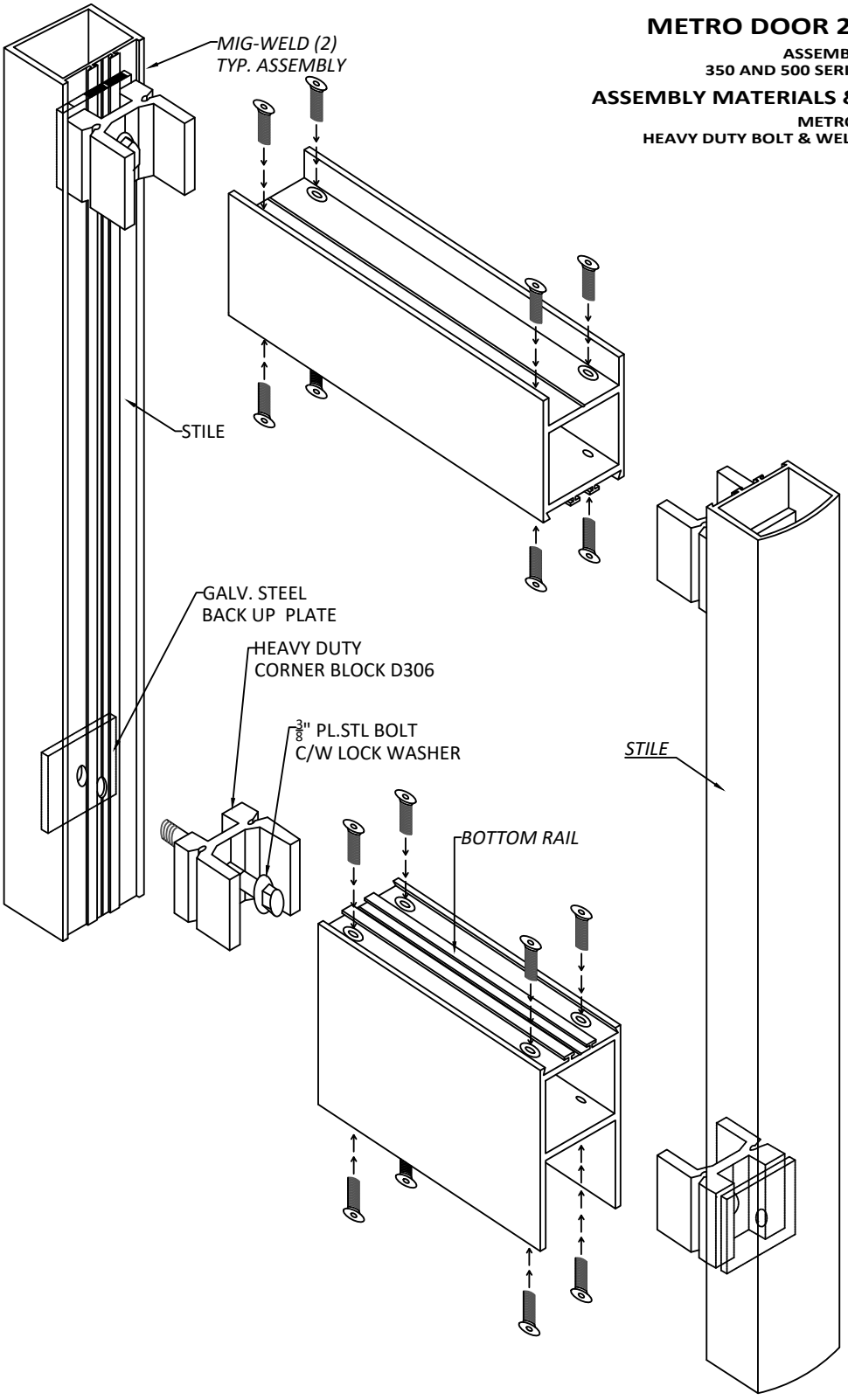
A 02

METRO DOOR 250 SERIES

ASSEMBLY DETAILS FOR 350 AND 500 SERIES ARE SIMILAR

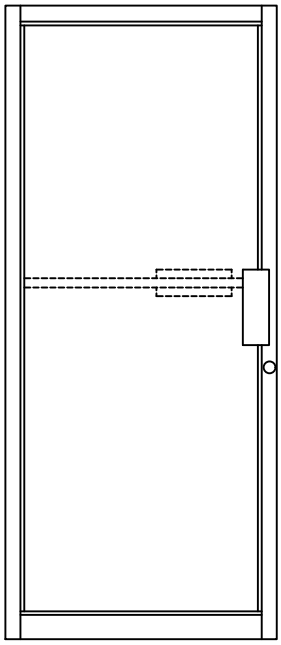
ASSEMBLY MATERIALS & METHODS

METRO'S STANDARD - HEAVY DUTY BOLT & WELD CONNECTION



250 SERIES
NARROW STILE DOOR

A
03



Our 250 Narrow Stile Door, the top choice for commercial applications, is renowned for its durability, versatility, functionality, and aesthetic appeal, making it an excellent choice for any business environment. Key features include:

- **Narrow Stile Design:** A sleek and modern appearance suitable for various architectural styles.
- **Single or Double Glazed Stops:** Accommodates different glazing configurations for enhanced performance and design flexibility.
- **Compatibility with Metro Framing:** Seamlessly integrates with Metro framing systems for a cohesive installation.
- **Mid and Bottom Rails:** Available in various sizes to meet your specific design and functionality requirements. (see page A-08 for details)
- **Welded Corners:** Each corner is welded & bolted for enhanced structural integrity.

Standard hardware includes: (see pages A-11 - A-17)

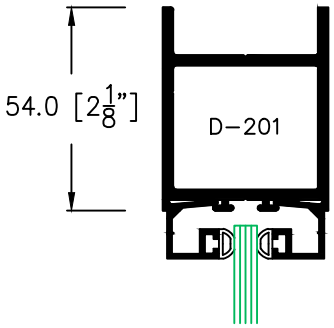
- Offset Pivots
- Construction Security Lock (Exterior)
- Thumb Turn (Interior)
- Metro Standard Push Bar/Pull Handle
- ½ Inch Threshold
- Exposed Closer

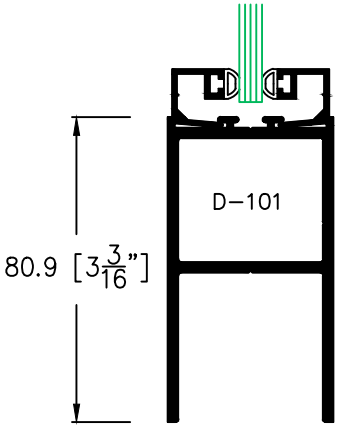
Works with hinging hardware options, including:

- Continuous Hinges
- Butt Hinges
- Center Hung / Walking Beam Pivots

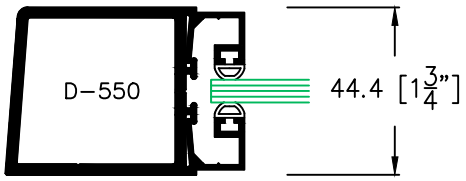
Compatible with most hardware options, including:

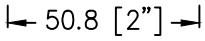
- Concealed Closer's
- Apartment Packages (Lever / Paddle)
- Offset D-Pulls and Ladder Pulls



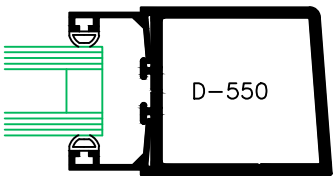


SINGLE GLAZED

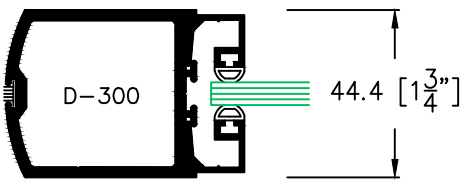


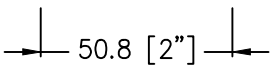


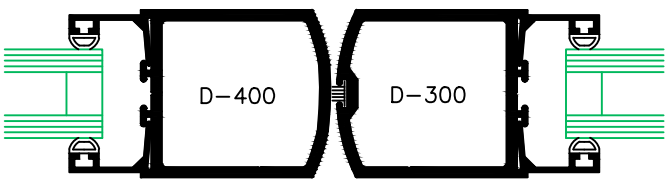
DOUBLE GLAZED



SINGLE ACTING







DOUBLE ACTING

METRO ALUMINUM Products Ltd.

250 SERIES
NARROW STILE DOOR

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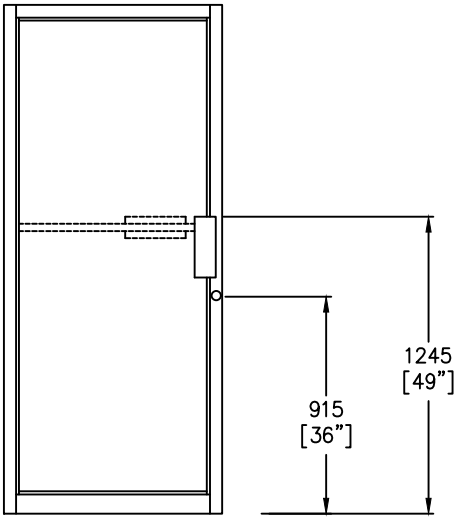
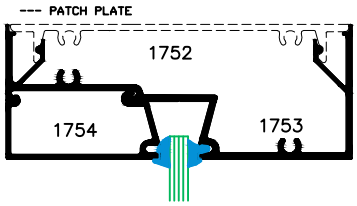
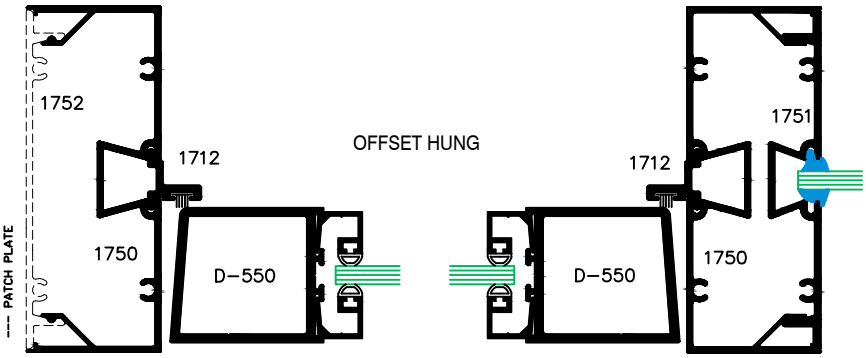
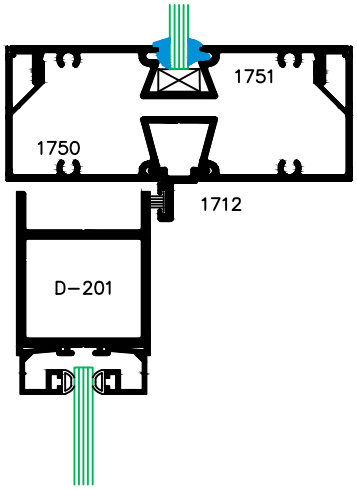
03A

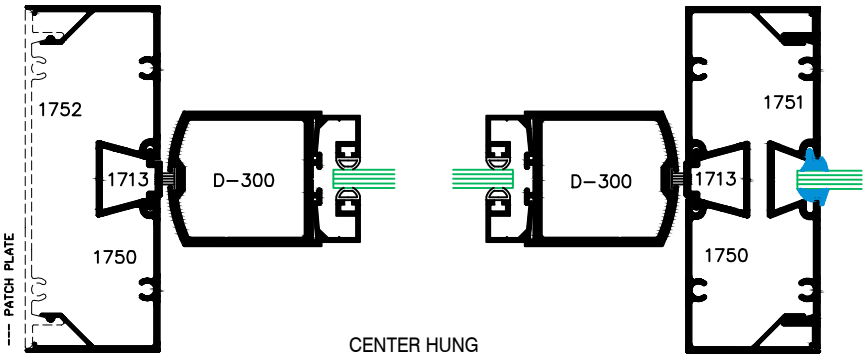


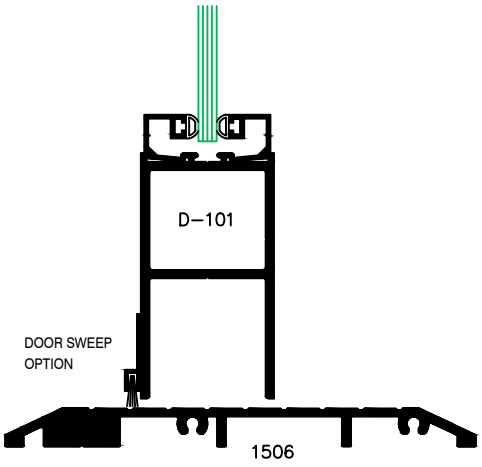
250 SERIES DOOR - 1750 SERIES FRAMING











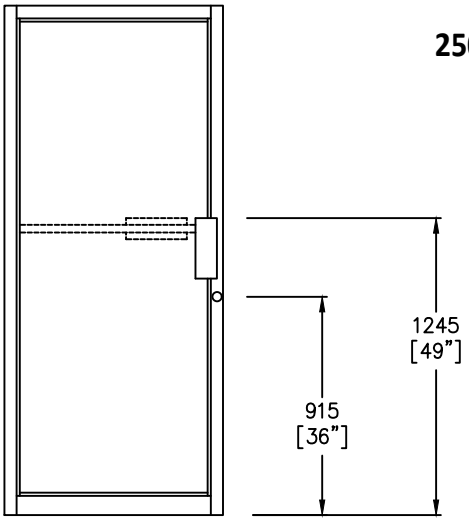
VARIOUS THRESHOLD OPTIONS
ARE AVAILABLE

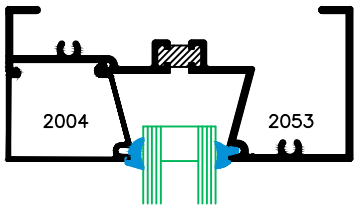
METRO ALUMINUM Products Ltd.

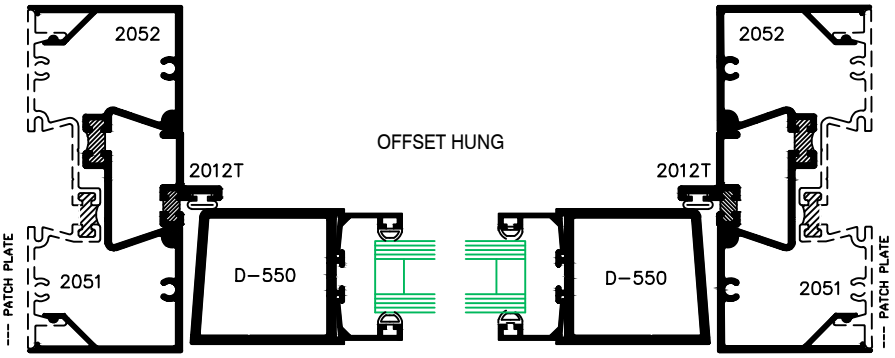
250 SERIES
NARROW STILE DOOR

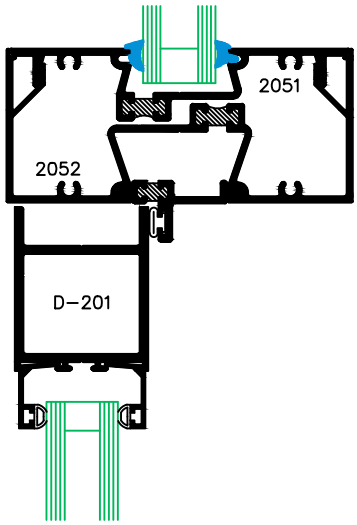
A
03B

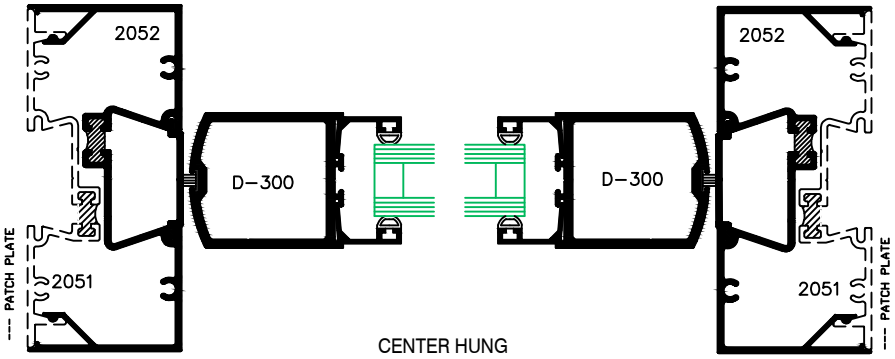
250 SERIES DOOR - 2050 SERIES FRAMING

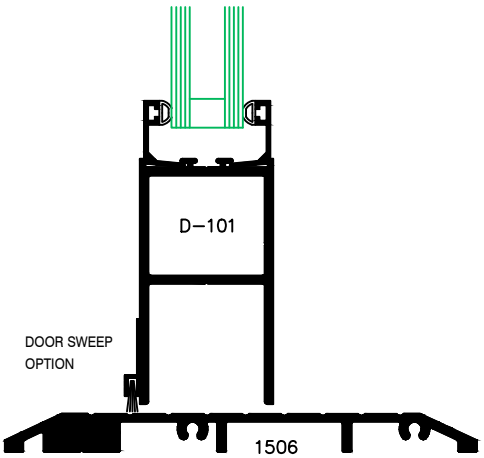










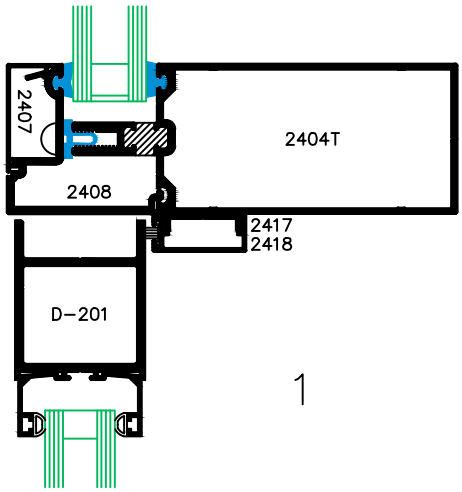


VARIOUS THRESHOLD OPTIONS
ARE AVAILABLE

METRO ALUMINUM Products Ltd.

250 SERIES
NARROW STILE DOOR

A 03C



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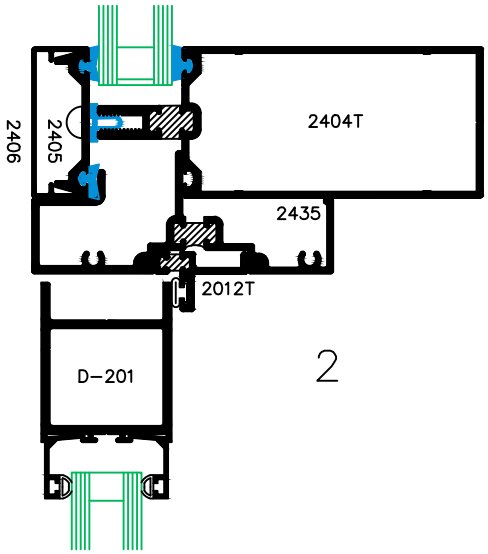
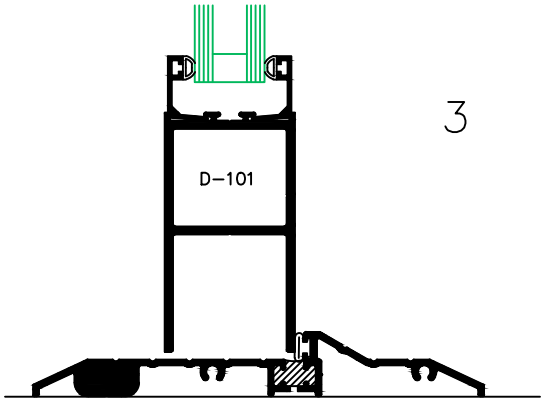


2

DETAILS
2400T FRAMING



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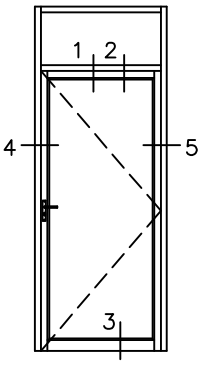
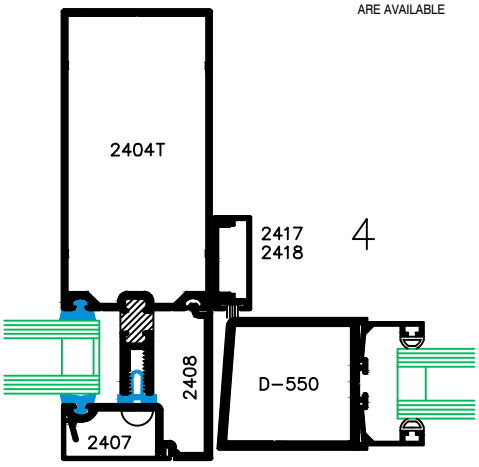
VARIOUS THRESHOLD OPTIONS ARE AVAILABLE



ELEVATION



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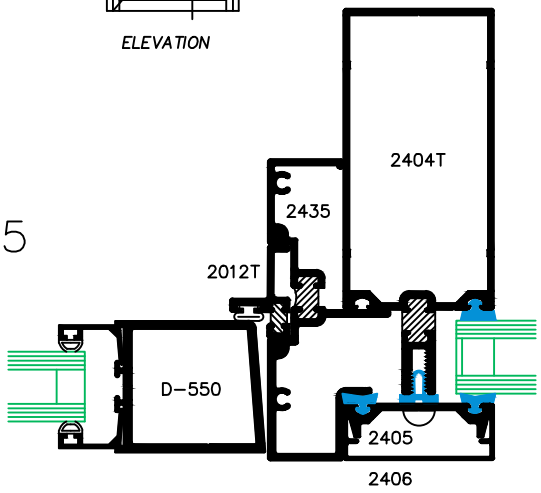
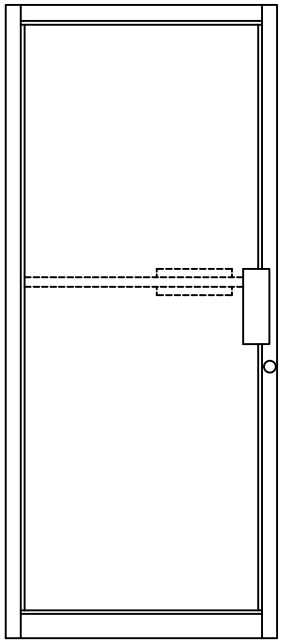


250T SERIES
THERMALLY BROKEN NARROW STILE DOOR

A 04



The 250T Thermally Broken Narrow Stile Door is an enhanced version of our popular 250 Narrow Stile Door, offering superior thermal performance and energy efficiency. Key features include:

- **Thermally Broken/Insulated Rails and Stiles:** Ensuring optimal thermal insulation and reducing energy loss.
- **Sealed Unit Glazing:** Providing enhanced weather resistance and improved insulation.
- **Compatibility with Metro Thermally Broken Framing:** Seamlessly integrates with Metro's thermally broken framing systems for a cohesive and efficient installation.
- **Mid and Bottom Rails:** Available in various sizes to meet your specific design and functionality requirements. (see page A-08a for details)
- **Welded Corners:** Each corner is welded & bolted for enhanced structural integrity.

Standard hardware includes: (see pages A-11 - A-17)

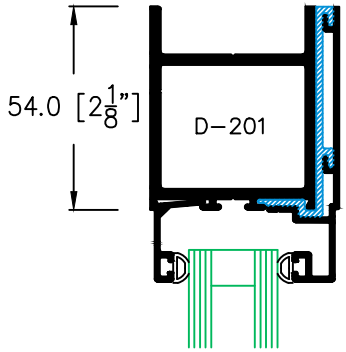
- Offset Pivots
- Construction Security Lock (Exterior)
- Thumb Turn (Interior)
- Metro Standard Push Bar/Pull Handle
- ½ Inch Threshold
- Exposed Closer

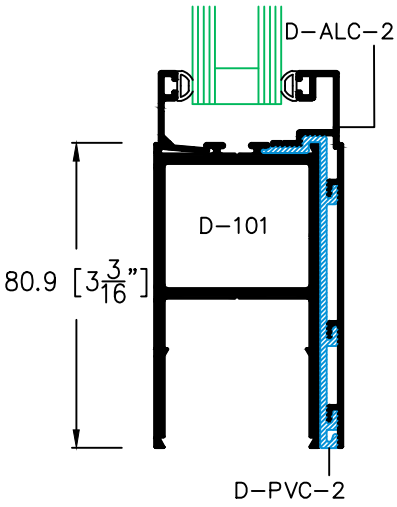
Works with hinging hardware options, including:

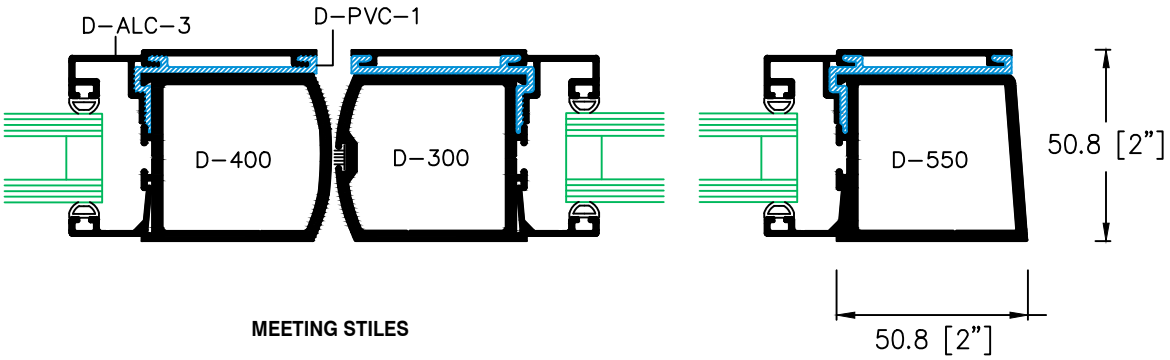
- Continuous Hinges
- Butt Hinges
- Center Hung / Walking Beam Pivots

Compatible with most hardware options, including:

- Concealed Closer's
- Apartment Packages (Lever / Paddle)
- Offset D-Pulls and Ladder Pulls







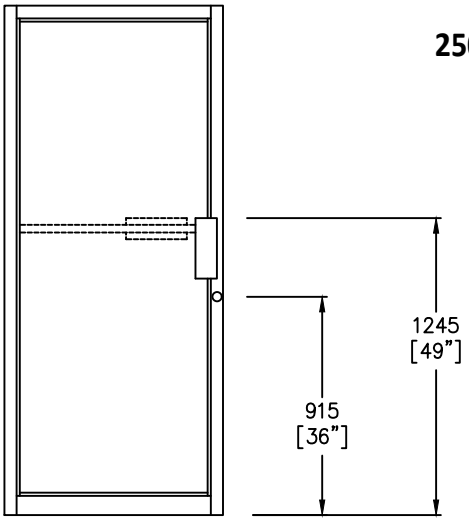
MEETING STILES

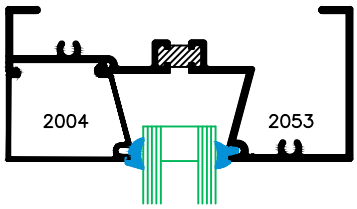
METRO ALUMINUM Products Ltd.

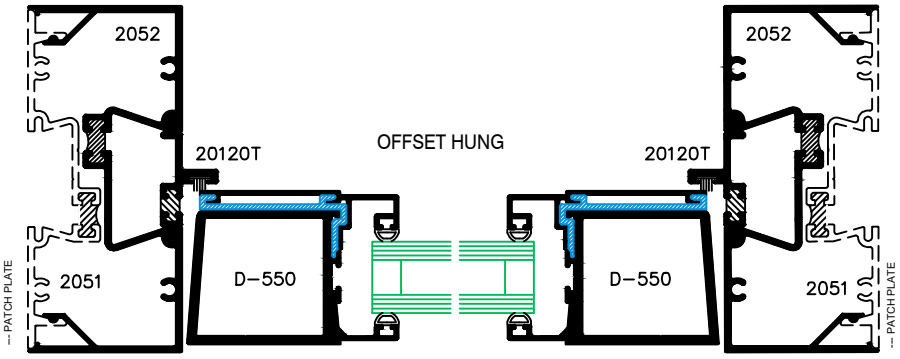
250T SERIES
THERMALLY BROKEN NARROW STILE DOOR

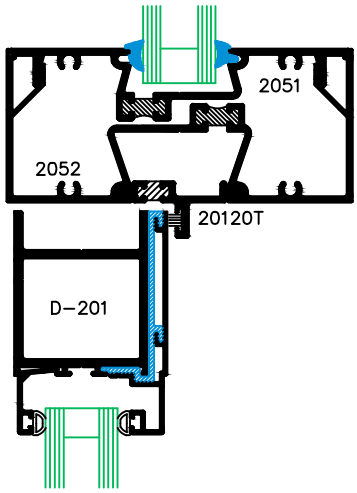
A 04B

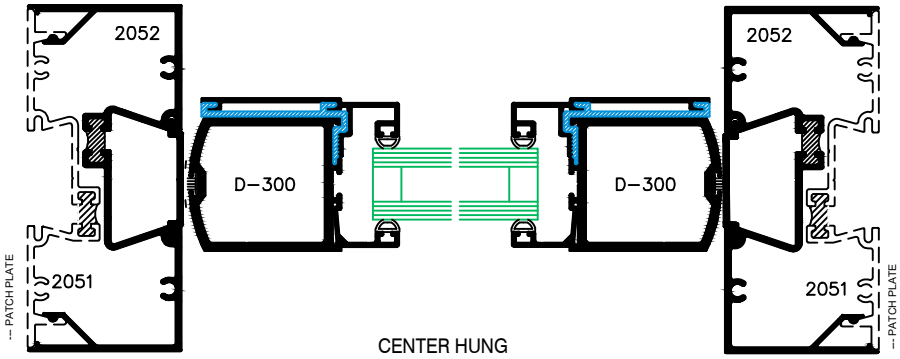
250T SERIES DOOR - 2050 SERIES FRAMING

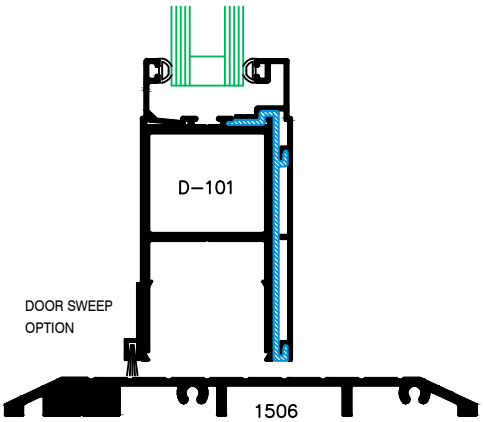










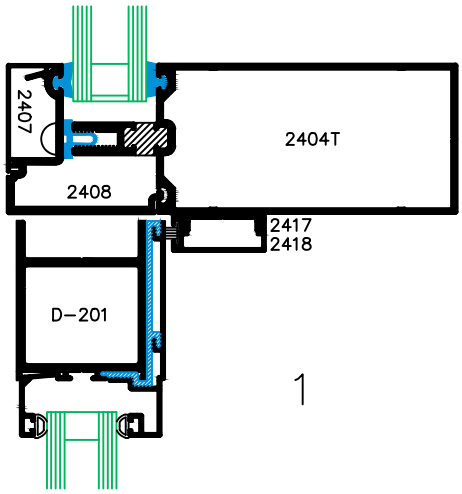


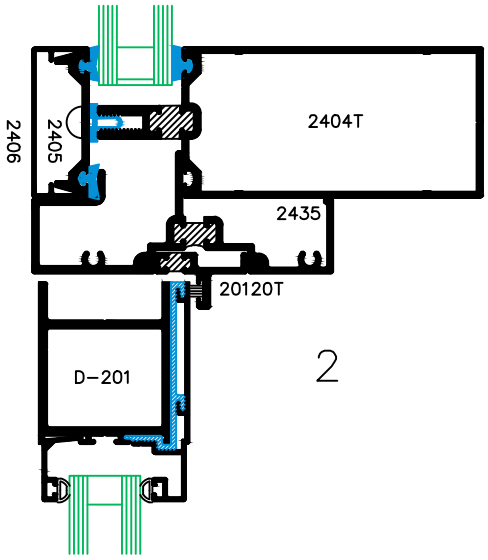
VARIOUS THRESHOLD OPTIONS
ARE AVAILABLE

METRO ALUMINUM Products Ltd.

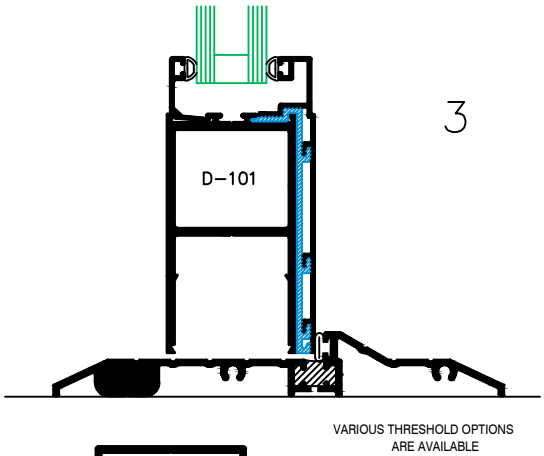
250T SERIES
THERMALLY BROKEN NARROW STILE DOOR

A 04C

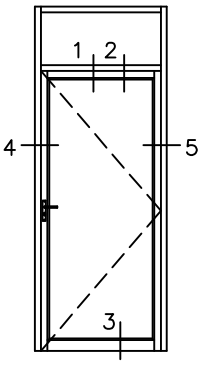




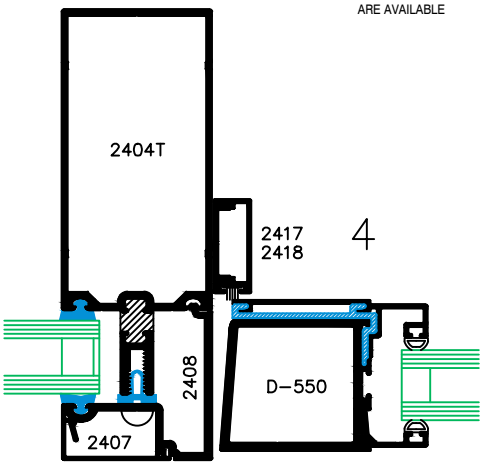
DETAILS
2400T FRAMING

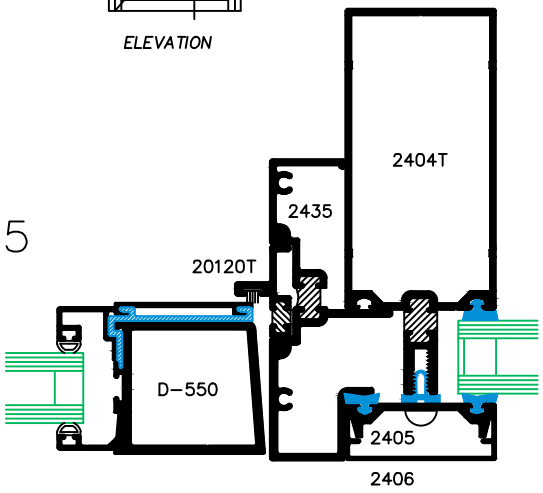


VARIOUS THRESHOLD OPTIONS ARE AVAILABLE



ELEVATION

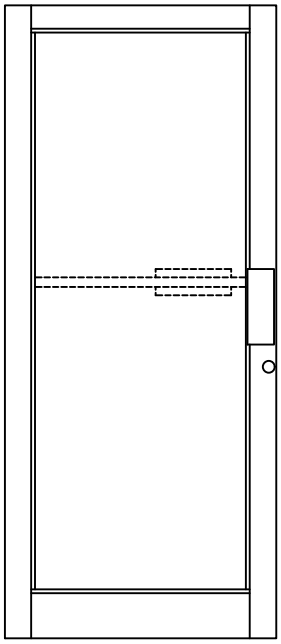




METRO ALUMINUM Products Ltd.

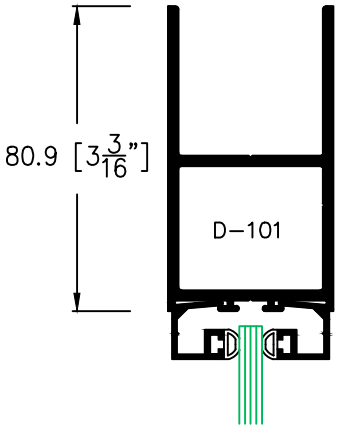
350 SERIES
MEDIUM STILE DOOR

A 05



The 350 Medium Stile Door, designed for high-traffic areas, offers enhanced strength and durability, making it ideal for demanding commercial environments where robust performance and aesthetic appeal are essential.

- **Medium Stile Design:** Provides a sturdy and substantial appearance, suitable for high-use applications.
- **Single and Double Glazed Stops:** Accommodates different glazing configurations for enhanced performance and design flexibility.
- **Heavier Duty Construction:** Ensures long-lasting performance in high-traffic areas.
- **Compatibility with Metro Framing:** Seamlessly integrates with Metro framing systems for a cohesive installation.
- **Mid and Bottom Rails:** Available in various sizes to meet your specific design and functionality requirements. (see page A-08 for details)
- **Welded Corners:** Each corner is welded & bolted for enhanced structural integrity.



Standard hardware includes: (see pages A-11 - A-17)

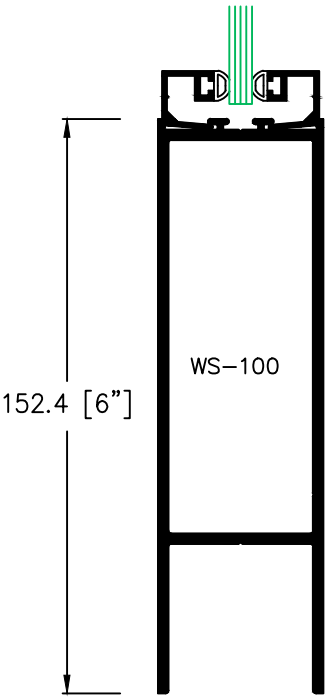
- Offset Pivots
- Construction Security Lock (Exterior)
- Thumb Turn (Interior)
- Metro Standard Push Bar/Pull Handle
- ½ Inch Threshold
- Exposed Closer

Works with hinging hardware options, including:

- Continuous Hinges
- Butt Hinges
- Center Hung / Walking Beam Pivots

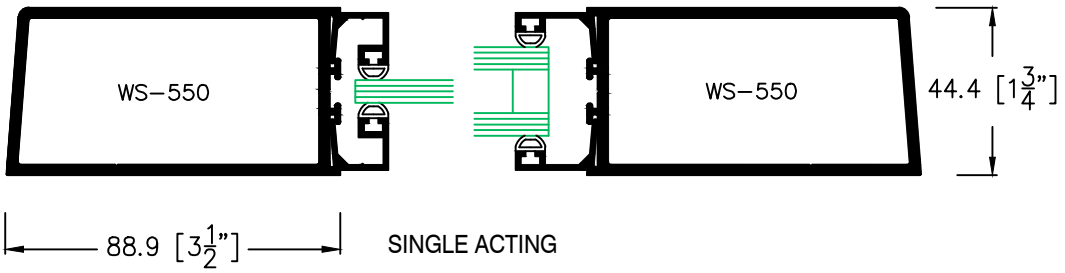
Compatible with most hardware options, including:

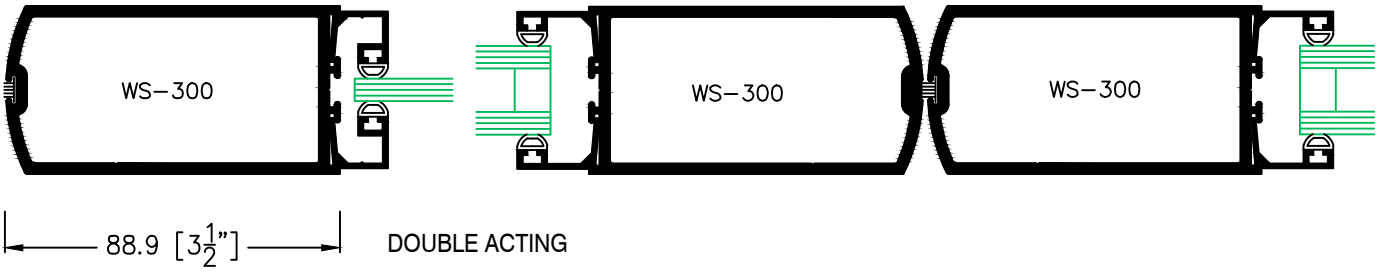
- Concealed Closer's
- Apartment Packages (Lever / Paddle)
- Offset D-Pulls and Ladder Pulls



SINGLE GLAZED

DOUBLE GLAZED

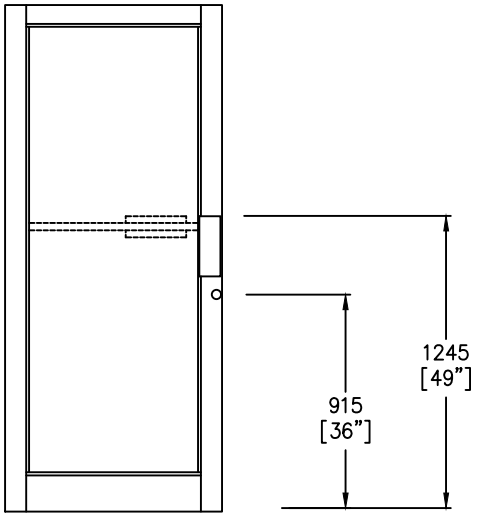




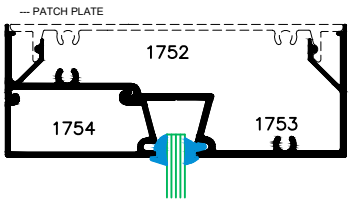
METRO ALUMINUM Products Ltd.

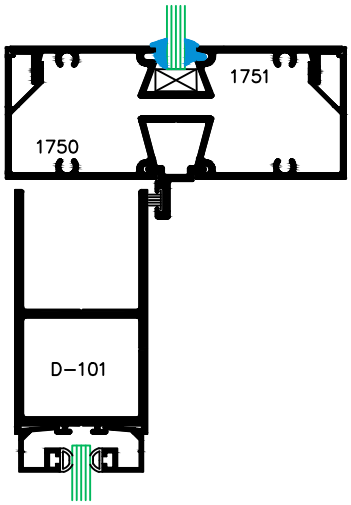
350 SERIES
MEDIUM STILE DOOR

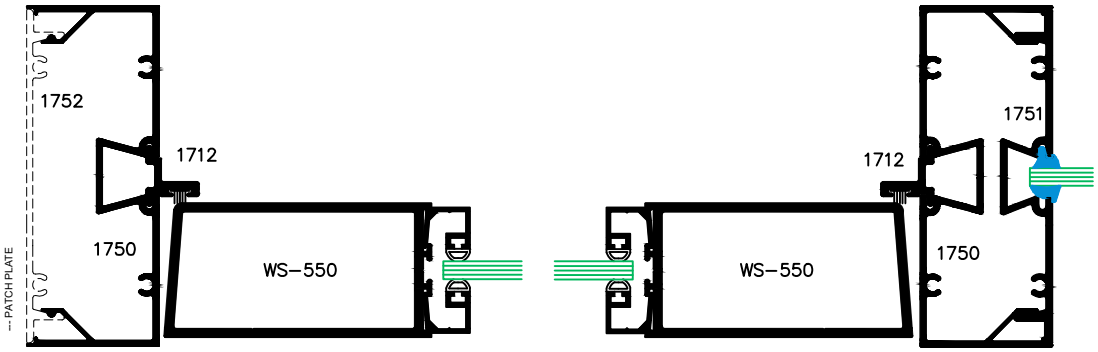
A 05A



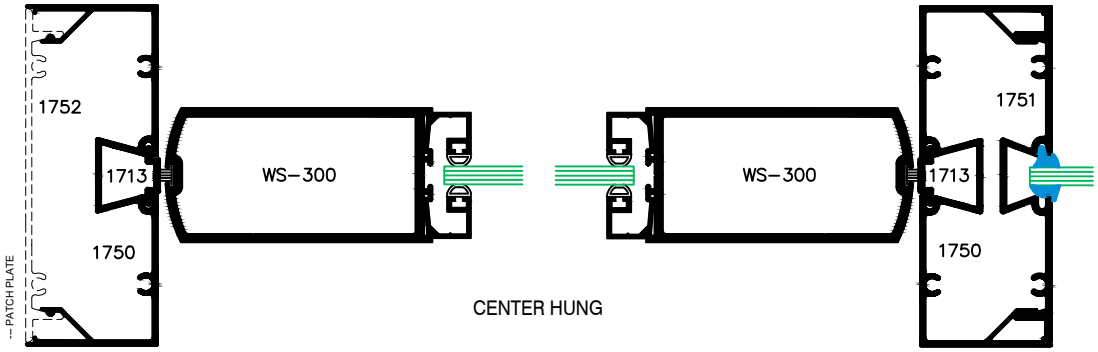
350 SERIES DOOR - 1750 SERIES FRAMING



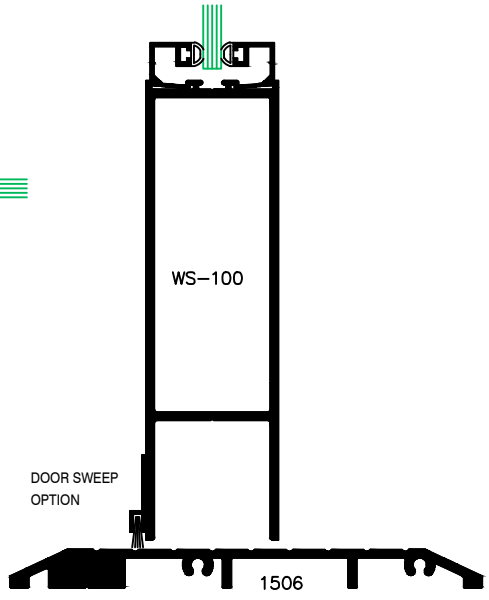




OFFSET HUNG



CENTER HUNG

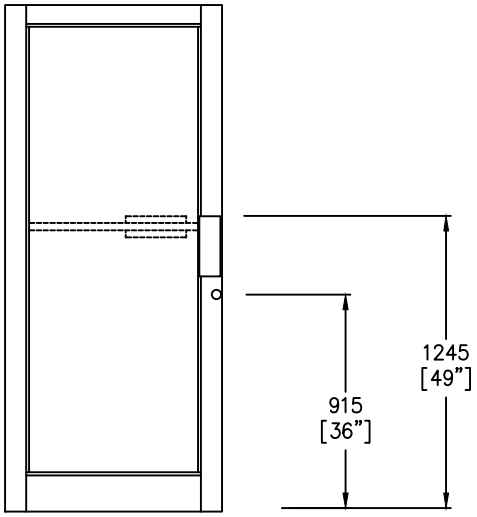


VARIOUS THRESHOLD OPTIONS
ARE AVAILABLE

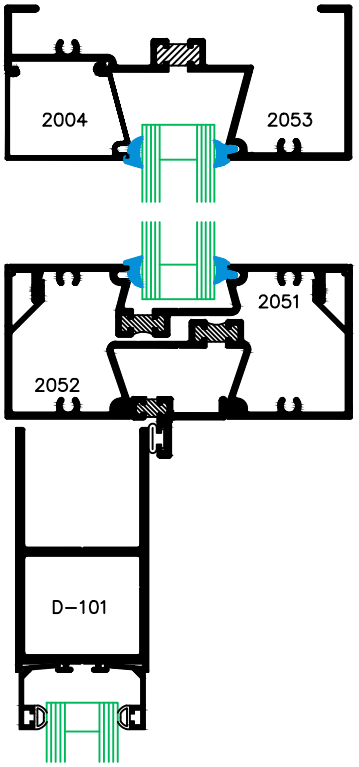
METRO ALUMINUM Products Ltd.

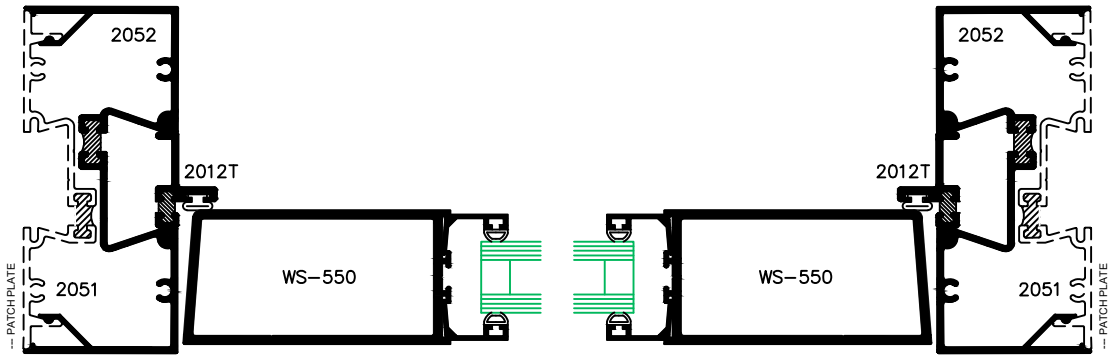
350 SERIES
MEDIUM STILE DOOR

A
05B



350 SERIES DOOR - 2050 SERIES FRAMING





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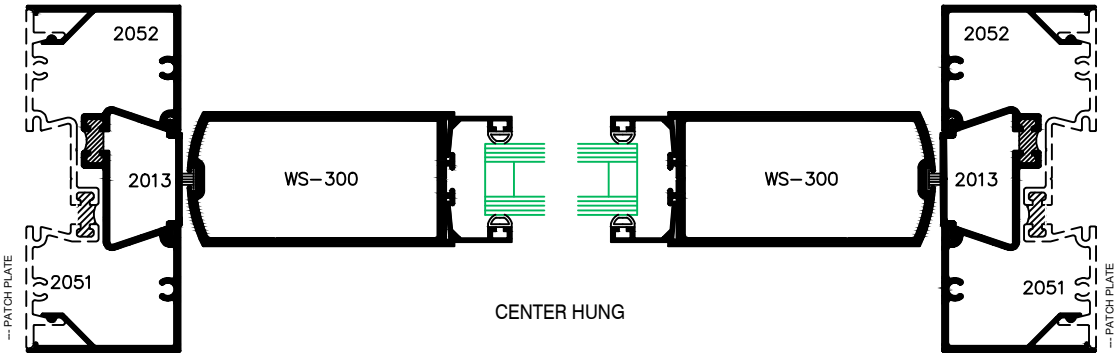

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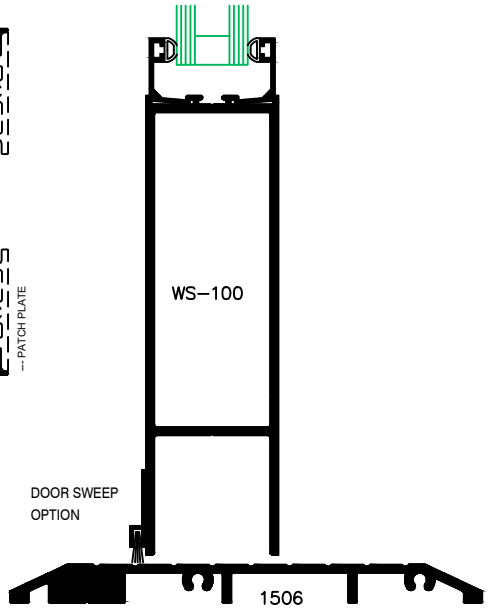
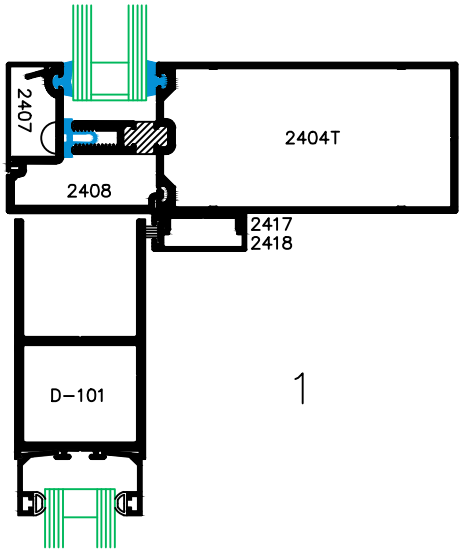


VARIOUS THRESHOLD OPTIONS
ARE AVAILABLE

METRO ALUMINUM Products Ltd.

350 SERIES
MEDIUM STILE DOOR

A 05C



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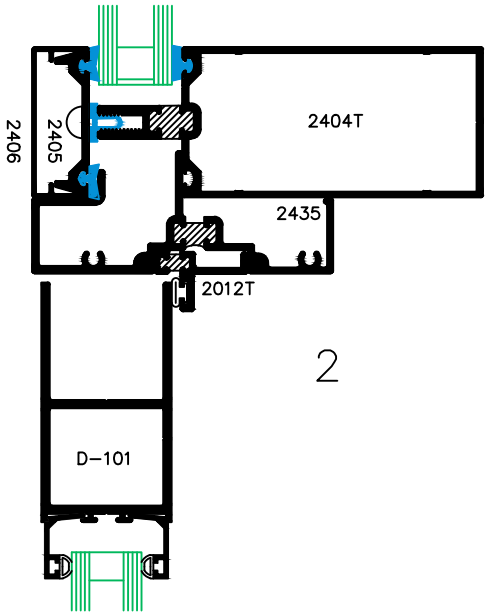
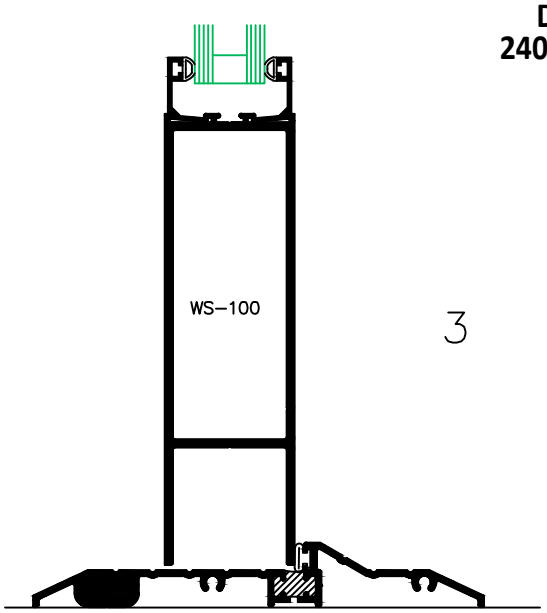


2

DETAILS
2400T FRAMING



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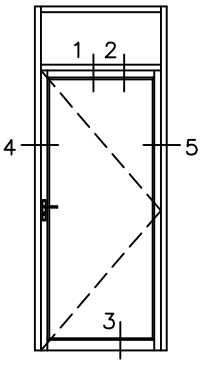
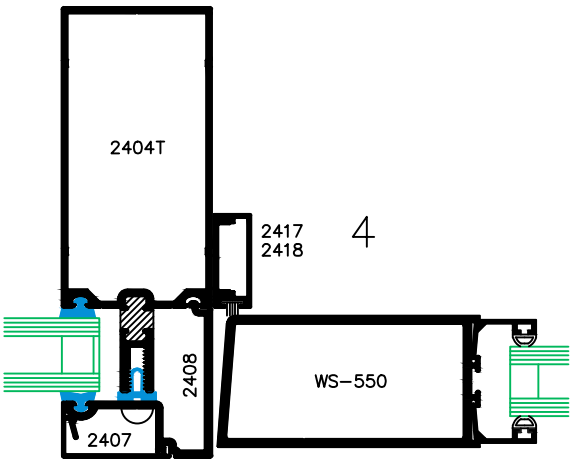


ELEVATION



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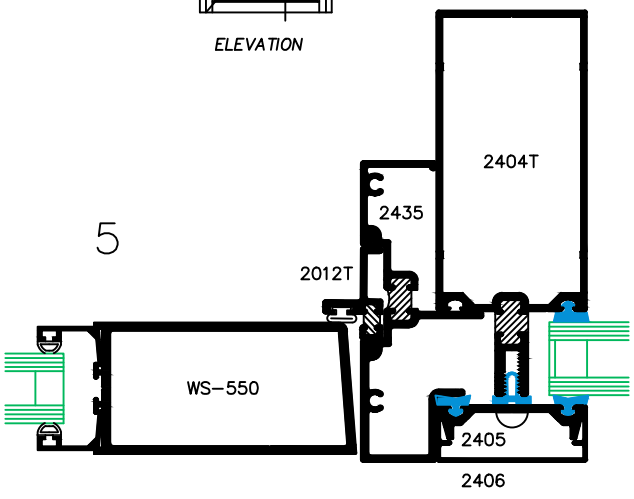
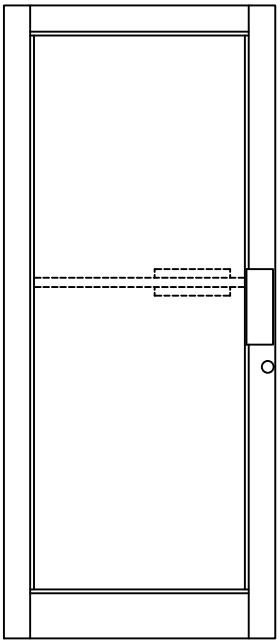
5



METRO ALUMINUM Products Ltd.

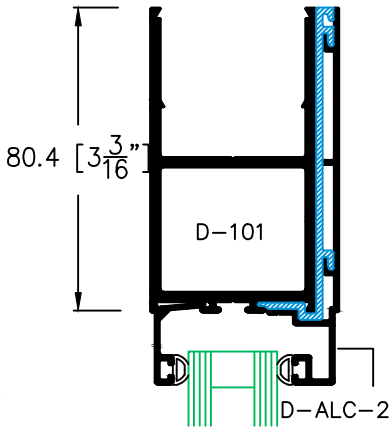
350T SERIES
THERMALLY BROKEN MEDIUM STILE DOOR

A 06



The 350T Thermally Broken Medium Stile Door offers superior thermal performance and energy efficiency, designed for high-traffic areas that require extra strength and durability. Key features include:

- **Thermally Broken/Insulated Rails and Stiles:** Ensuring optimal thermal insulation and reducing energy loss.
- **Sealed Unit Glazing:** Providing enhanced weather resistance and improved insulation.
- **Medium Stile Design:** A robust and substantial appearance, suitable for high-use applications.
- **Heavier Duty Construction:** Ensures long-lasting performance in high-traffic areas.
- **Compatibility with Metro Thermally Broken Framing:** Seamlessly integrates with Metro framing systems for a cohesive installation.
- **Mid and Bottom Rails:** Available in various sizes to meet your specific design and functionality requirements. (see page A-08a for details)
- **Welded Corners:** Each corner is welded & bolted for enhanced structural integrity.



Standard hardware includes: (see pages A-11 - A-17)

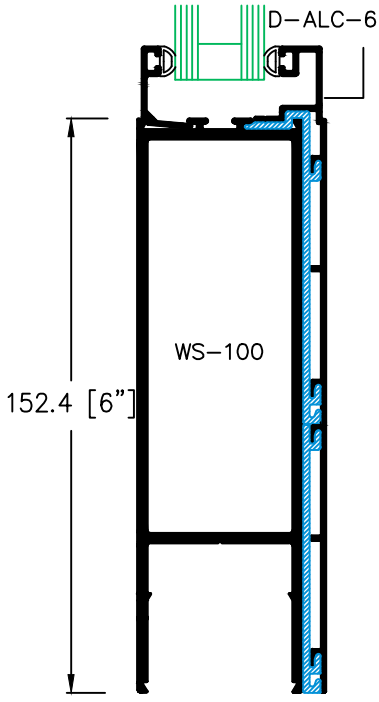
- Offset Pivots
- Construction Security Lock (Exterior)
- Thumb Turn (Interior)
- Metro Standard Push Bar/Pull Handle
- ½ Inch Threshold
- Exposed Closer

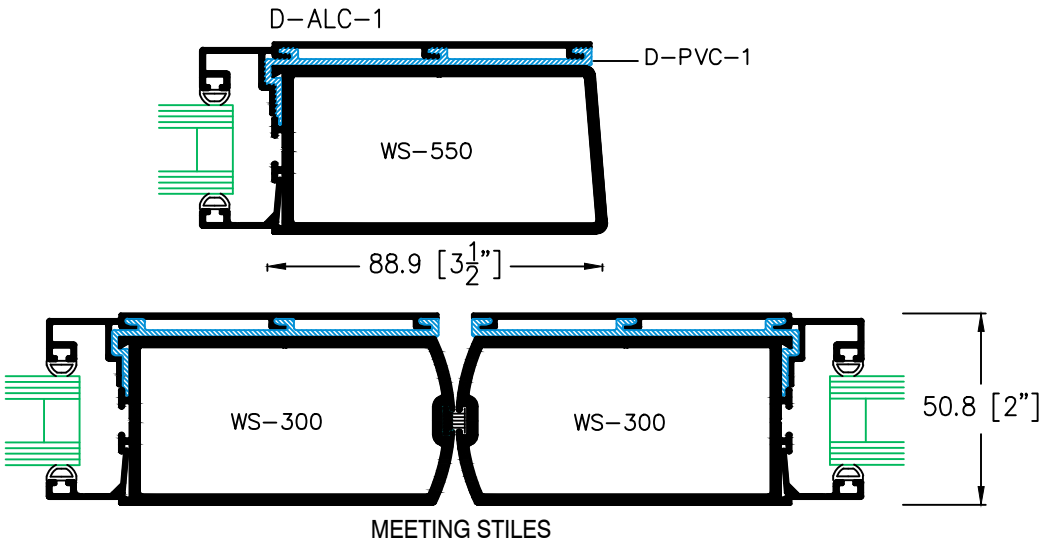
Works with hinging hardware options, including:

- Continuous Hinges
- Butt Hinges
- Center Hung / Walking Beam Pivots

Compatible with most hardware options, including:

- Concealed Closer's
- Apartment Packages (Lever / Paddle)
- Offset D-Pulls and Ladder Pulls

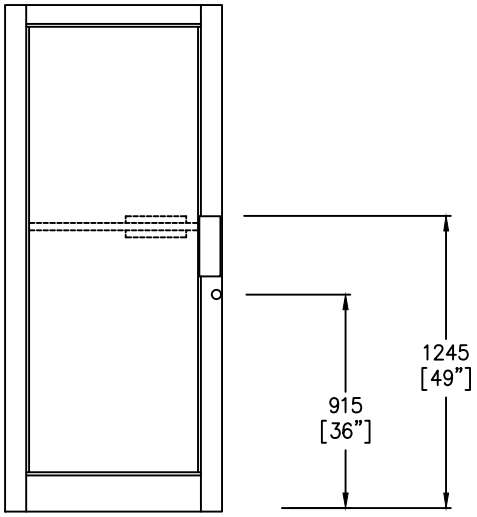




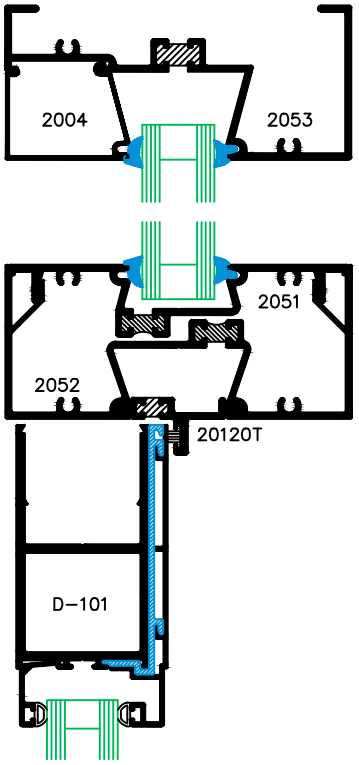
METRO ALUMINUM Products Ltd.

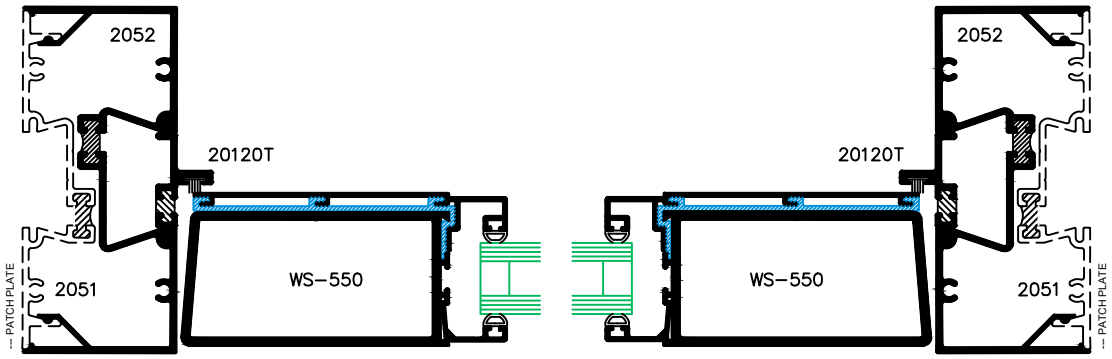
350T SERIES
THERMALLY BROKEN MEDIUM STILE DOOR

A 06B

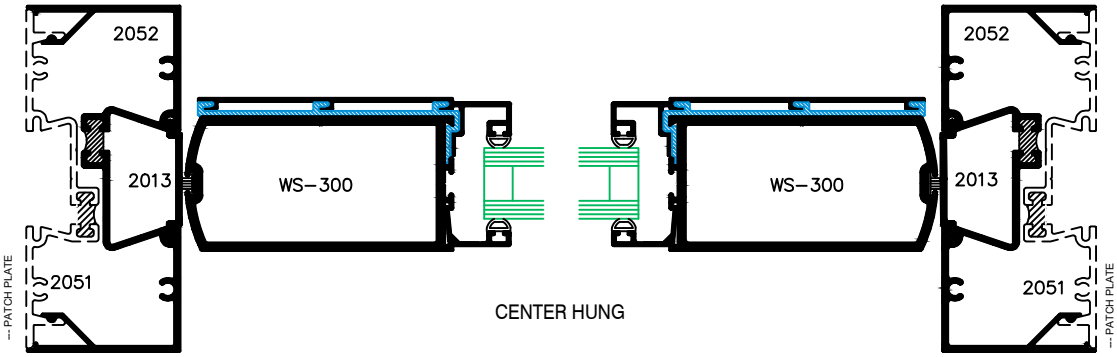


350T SERIES DOOR - 2050 SERIES FRAMING

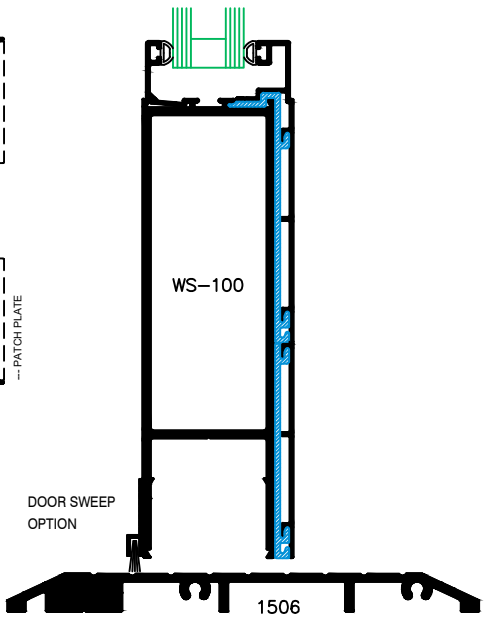




OFFSET HUNG



CENTER HUNG

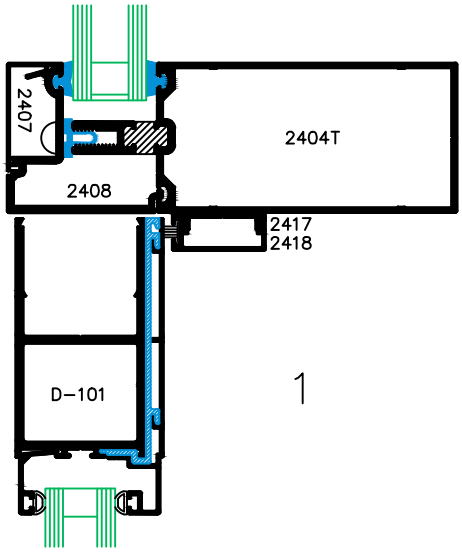


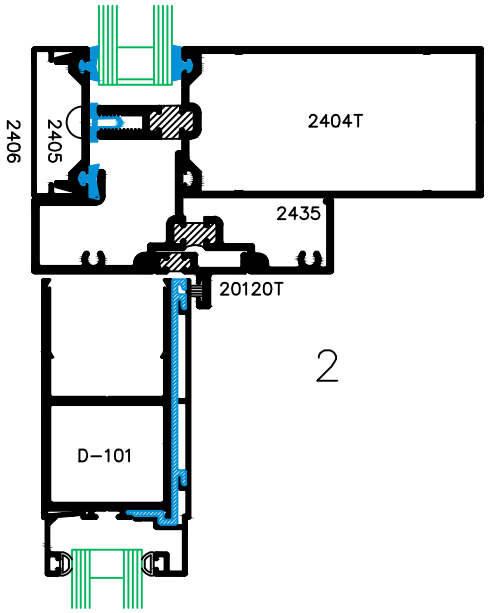
VARIOUS THRESHOLD OPTIONS ARE AVAILABLE

METRO ALUMINUM Products Ltd.

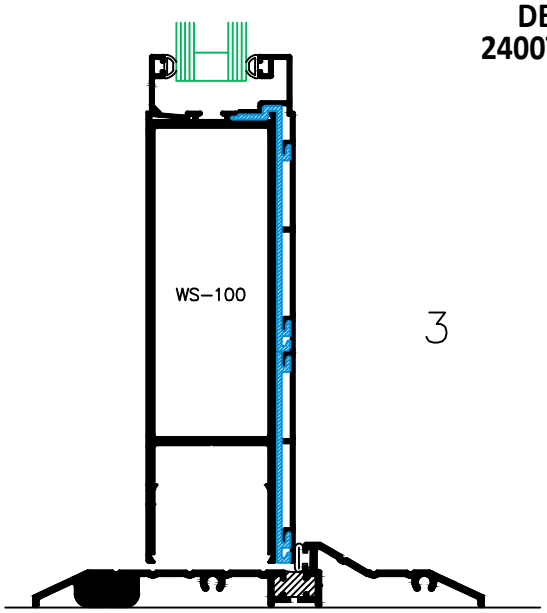
350T SERIES
THERMALLY BROKEN MEDIUM STILE DOOR

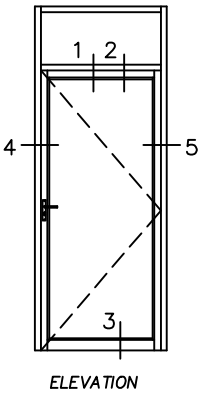
A 06C

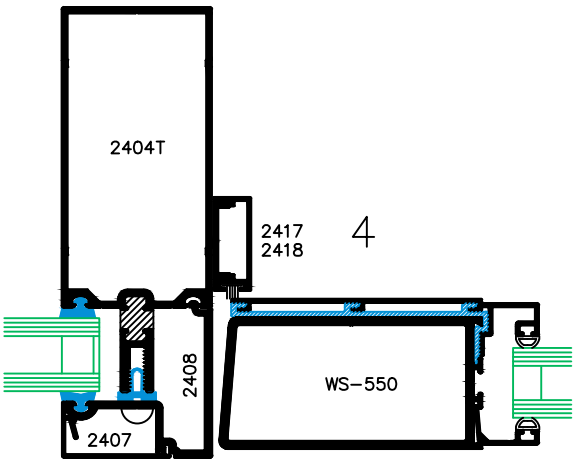


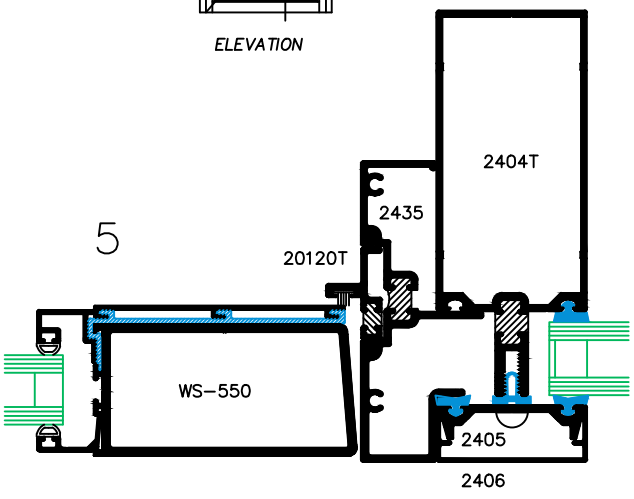


DETAILS
2400T FRAMING



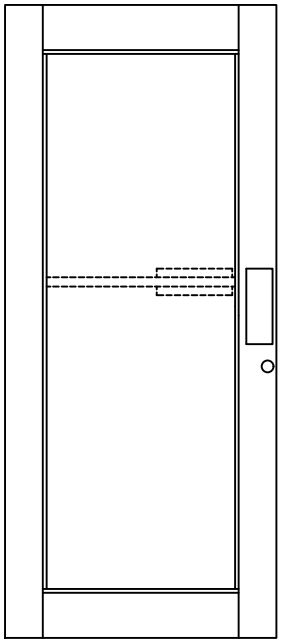






500 SERIES
WIDE STILE DOOR

A
07



The 500 Series Wide Stile Door offers a truly monumental appearance with enhanced strength and durability, combining grandeur with functionality, making it ideal for prestigious commercial and institutional settings that demand both aesthetic appeal and robust performance. Key features include:

- **Wide Stile Design:** Provides a substantial and impressive aesthetic suitable for architectural statement pieces.
- **Single and Double Glazed Stops:** Accommodates different glazing configurations for enhanced performance and design flexibility.
- **Heavier Duty Construction:** Built for durability and longevity, ensuring reliable performance and high-traffic areas.
- **Compatibility with Metro Framing:** Seamlessly integrates with Metro framing systems for a cohesive installation.
- **Mid and Bottom Rails:** Available in various sizes to meet your specific design and functionality requirements. (see page A-08 for details)
- **Welded Corners:** Each corner is welded & bolted for enhanced structural integrity.

Standard hardware includes: (see pages A-11 - A-17)

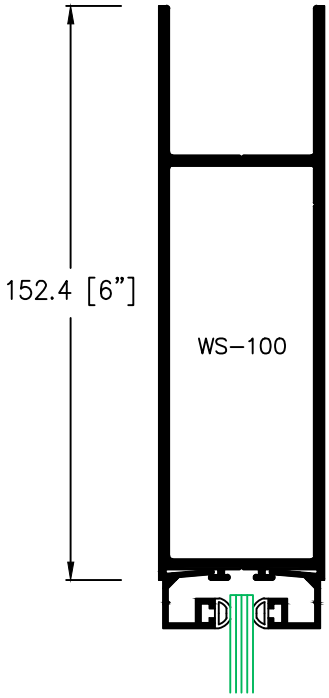
- Offset Pivots
- Construction Security Lock (Exterior)
- Thumb Turn (Interior)
- Metro Standard Push Bar/Pull Handle
- ½ Inch Threshold
- Exposed Closer

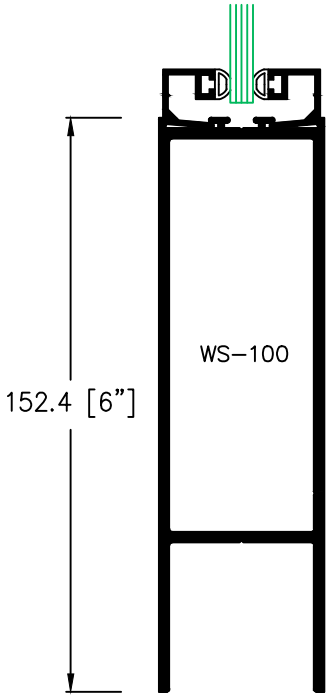
Works with hinging hardware options, including:

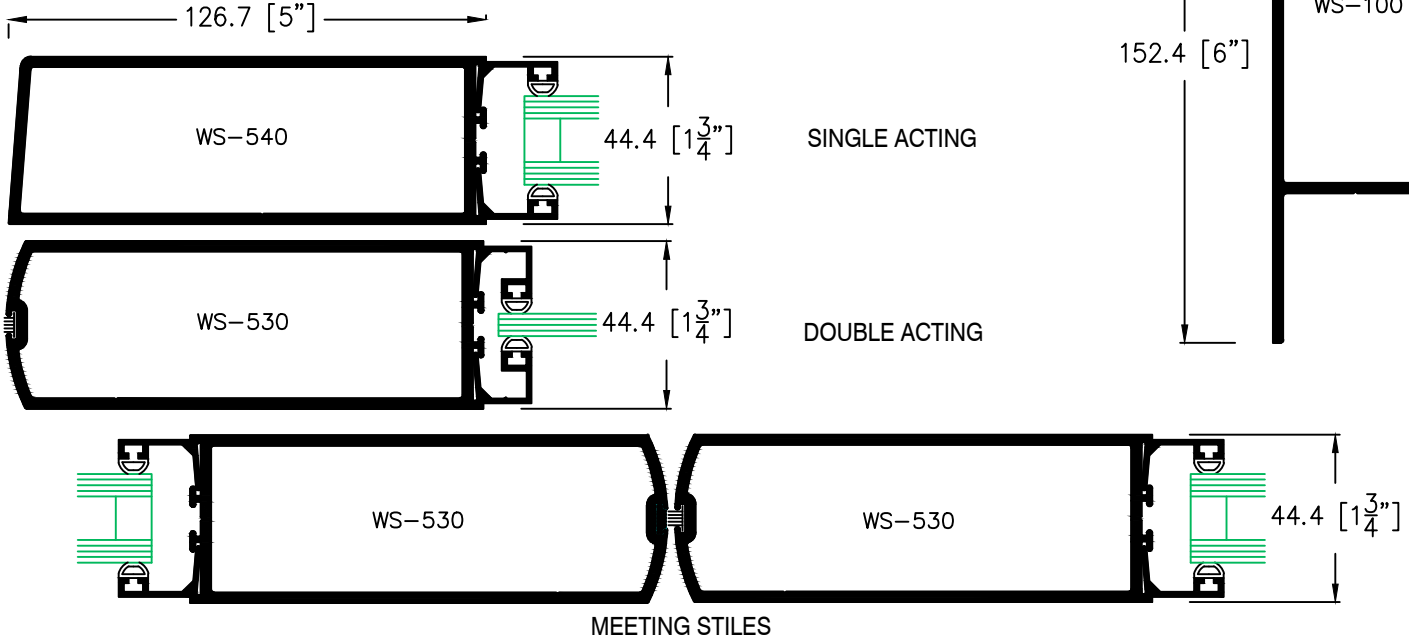
- Continuous Hinges
- Butt Hinges
- Center Hung / Walking Beam Pivots

Compatible with most hardware options, including:

- Concealed Closer's
- Apartment Packages (Lever / Paddle)
- Offset D-Pulls and Ladder Pulls





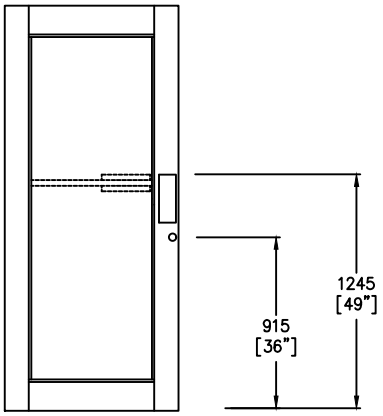


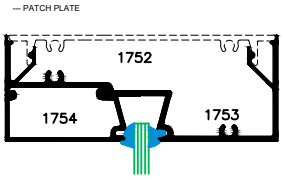
METRO ALUMINUM Products Ltd.

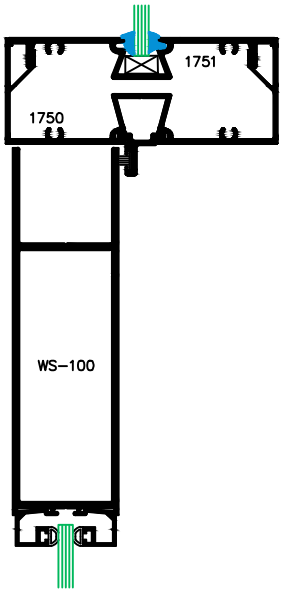
500 SERIES
WIDE STILE DOOR

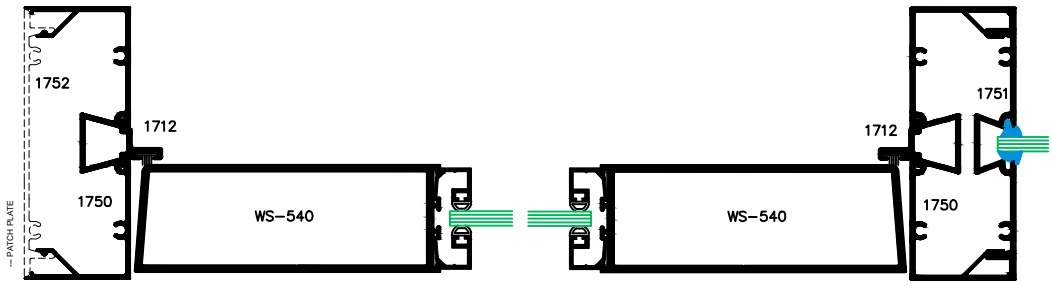
A
07A

500 SERIES DOOR - 1750 SERIES FRAMING









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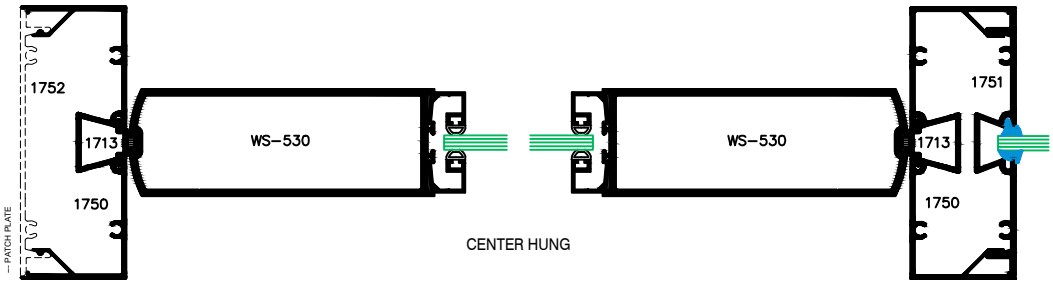
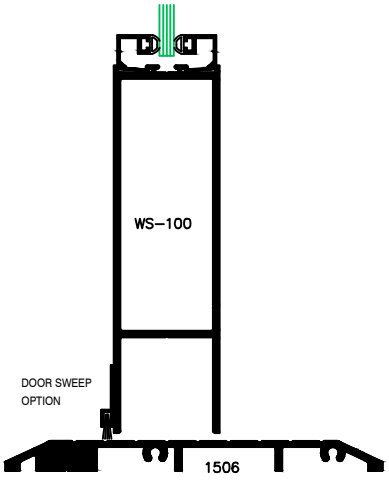


CENTER HUNG



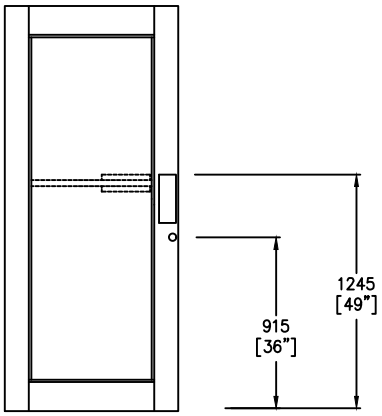
VARIOUS THRESHOLD OPTIONS
ARE AVAILABLE

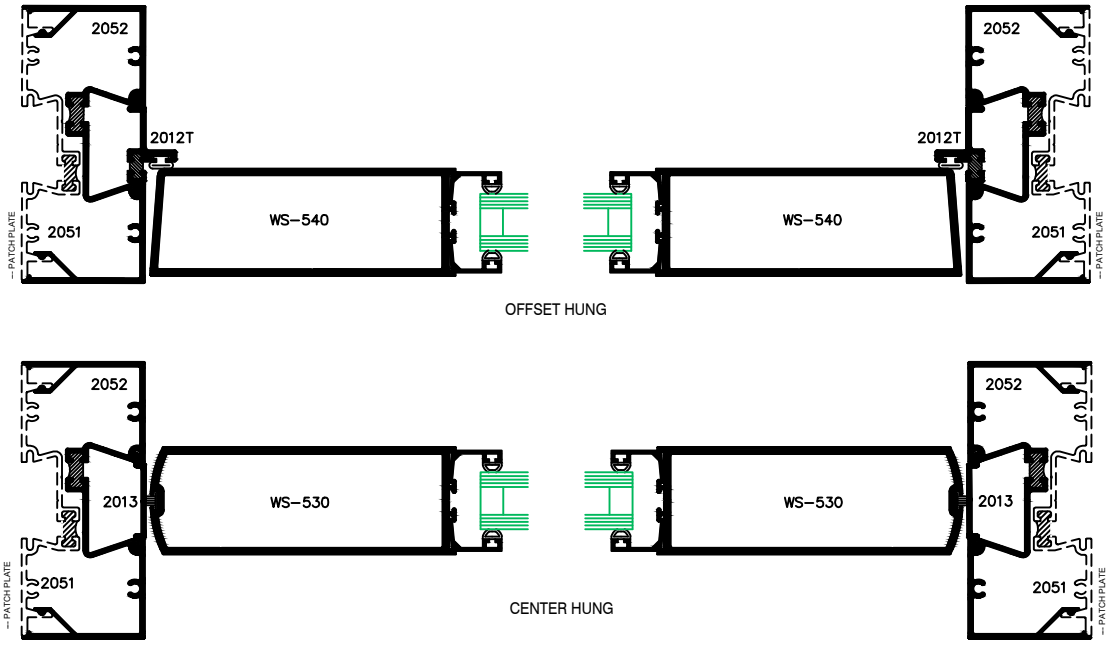
METRO ALUMINUM Products Ltd.

500 SERIES
WIDE STILE DOOR

A
07B

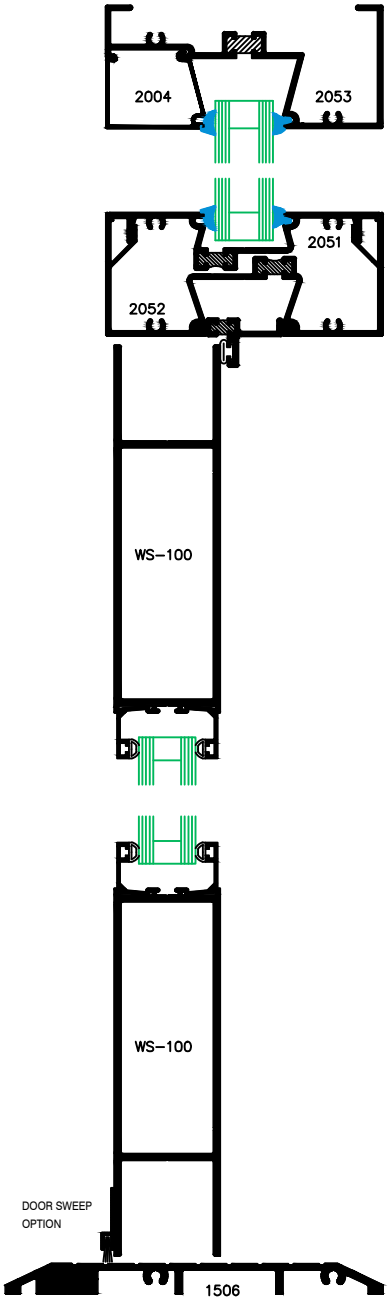
500 SERIES DOOR - 2050 SERIES FRAMING





OFFSET HUNG

CENTER HUNG

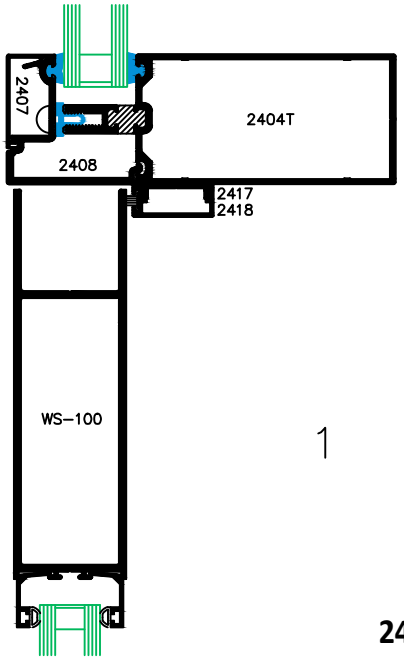


VARIOUS THRESHOLD OPTIONS
ARE AVAILABLE

METRO ALUMINUM Products Ltd.

500 SERIES
WIDE STILE DOOR

A 07C



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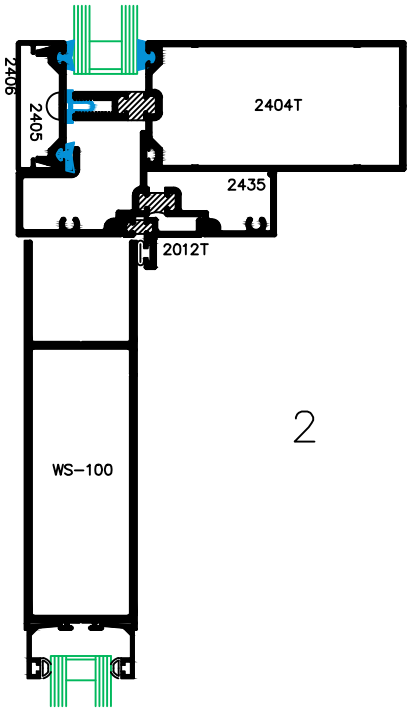

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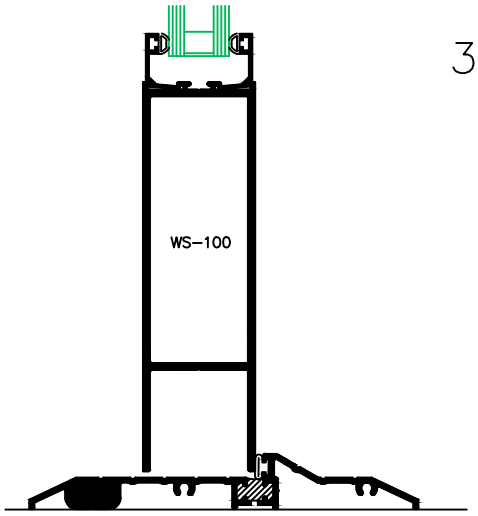
DETAILS
2400T FRAMING



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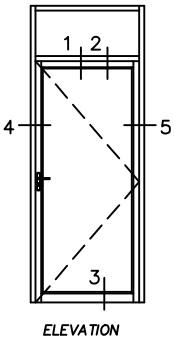
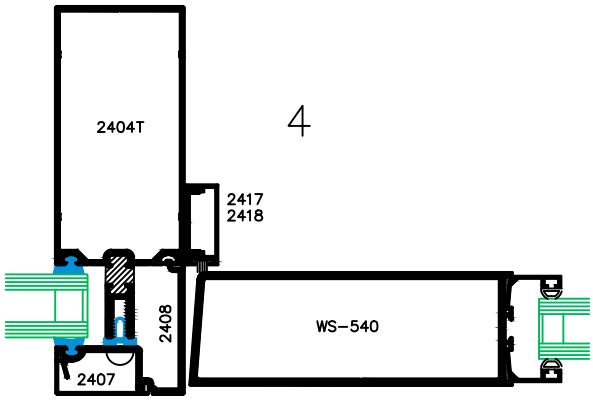


ELEVATION



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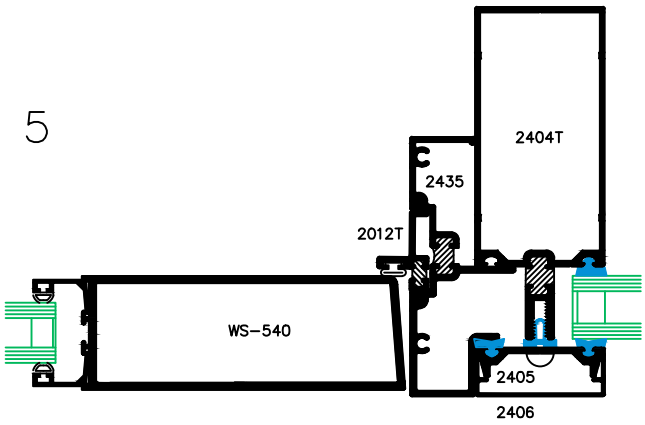
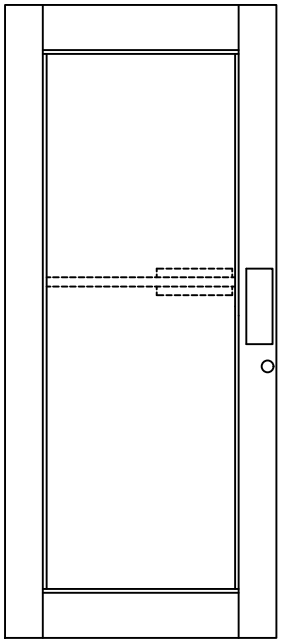


5

500T SERIES
THERMALLY BROKEN WIDE STILE DOOR

A 08



The 500T Series Thermally Broken Wide Stile Door combines a monumental appearance with superior thermal performance and durability, ideal for prestigious commercial and institutional settings. Key features include:

- **Thermally Broken/Insulated Rails and Stiles:** Ensures optimal thermal insulation, reducing energy loss and enhancing comfort.
- **Sealed Unit Glazing:** Providing enhanced weather resistance and improved insulation.
- **Heavier Duty Construction:** Built for durability and longevity, ensuring reliable performance and high-traffic areas.
- **Compatibility with Metro Thermally Broken Framing:** Seamlessly integrates with Metro framing systems for a cohesive installation.
- **Mid and Bottom Rails:** Available in various sizes to meet your specific design and functionality requirements. (see page A-08a for details)
- **Welded Corners:** Each corner is welded & bolted for enhanced structural integrity.

Standard hardware includes: (see pages A-11 - A-17)

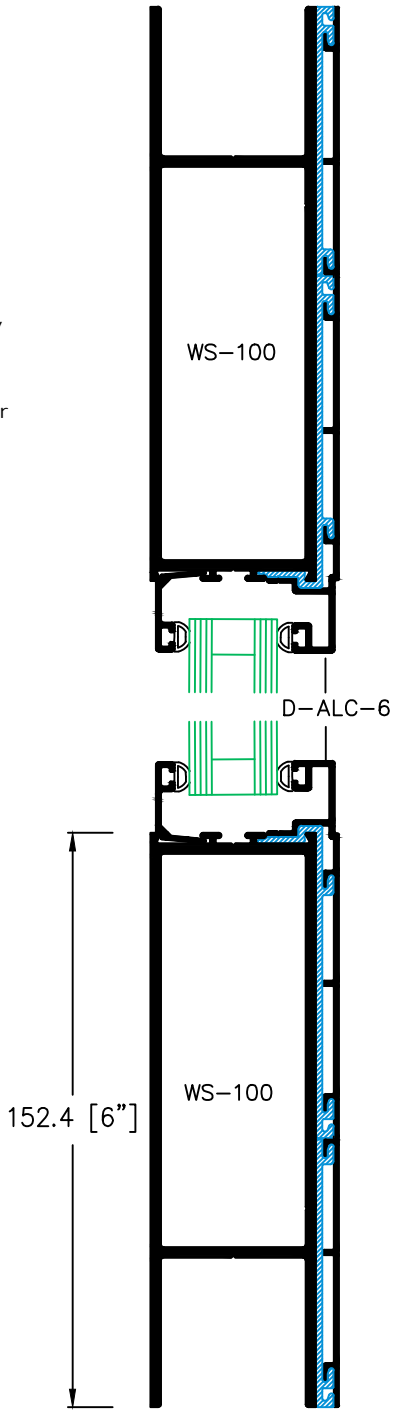
- Offset Pivots
- Construction Security Lock (Exterior)
- Thumb Turn (Interior)
- Metro Standard Push Bar/Pull Handle
- ½ Inch Threshold
- Exposed Closer

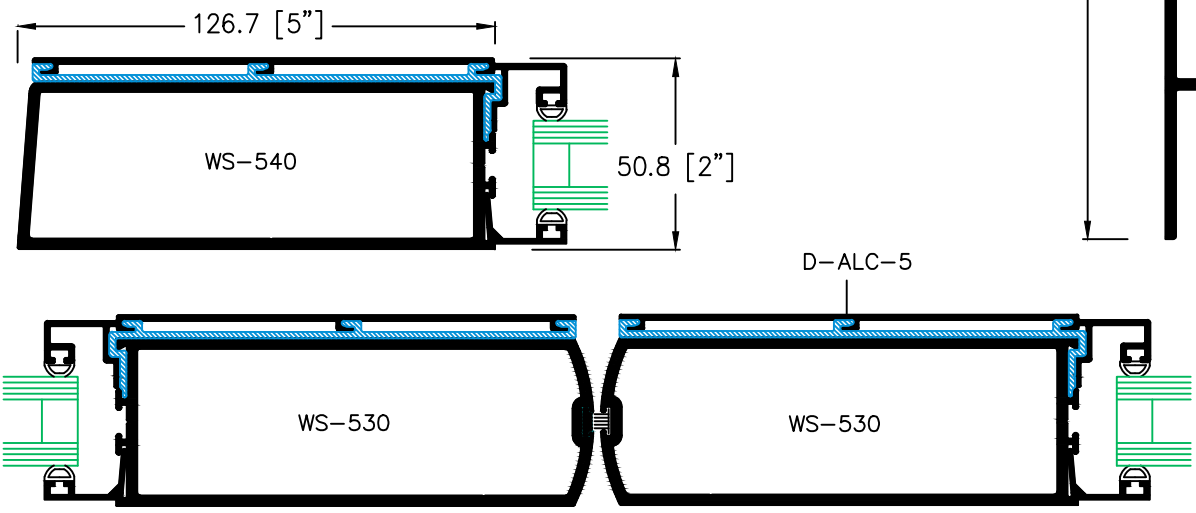
Works with hinging hardware options, including:

- Continuous Hinges
- Butt Hinges
- Center Hung / Walking Beam Pivots

Compatible with most hardware options, including:

- Concealed Closer's
- Apartment Packages (Lever / Paddle)
- Offset D-Pulls and Ladder Pulls





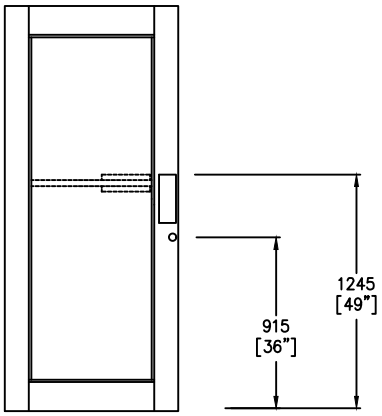
MEETING STILES

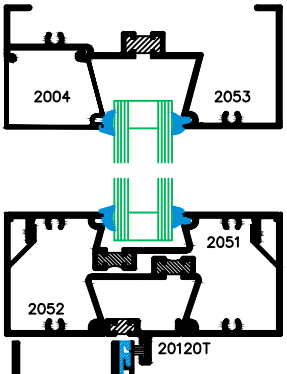
METRO ALUMINUM Products Ltd.

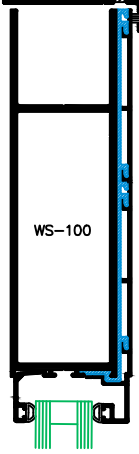
500T SERIES
THERMALLY BROKEN WIDE STILE DOOR

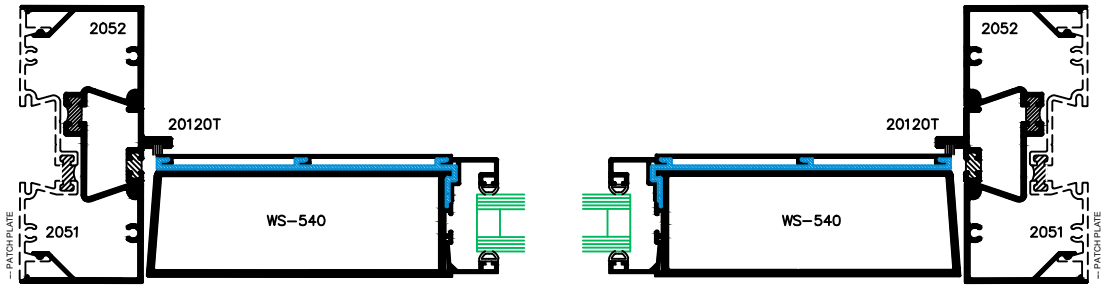
A 08B

500T SERIES DOOR - 2050 SERIES FRAMING

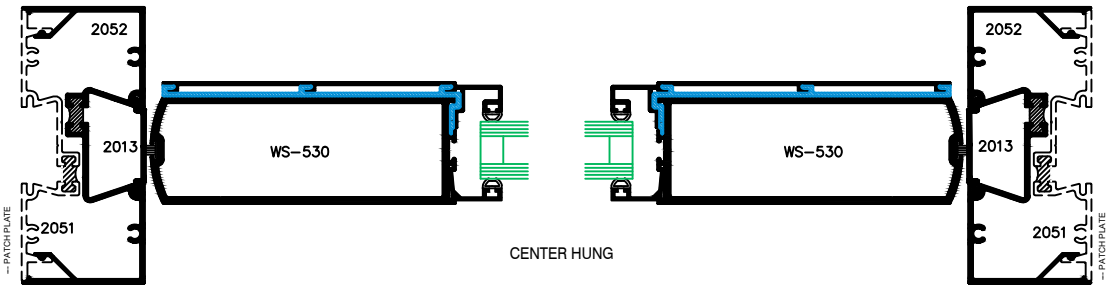




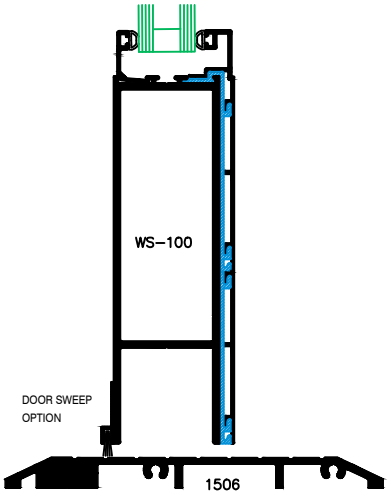




OFFSET HUNG



CENTER HUNG



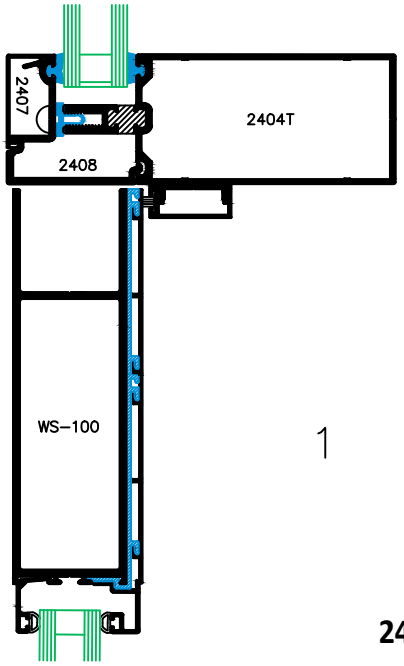
VARIOUS THRESHOLD OPTIONS ARE AVAILABLE

METRO ALUMINUM Products Ltd.

500T SERIES

THERMALLY BROKEN WIDE STILE DOOR

A 08C



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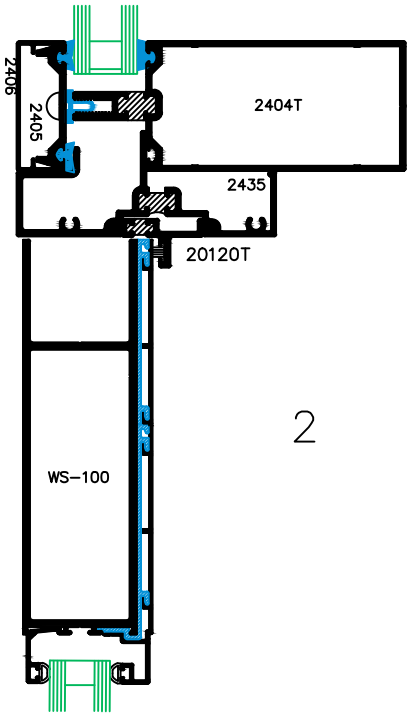

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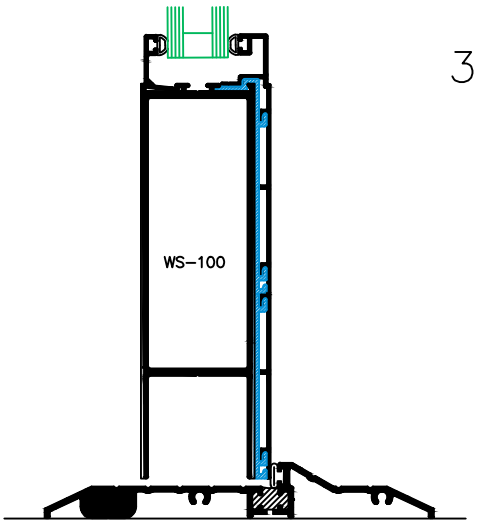
DETAILS
2400T FRAMING



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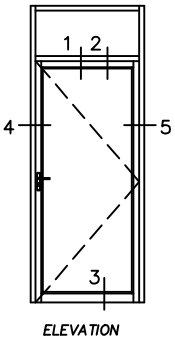
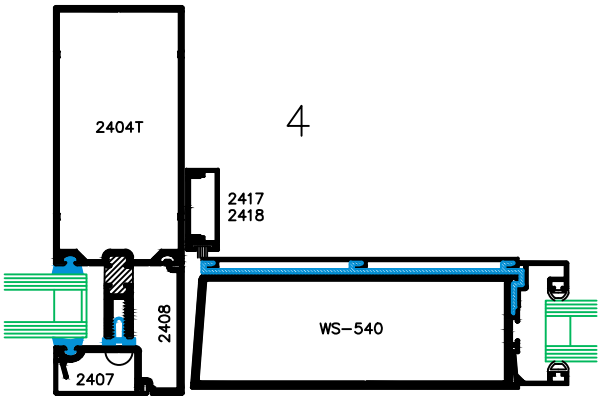


ELEVATION



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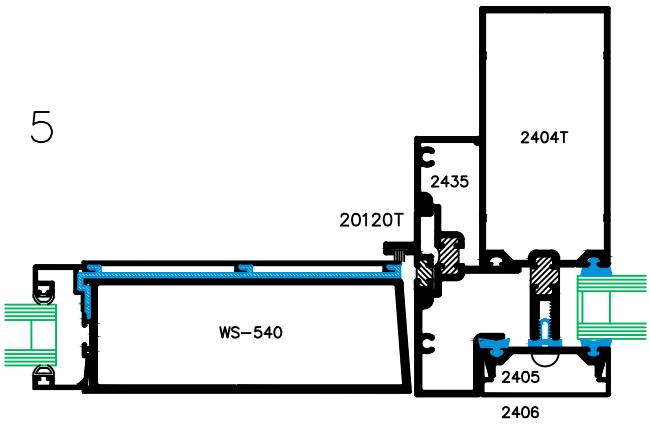


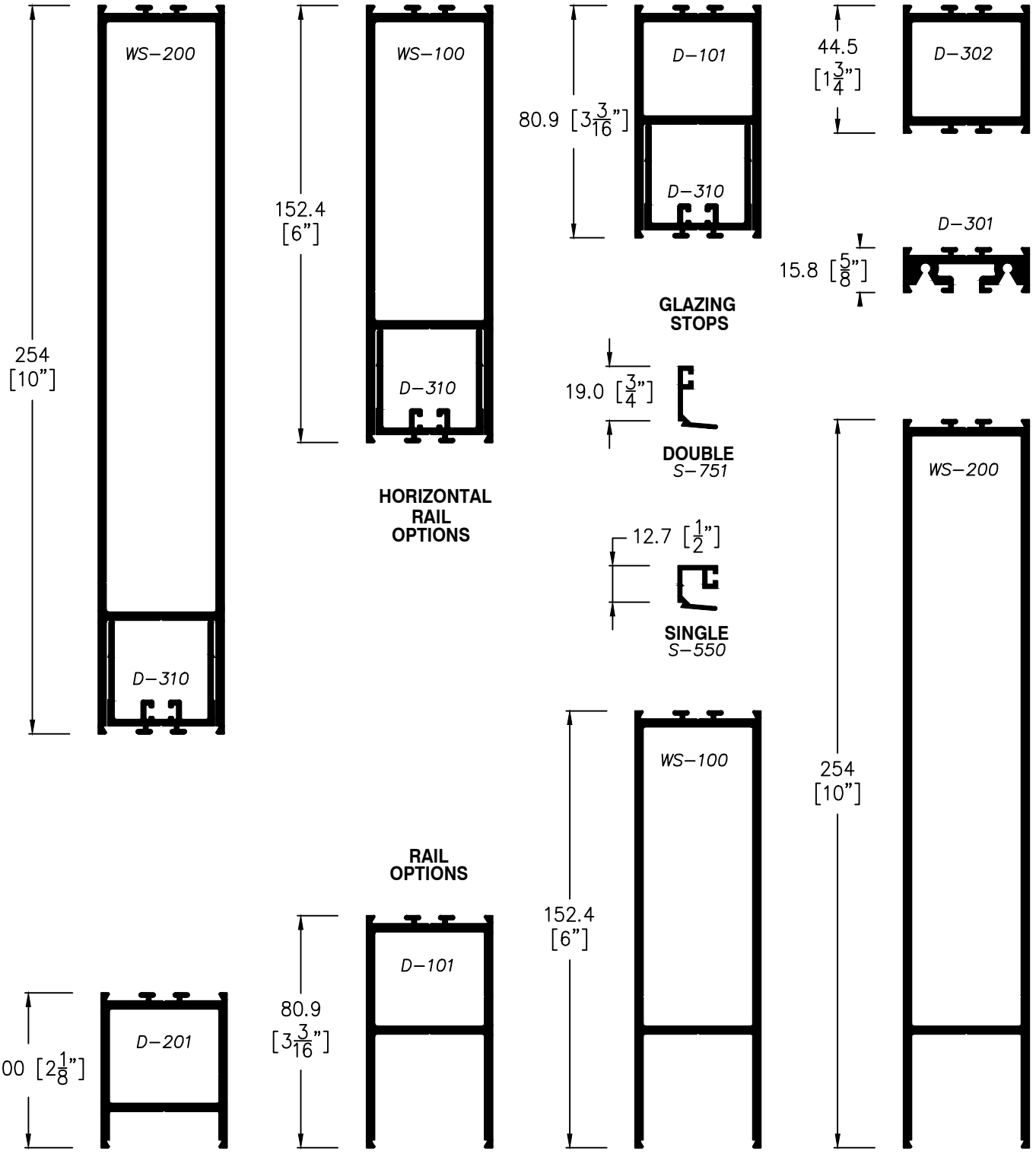
5

METRO ALUMINUM Products Ltd.

DOOR PARTS

1 3/4" DOOR

A 09



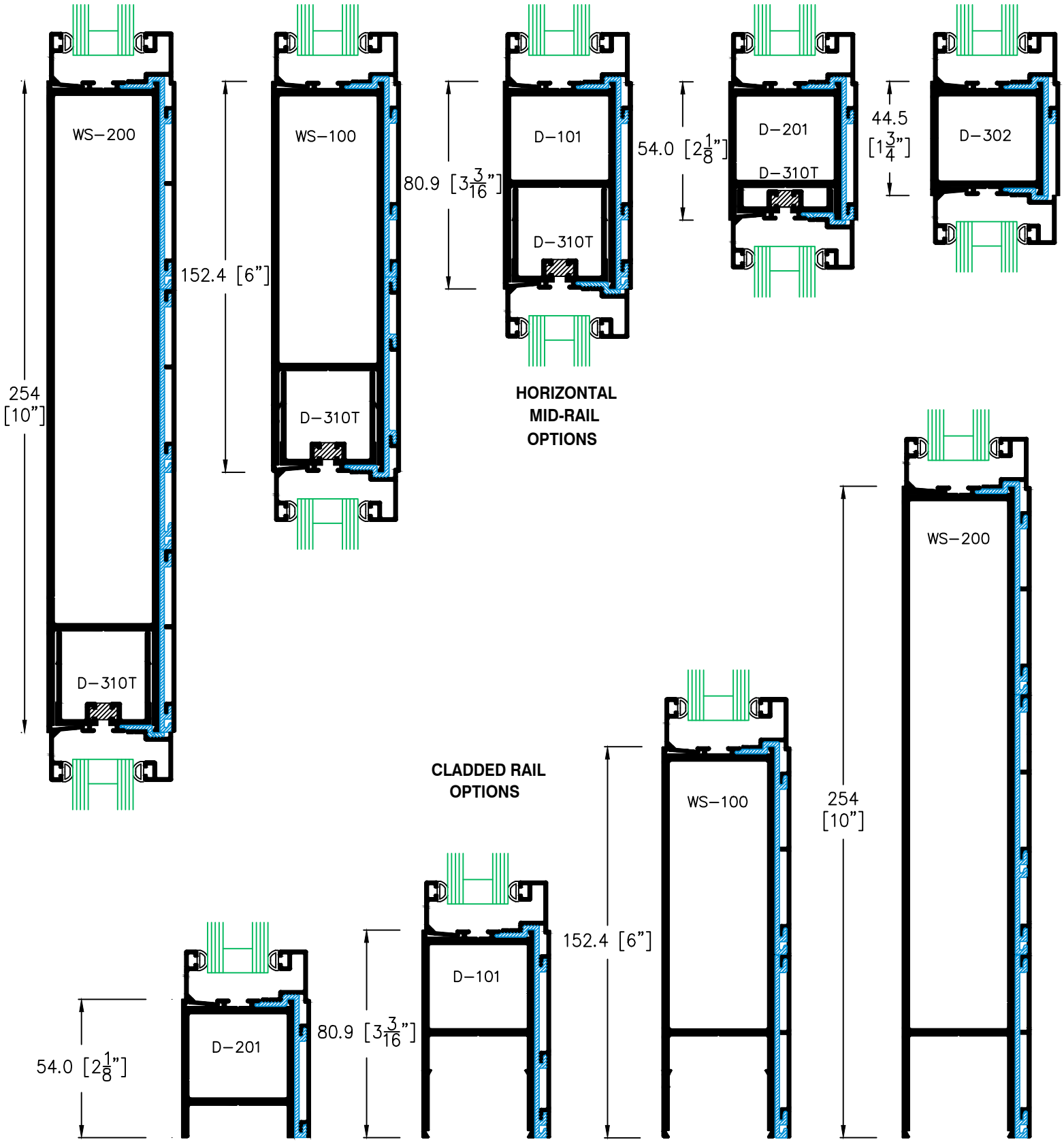
NOTE: CUSTOM RAILS ARE ALSO AVAILABLE

METRO ALUMINUM Products Ltd.

DOOR PARTS

THERMALLY BROKEN 2" CLADDED DOOR

A 09A



H-100A
M.S DEAD LOCK

H-102A
HOOK LOCK

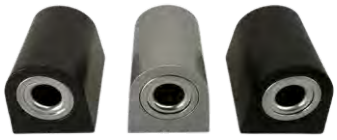
H-104A
LATCH LOCK

H-104AR
A.R LATCH LOCK

H-114/H-115
KEYED CYLINDER & THUMB TURN

H-118
FRAME PORTION PIVOT

H-119
TOP DOOR PORTION PIVOT



H-120
BOTTOM DOOR PORTION PIVOT

H-121
THRESHOLD PIN

H-121F
FLOOR MOUNTED PIVOT

H-250-1
METRO STANDARD PULL HANDLE

H-250-2
METRO STANDARD PUSH BAR

H-250-5
12" OFFSET D-PULL

H-250-5/H-250-5P
OFFSET D-PULL & TUBULAR PUSH BAR

H-250-6
12" B/B D-PULLS

H-250-5GLP S.S
72" X 1 1/4" OFFSET LADDER PULL

H-250-6GLP S.S
72" X 1 1/4" B/B OFFSET LADDER PULL

H-122
4" X 4 1/2" BUTT HINGE S.S

H-122 BP
4" X 4 1/2" BUTT HINGE BLACK

H-122 PKG
BUTT HINGE WITH BACK UP PLATES

H-122E
4 WIRE BUTT HINGE S.S

H-123A
4 1/2" X 4 1/2" BUTT HINGE S.S

H-124D
BUTT HINGE DOOR BACK UP PLATE

H-124F
BUTT HINGE FRAME BACK UP PLATE

H-130
METRO STANDARD CLOSER

H-130X
STANDARD CLOSER ARM EXTENSION

H-130A DR
STANDARD CLOSER DROP PLATE

H-130 DA
DELAYED ACTION CLOSER

H-128
GLOBAL TC204 CLASS 1 CLOSER

H-1300P
PARALLEL ARM BRACKET

H-4040
GLOBAL 4040 CLOSER

H-4040-18G
GLOBAL 4040 CLOSER DROP PLATE

H-4040-18PA
GLOBAL PARALLEL ARM DROP PLATE

H-4040LA
4040 CLOSER ARM EXTENSION

H-4040XLA
4040 CLOSER XL ARM EXTENSION

H-4040 HOA
4040 CLOSER HOLD OPEN ARM

H-158/H-159/H-160
CONTINUOUS HINGE

H-103AR
A.R DUAL FORCE 2190

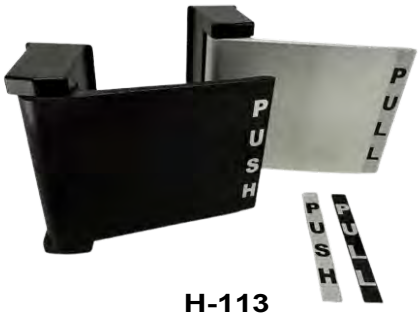
H-100EI
EXIT INDICATOR

H-104RL
ROLLER LATCH

1550
S/G LETTER SLOT

1555
INSULATED LETTER SLOT

H-112
LEVER HANDLE



H-113
LATCH PADDLE

H-108P/H-108S
ELECTRIC STRIKES

H-110
RECTIFIER

H-111
ELECTRICAL CONNECTORS

H-104S
G.J HEAVY DUTY DOOR CLOSER

H-107
LATCH LOCK STRIKE

H-107A
LATCH DOUBLE STRIKE

H-106
CYLINDER GUARD

H-114A
GMS R-118 RIM CYLINDER

H-114B
A.R LATCH LOCK

H-114E
2 1/4" SPINDLE EXTENSION KIT

H-116
BLACK CYLINDER

H-117
FLUSH BOLTS

H-126
WALKING BEAM

H-126/H-127
WALKING BEAM PIVOT SET

H-EPT2
A.R POWER TRANSFER

H-137A
ASTRAGAL

H-135
A.R 8400 PANIC

H-135S
8400 PANIC STRIKE

H-135X
8400 PANIC EXTENSION FOR 2" DOORS

H-136
A.R 8600 PANIC

H-136B
8600 PANIC STRIKE

H-136X
8600 PANIC EXTENSION FOR 2" DOORS

H-136
PS-LR POWER SUPPLY

H-136A
CYLINDER MOUNTING PAD

H-148 S.S
G.J SURFACE MOUNTED DOOR STOP

H-131
CONCEALED CLOSER

H-132
CENTER HUNG SIDE LOAD ARM

H-105
COVER PLATES

H-096
HOPPE HANDLE SET - EXTERIOR

H-096
HOPPE HANDLE SET - INTERIOR

H-096AS
HOPPE LOCK STRIKE

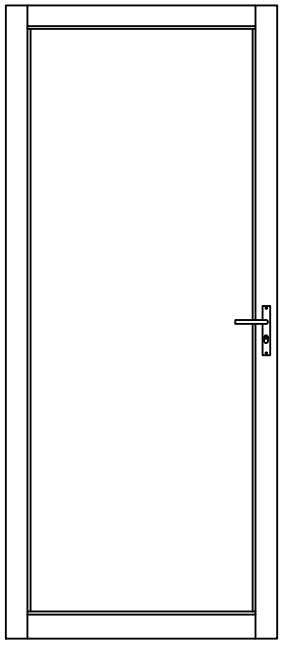
H-096HA
GLOBAL ACTIVE HANDLE SET

METRO ALUMINUM Products Ltd.

GLACIER 2000

RESIDENTIAL THERMALLY BROKEN DOORS

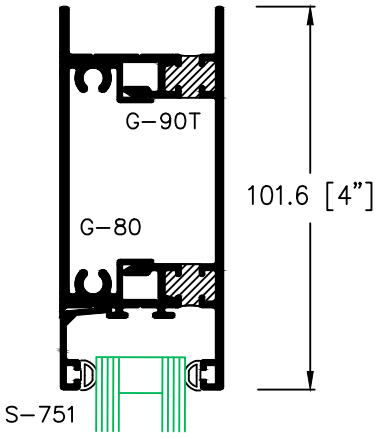
A 21

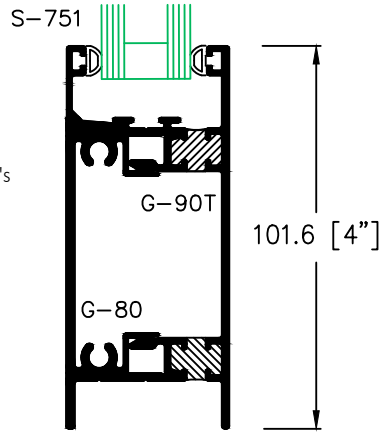


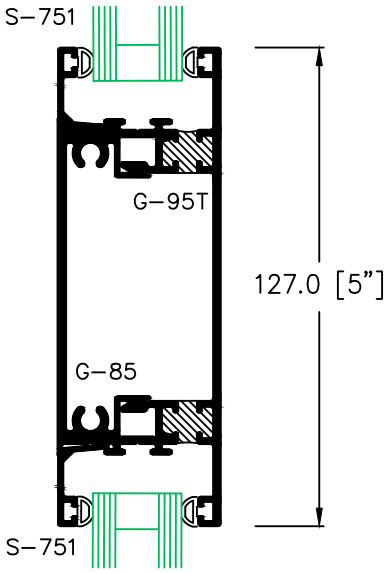
The Glacier 2000 Series Residential Door is designed for both new and replacement applications, offering superior energy savings and durability. Compatible with Metro's systems, this door combines aesthetic appeal, energy efficiency, and robust performance, making it the perfect choice for enhancing the comfort and design of any home or office setting. Key features include:

- **Energy Savings:** Durable double thermal break construction ensures excellent insulation and energy efficiency.
- **Sealed Glazing Units:** Provides enhanced weather resistance and improved insulation.
- **Color Options:** Available in standard anodized or custom painted colors, with split color options to match your unique style.
- **Size Options:** Available in standard or custom sizes to fit any application.
- **Mid-rail Option:** Adds design flexibility and functionality.
- **Exterior Key Cylinder:** Offers secure access from the outside.
- **Lever Handle:** Easy and comfortable operation.
- **Interior Thumb Turn:** Convenient interior locking mechanism.
- **Single and Pair Door Options:** Suitable for various residential or office needs and preferences.

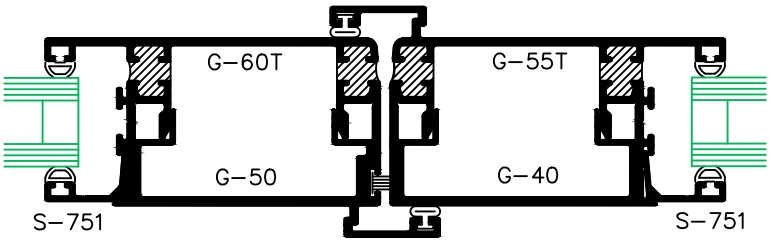
DOOR COMPONENTS



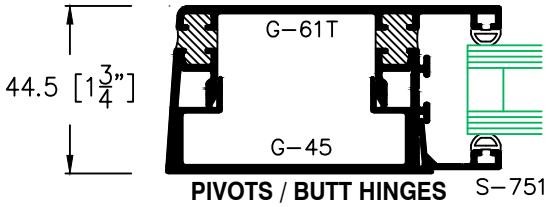




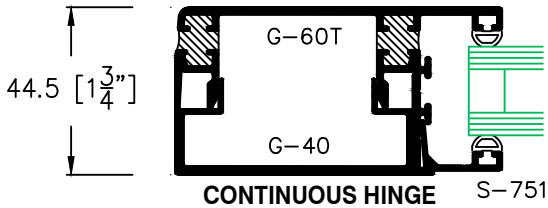
OPTIONAL MIDRAIL



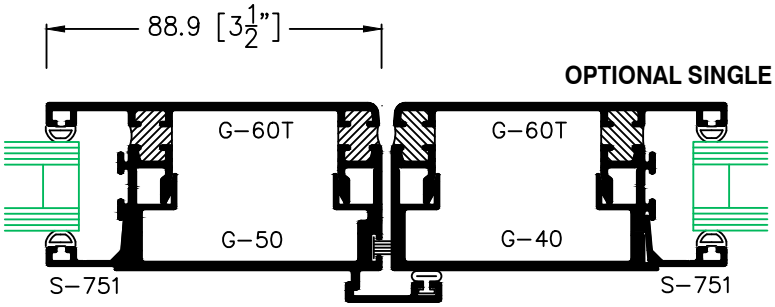
SINGLE ACTING



PIVOTS / BUTT HINGES



CONTINUOUS HINGE



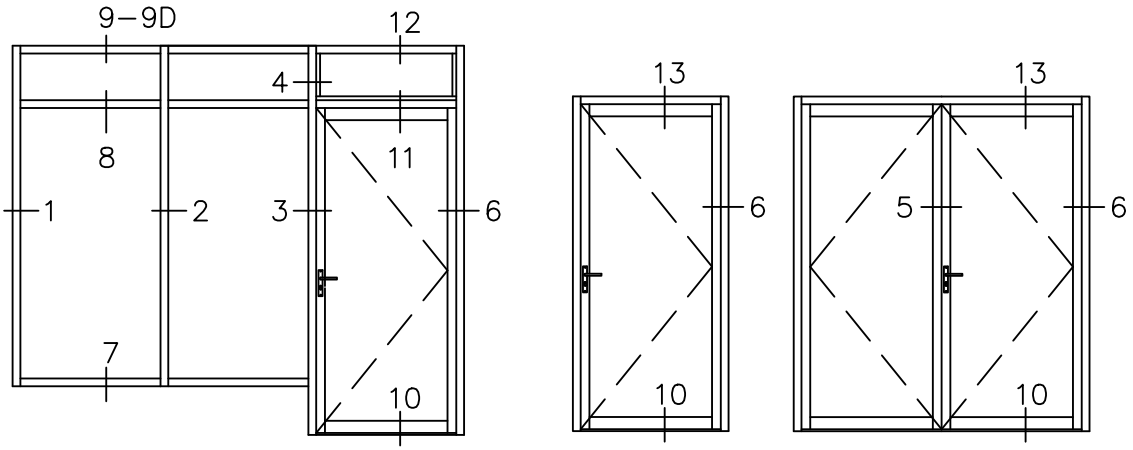
OPTIONAL SINGLE ACTING

METRO ALUMINUM Products Ltd.

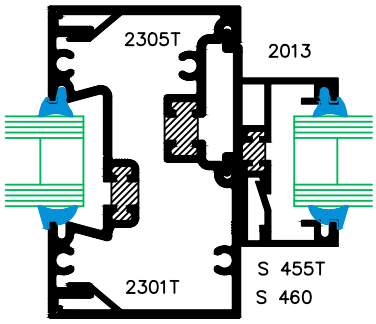
GLACIER 2000

RESIDENTIAL THERMALLY BROKEN DOORS

A 22



DETAILS 2300T FRAMING



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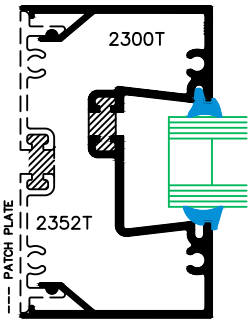

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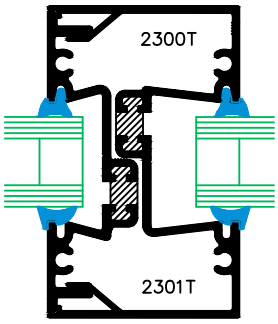

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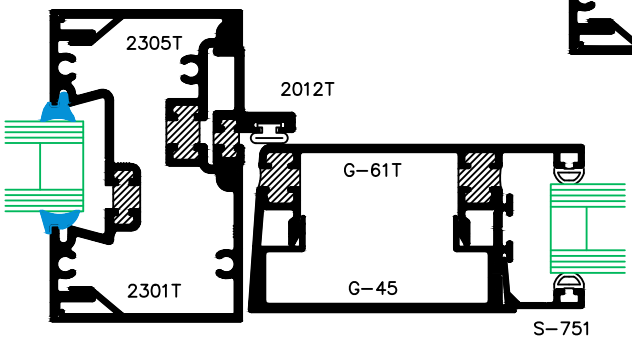

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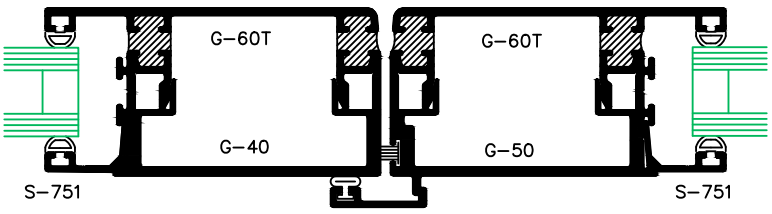

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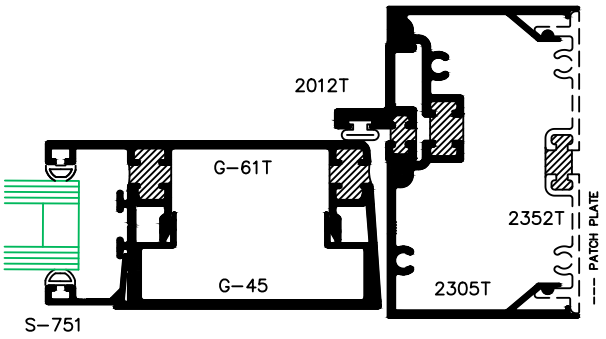

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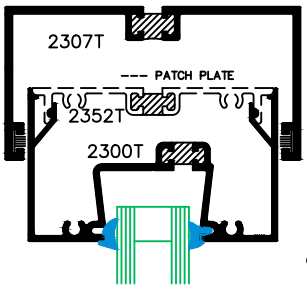
DETAILS
2300T FRAMING



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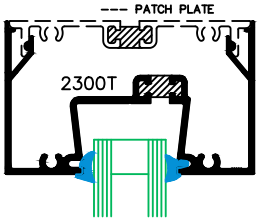
DEFLECTION HEADER OPTION



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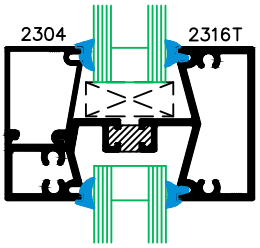

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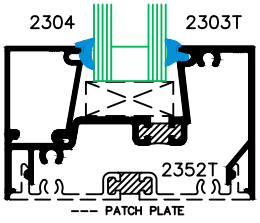

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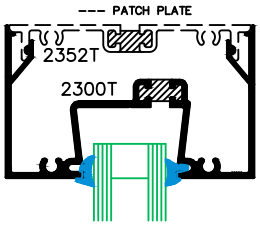

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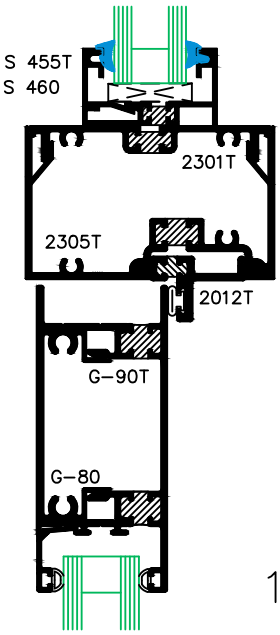

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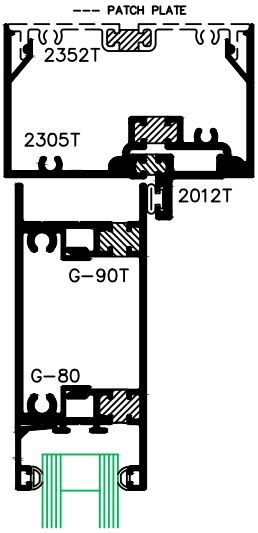

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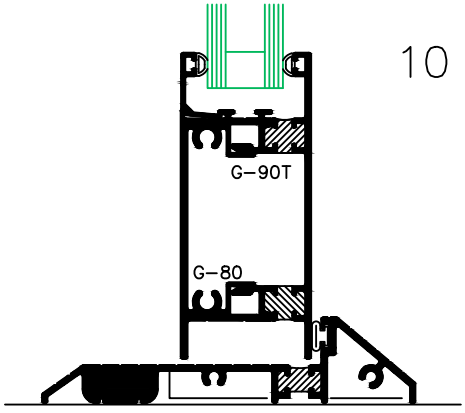

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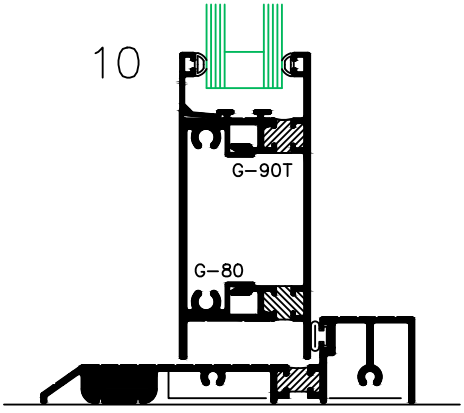

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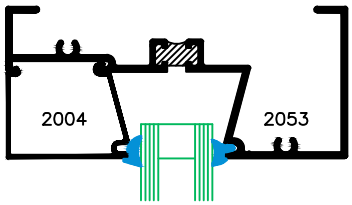

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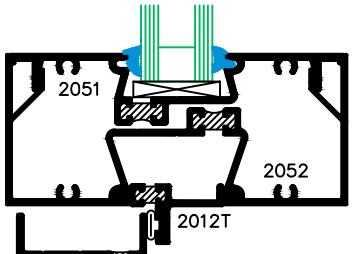

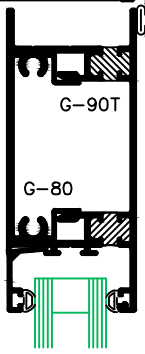

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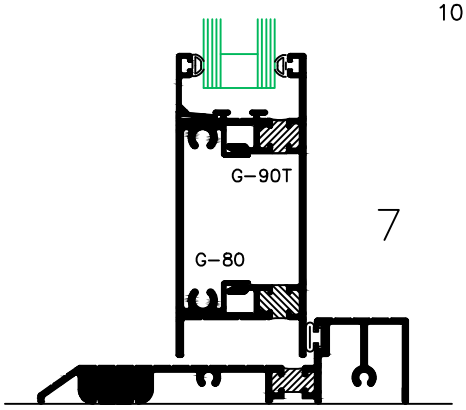

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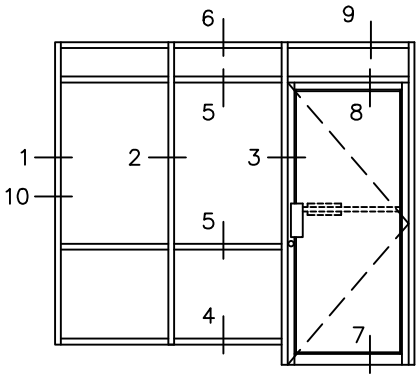

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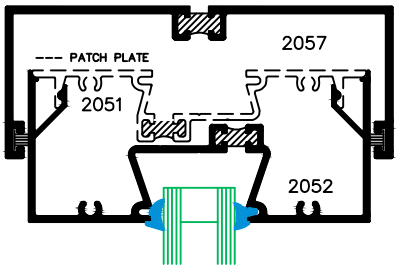

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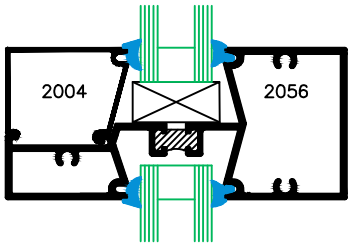

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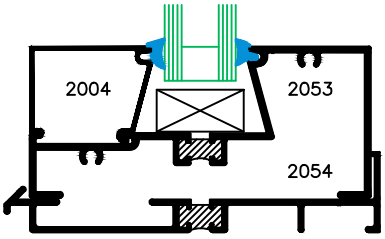

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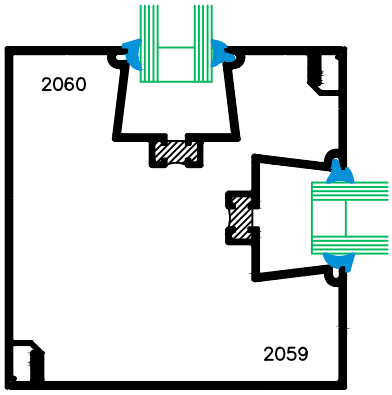

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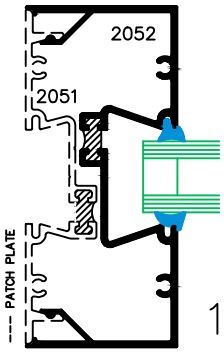
Corner Post



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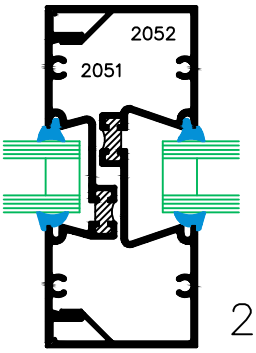

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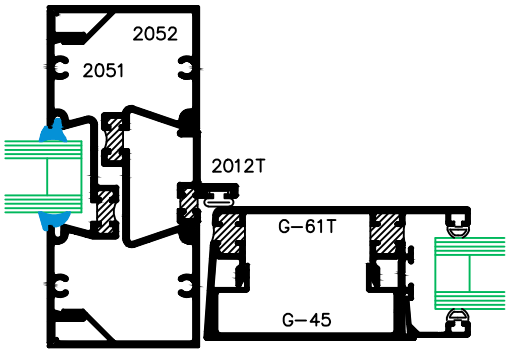

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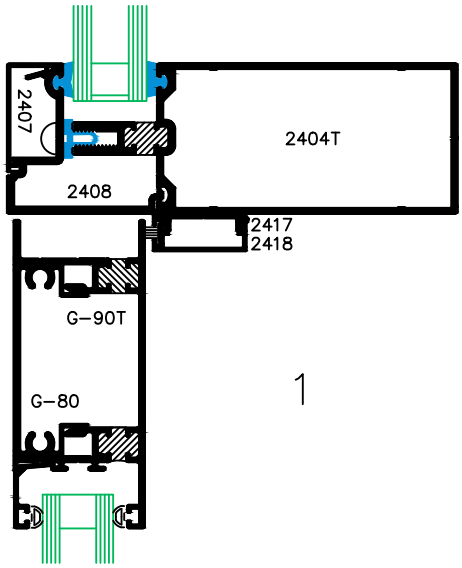

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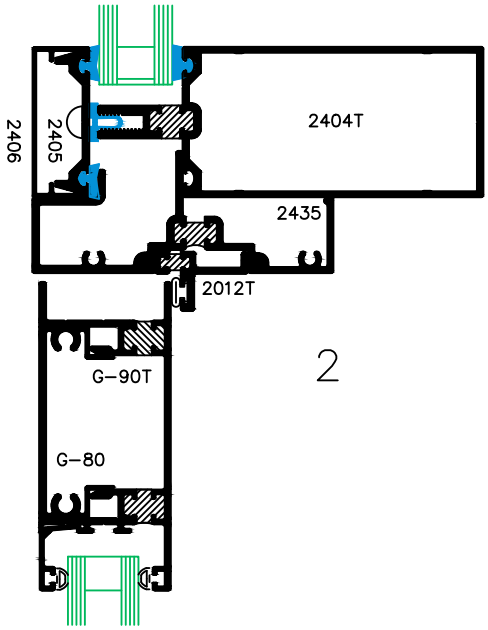

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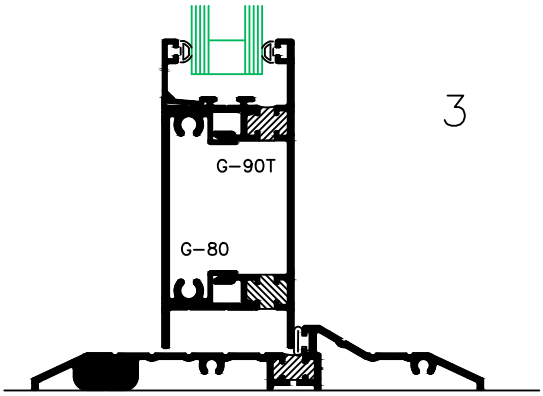
2400T FRAMING



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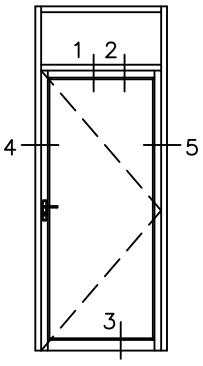

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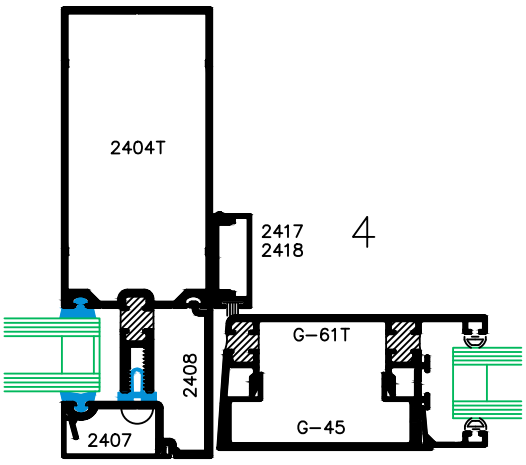

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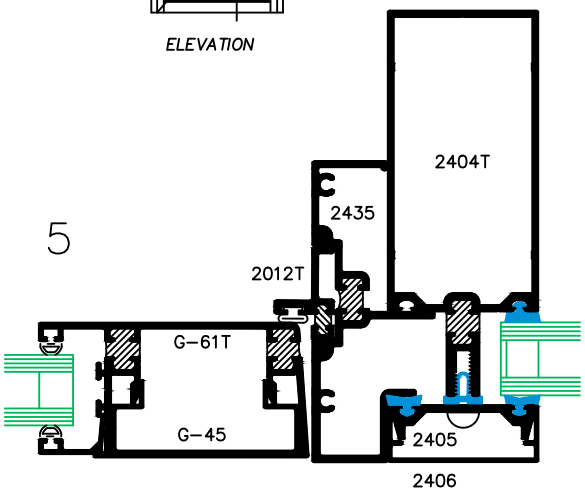


STANDARD DOOR SIZES

SINGLE DOOR OPENING	36" x 84"	914 mm x 2134 mm
PAIR OF DOORS OPENING	72" x 84"	1829 mm x 2134 mm

GLASS SIZES FOR SINGLE AND PAIRS OF 250 SERIES DOOR

5 mm SINGLE GLASS	31 7/16" x 77 1/2"	798 mm x 1969 mm
23.8mm GLASS UNIT	31 7/16" x 77 1/2"	798 mm x 1969 mm

GLASS SIZES FOR SINGLE AND PAIRS OF 350 SERIES DOOR

5 mm SINGLE GLASS	28 7/16" x 73 5/8"	722 mm x 1870 mm
23.8mm GLASS UNIT	28 7/16" x 73 5/8"	722 mm x 1870 mm

GLASS SIZES FOR SINGLE AND PAIRS OF 500 SERIES DOOR

5 mm SINGLE GLASS	25 7/16" x 70 13/16"	646 mm x 1798 mm
23.8mm GLASS UNIT	25 7/16" x 70 13/16"	646 mm x 1798 mm

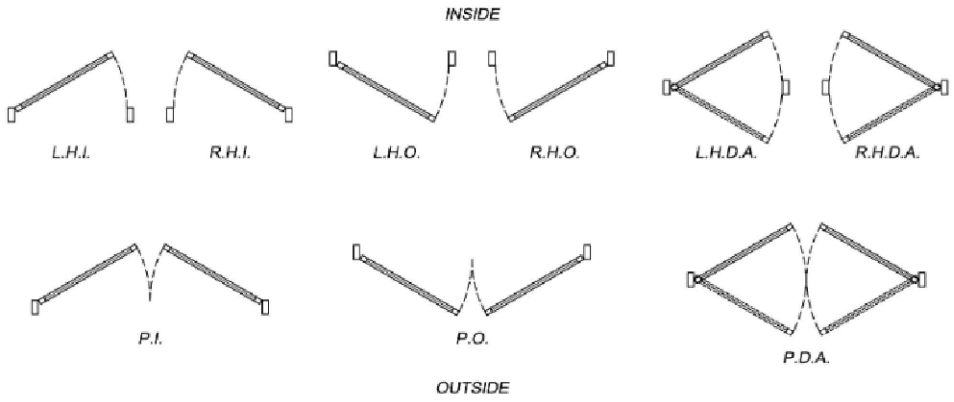
PAIR OF DOORS VIEWED FROM OUTSIDE

INACTIVE LEFT LEAF	i.e. FLUSH BOLTS
INACTIVE RIGHT LEAF	i.e. LOCK and CYLINDER

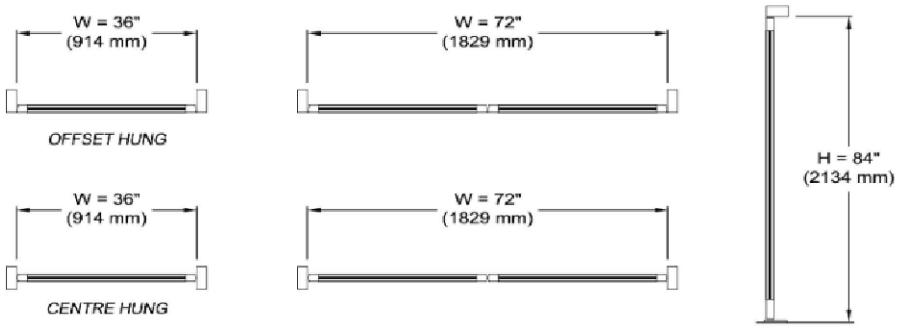
AVAILABLE GLASS STOPS

5 mm GLASS **SINGLE GLAZED DOOR**	SQUARE STOP ½" FACE WIDTH
23.8mm GLASS UNIT **DOUBLE GLAZED DOOR**	SQUARE STOP ¾" FACE WIDTH

SWING DESIGNATION



STANDARD DOOR OPENING SIZES

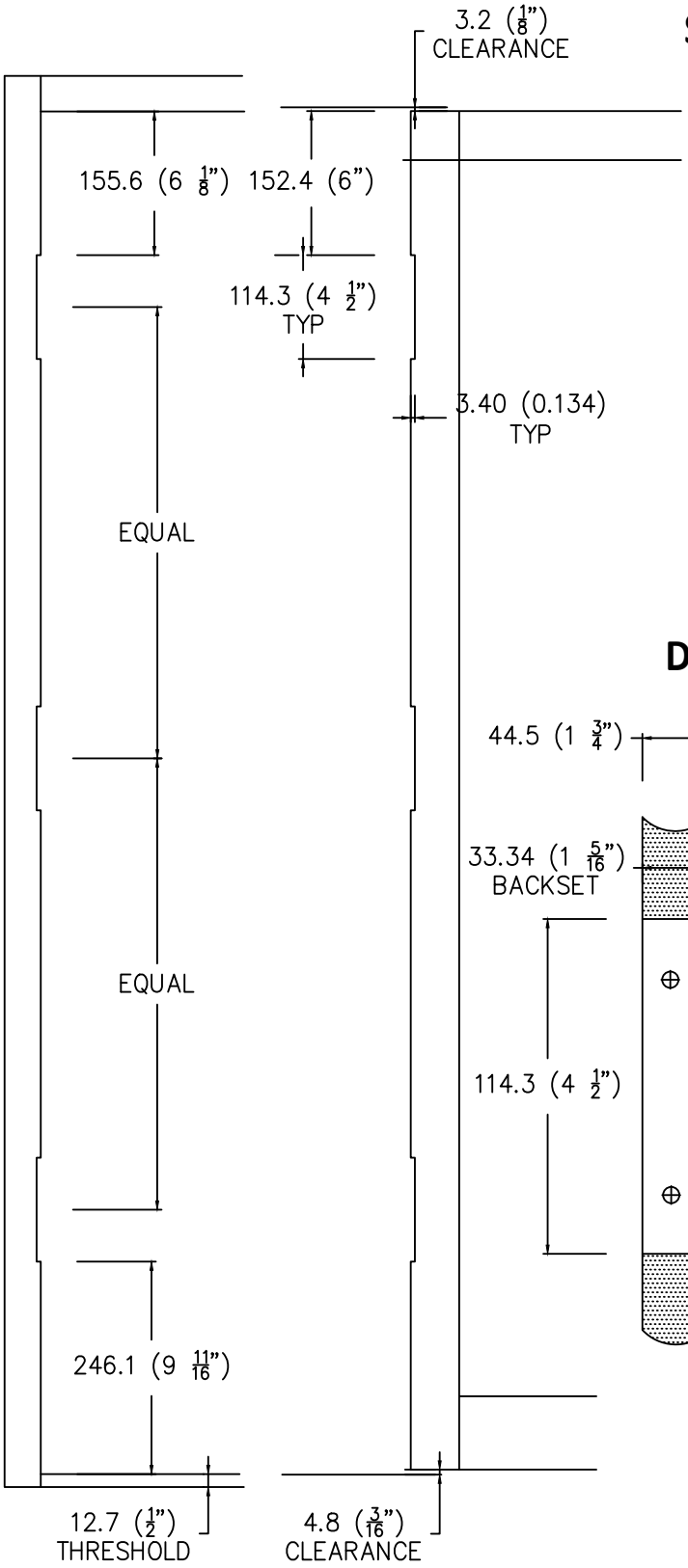


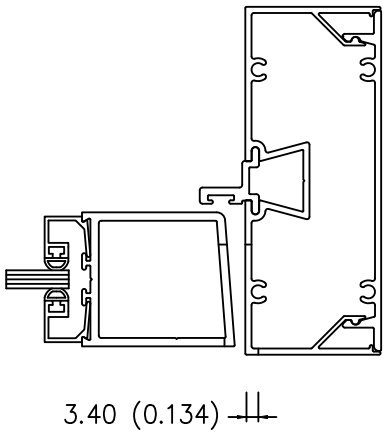
METRO ALUMINUM Products Ltd.

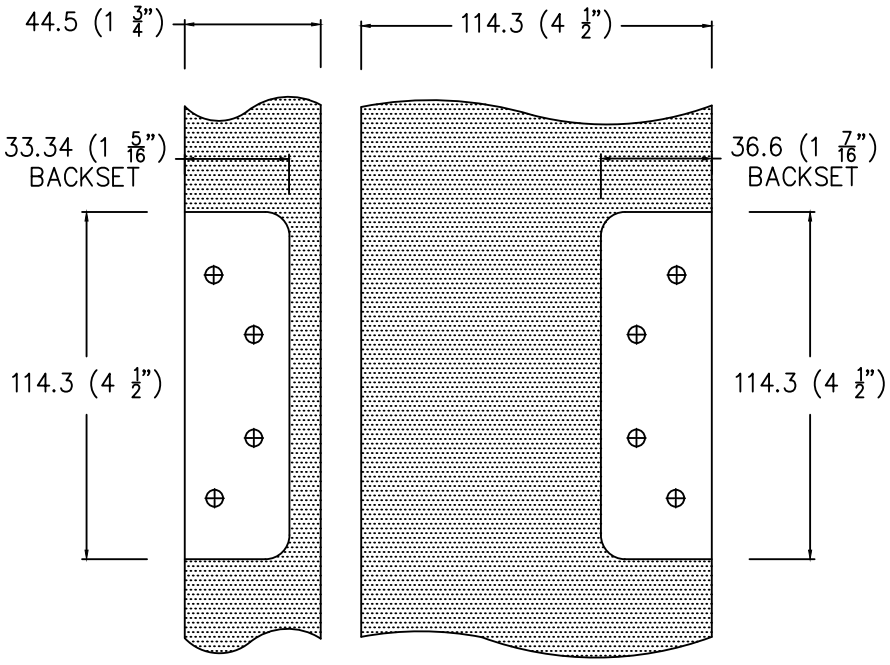
BUTT HINGE PREP
(3.2MM-1/8" RECESSED)

A 32

STANDARD BUTT LOCATIONS





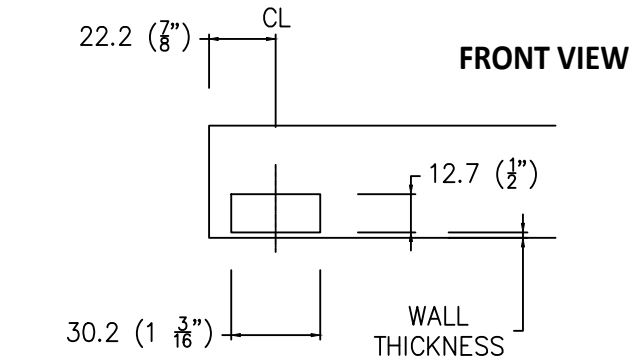


METRO ALUMINUM Products Ltd.

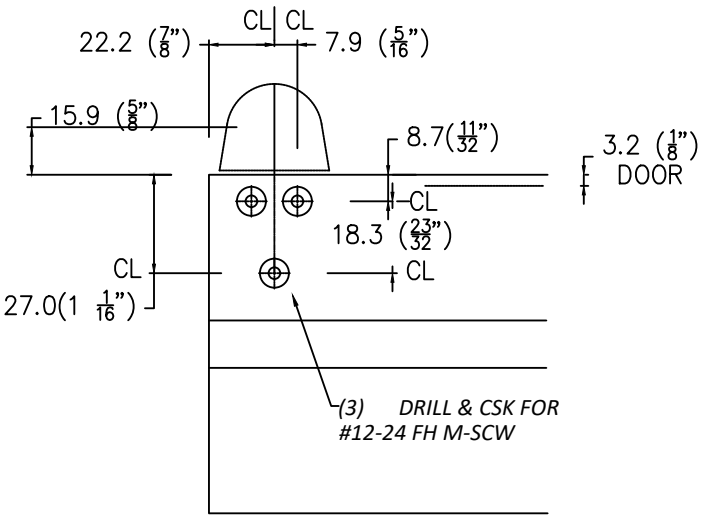
OFFSET PIVOT PREP
(3.2MM-1/8" RECESSED)

A 33

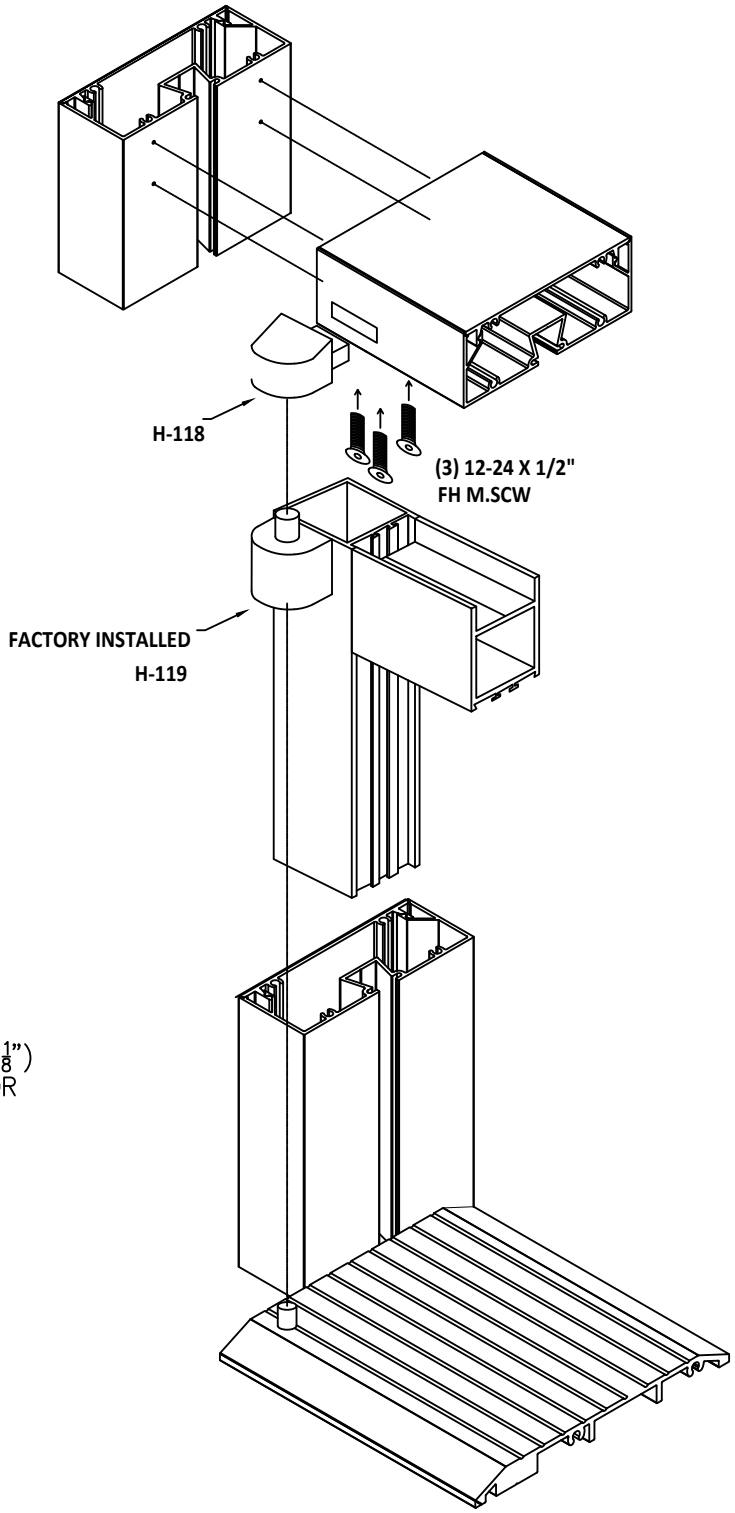
INSTALLATION DETAILS



FRONT VIEW



BOTTOM VIEW



Commercial and Institutional Sliding Doors

01 - General Specifications

02 - 1000 Series Multi-Track Interior Sliding Doors

- Interior use
- Multi-track parallel stacking
- Heavy duty tandem rollers
- Single or double glazed

05 - 1100 Series Monumental Patio Sliding Doors

- Exterior use
- Single or double glazed
- Full weather-stripping
- Heavy duty tandem rollers
- Stepped sill for drainage
- Screens available

08 - 1100T Series Monumental Exterior Sliding Doors

- 2 panels up to 8' x 0" x 8' x 0"
- 3 panels up to 12' x 0" x 8' x 0"
- 4 panels up to 16' x 0" x 8' x 0"
- Heavy duty tandem rollers
- Anodized and custom painted finishes
- Split-colour options
- Double thermal break
- Slopped sill track for easy drainage
- Flush finger pulls and hook lock
- Screens available

12 - Slider Hardware

Part 1 - GENERAL

Scope - The aluminum sliding door system shall be_____ Series as manufactured by METRO ALUMINUM Products Ltd. Supply and install glazed aluminum sliding doors, as described on the architectural drawings and as specified herein.

Work Not Included - See: Specifier's lists of excluded items; Items furnished but not installed and/or Items installed but not furnished.

Related Work Specified Elsewhere - See: Specifier's lists and related Sections.

Design & Performance Requirements - Sliding doors to fully comply with applicable standard specifications as typically referenced to the following performance requirements criteria: Air Tightness, Water Tightness, Wind and Other Load resistance. (Note: Applicable Specifier's selection)

Submittals - Shop Drawings & Samples - Submit all documentation and samples for review by Consultant at one time, prior to fabrication of door products.

Quality Assurance - Provide all necessary information to show that all involved products meet or exceed the requirements of these specifications.

Delivery, Storage and Handling - Deliver, store, handle, protect and schedule materials and products so as to avoid any damage. Follow recommendations of AAMA CW-10 "Care and Handling of Architectural Aluminum from Shop to Site" and others as applicable.

Part 2 - PRODUCTS

Materials - All materials to meet the minimum design and specifications as applicable. Any defects impairing strength, durability or appearance are not acceptable. Extruded aluminum shall be AA 6063 T6 alloy and temper with Fy = 110 MPa (16 KSI) minimum. Sufficient strength and size fasteners shall be made of corrosion-resistant and compatible material such as cadmium or zinc plated carbon steel, stainless steel or aluminum, to prevent any galvanic action (electrolytic corrosion). Standard gaskets shall be for dry-dry glazing method, extruded from dense Neoprene, EPDM, or other equal material. Gasket profile shall be designed and sized to fit tight and properly seal glass-metal interfacing. Glass setting to be compatible with glass unit seals and/or other parts involved as required. Heavy-duty pile type weather-stripping to be applied to all interfacing joints between individual panels and perimeter framing as required.

System Description System shall be (Specifier's selection) single glazed / double glazed Series: SD 1000 - Interior Multi Track Mall Sliding Door with flush recessed sill track; SD 1100 - Exterior Heavy-Duty Patio Door with fully weather-stripped stepped bottom track and double weather-stripped head, jambs and interlock - as manufactured by METRO ALUMINUM Products Ltd. Door configuration type to be: OX, XO, OOX, XOO or OXXO (Specifier's selection). System to accommodate panel sizes up to 1220 x 2440 mm (48" x 96").

Glass retention, as for dry glazing method, shall be achieved by utilizing inorganic rubber gasket on 4-sides of glass pane at interfacing with extruded aluminum glazing stop.

Head track to be equipped with woven pile to allow for necessary air tightness of the system and smooth operation of sliding panels. Interlock weather-stripping to be doubled as required. Slider operation to utilize adjustable tandem ball bearing rollers and security hook bolts. Head track to accommodate up to 19 mm (3/4") differential deflection.

Whenever substitute/alternative products are considered, supporting data to be submitted ten (10) days prior to bid date to allow for valid comparison. Approval of alternates to be confirmed in advance of bid closing by addendum only.

Fabrication - Extruded profiles shall be accurately fabricated and assembled to provide tight fit hairline joints only. Corner joinery shall utilize concealed assembly anticorrosive fasteners to allow for true and square set of frame elements. Frame assemblies shall be free of warp. Uniformly compressed glazing gaskets shall secure glass in place and uniform weather-stripping to suit air tightness and operation requirements. No exposed fasteners are permitted.

Finish - All exposed surfaces shall be finished as specified. The finish, as per AAM designation, shall be (Specifier's selection):

Standard clear anodizing to AA - M12C22A31
Standard perma bronze to AA - M12C22A44
Standard black anodized to AA - M10C21A44
Duracron acrylic enamel to AA - M12C4XR1X
Custom paint qualities and colors - Specifier's selection.
Hardware to have manufacturer's standard finish.

Part 3 - EXECUTION

Installation - Prefabricated framing to be installed in prepared openings, at correct locations as shown on drawings, set level, plumb, square and aligned with other work in accordance with manufacturer's instructions, approved shop and erection drawings. Tracks and panels to be set level, plumb and parallel not exceeding overall length combined tolerance of 3 mm (1/8") from established reference lines. Anchoring shall suit perimeter conditions of rough openings and seals as required. Perimeter joints to be sealed/caulked as specified and detailed.

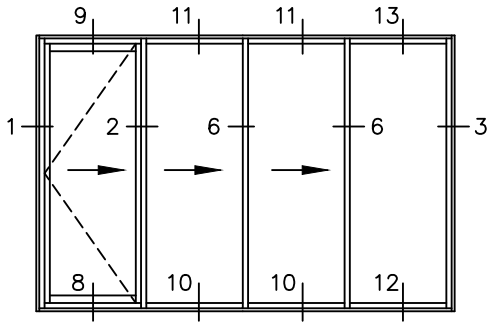
Protection and Cleaning - Work to be protected from damage during and after installation. Consult with manufacturer and installer to determine appropriate protective measures. The General Contractor shall be responsible for protection during construction and for final cleaning. After installation, aluminum work and glass to be cleaned according to instructions/manuals provided by product manufacturers and glaziers. Use appropriates cleaning materials and methods. Do not scratch or damage glass or finishes.

METRO ALUMINUM Products Ltd.

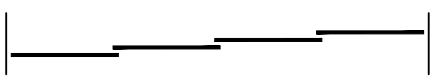
1000 SERIES
MULTI-TRACK SLIDING DOORS

B
02

ELEVATIONS & PLAN DETAILS



ELEVATION



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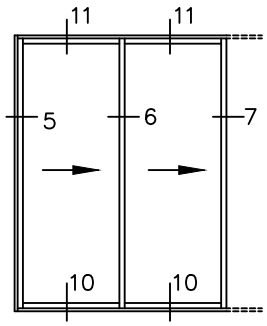

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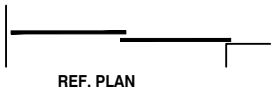

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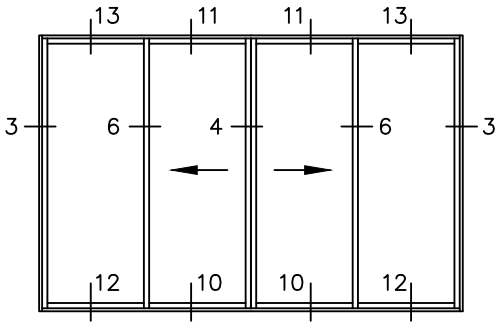

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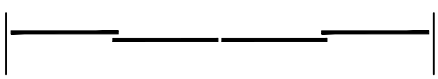

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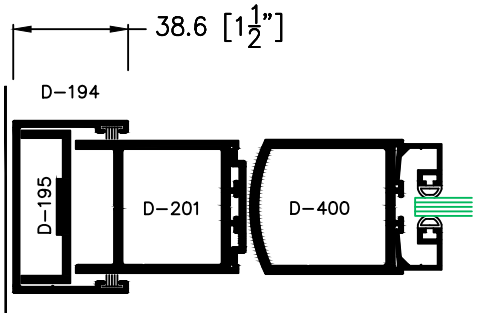
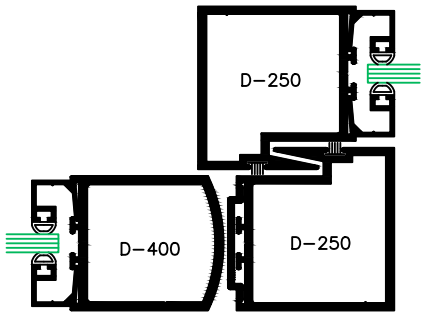
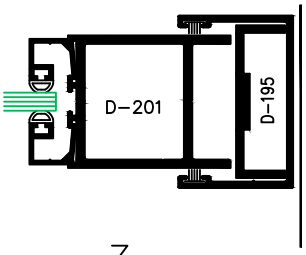


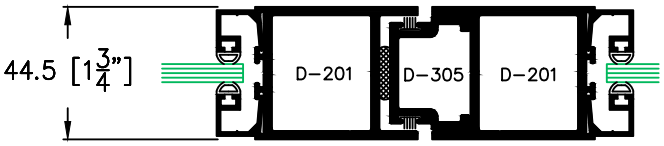
1 EGRESS DOOR



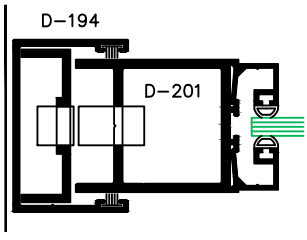
2 INTERLOCK AT EGRESS DOOR



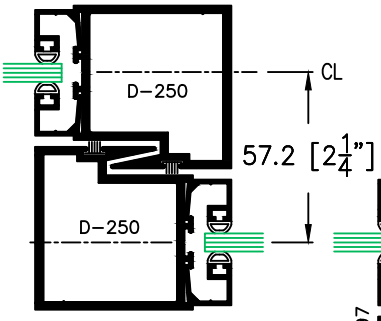
3 JAMB



4 MEETING

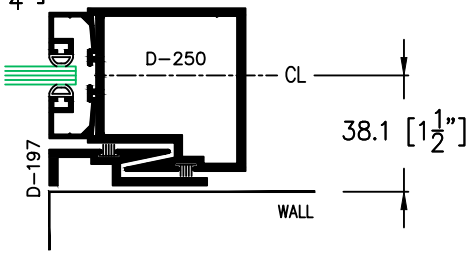


5 JAMB AT SLIDING PANEL



6 INTERLOCK

7 JAMB AT WALL

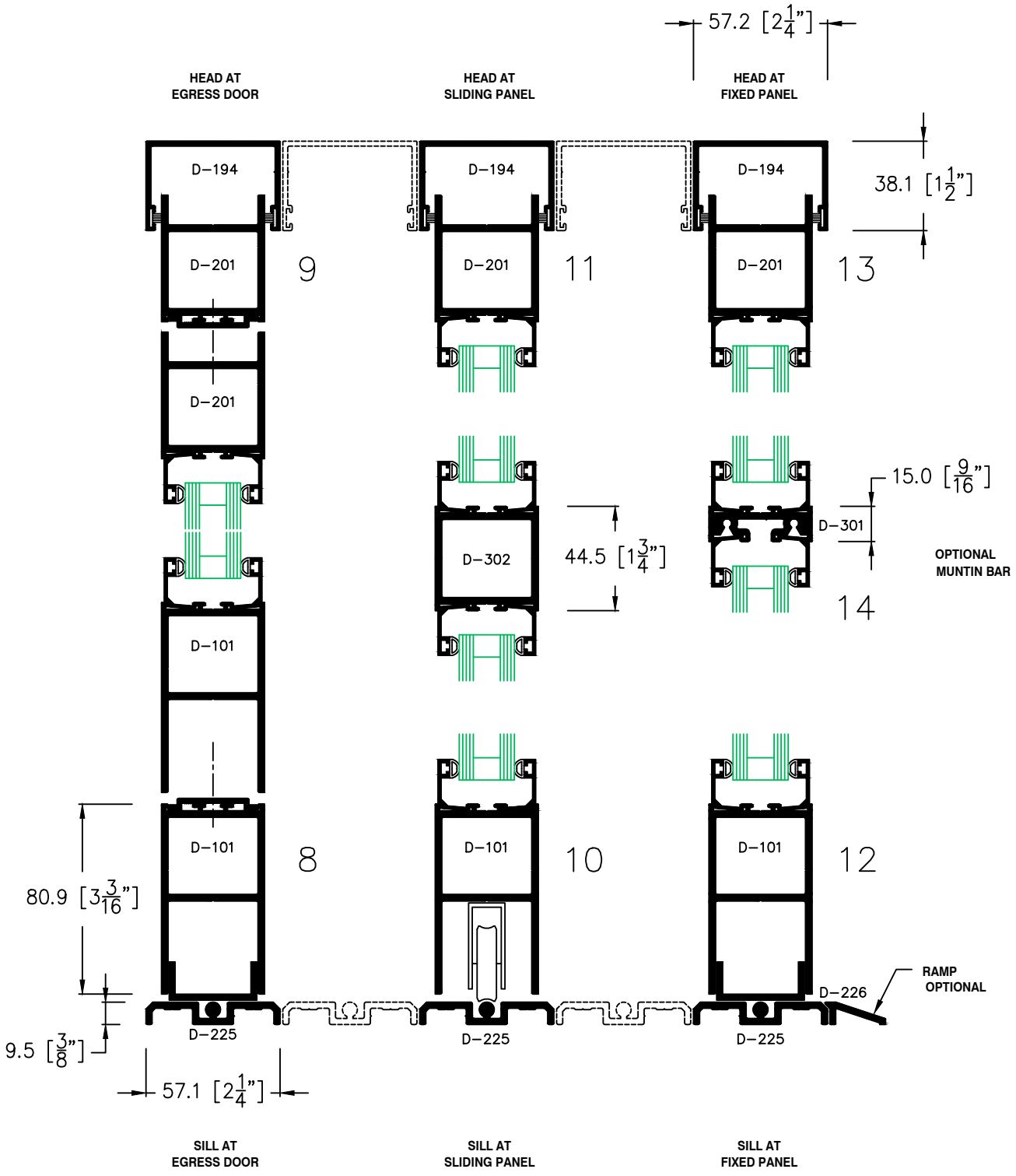


METRO ALUMINUM Products Ltd.

1000 SERIES
MULTI-TRACK SLIDING DOORS
DOUBLE GLAZED

B
03

SECTION DETAILS



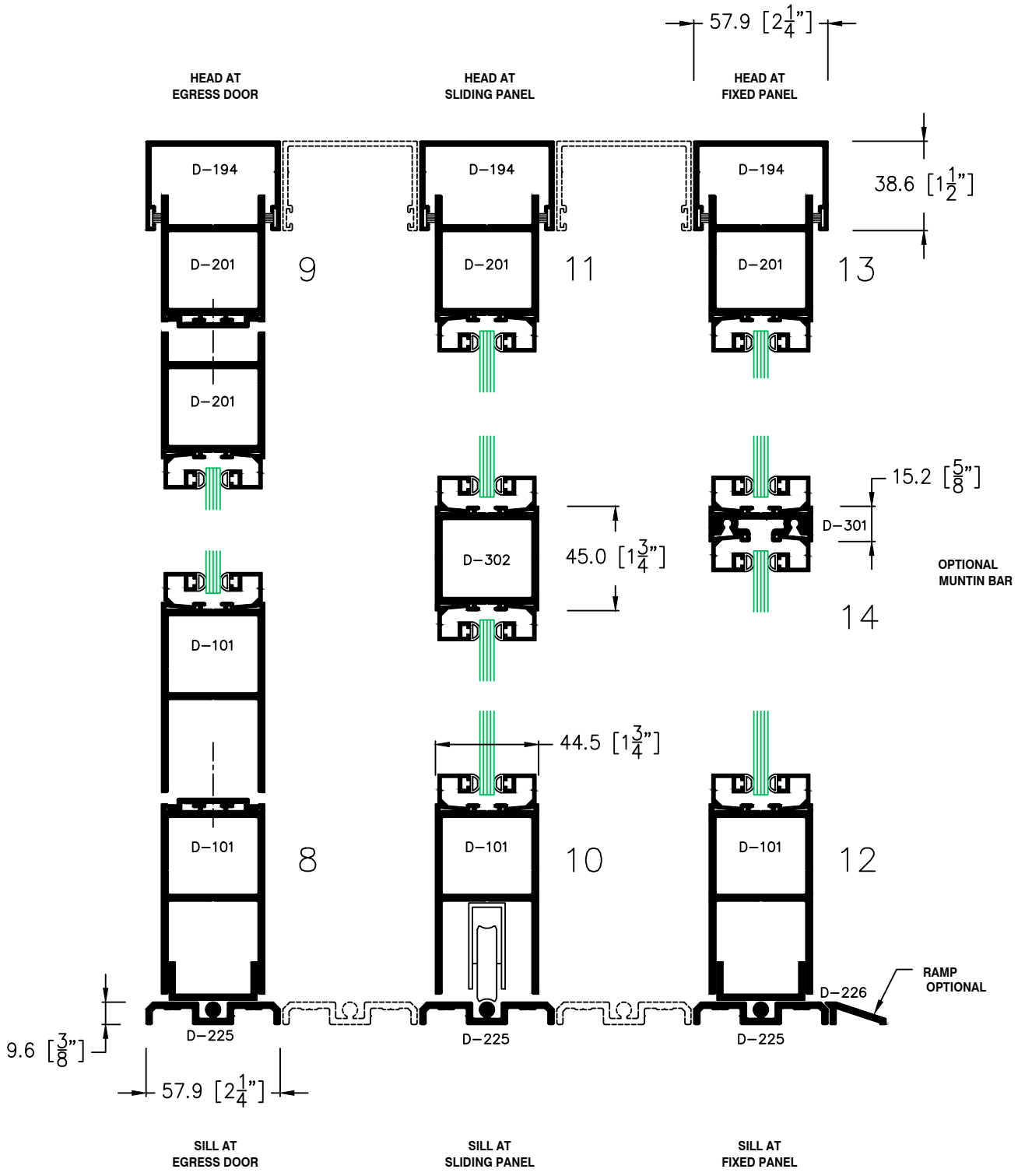
METRO ALUMINUM Products Ltd.

1000 SERIES

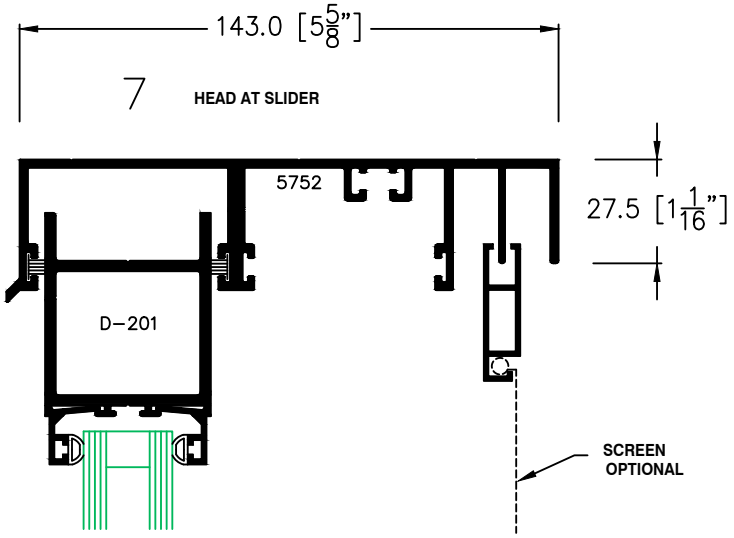
MULTI-TRACK SLIDING DOORS
SINGLE GLAZED

B 03A

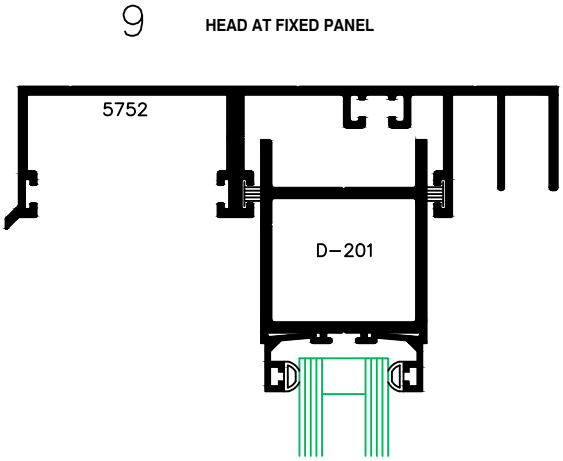
SECTION DETAILS



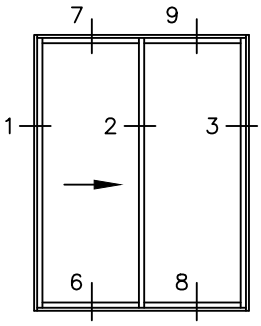
TYPICAL DETAILS



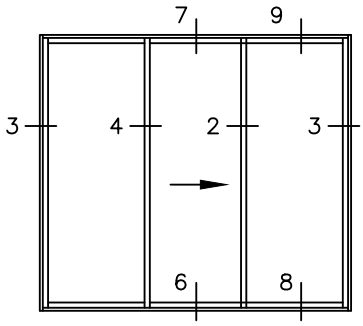
7 HEAD AT SLIDER



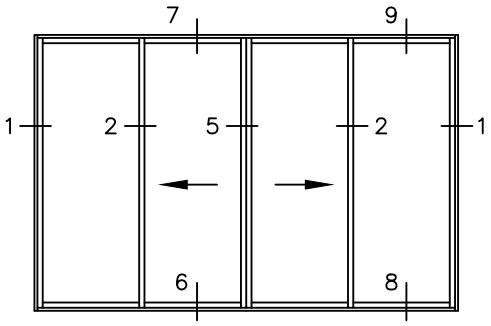
9 HEAD AT FIXED PANEL



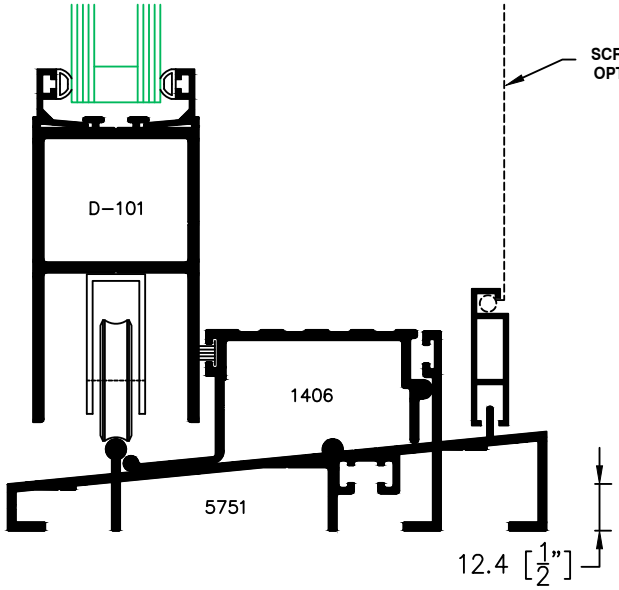
XO ELEVATION



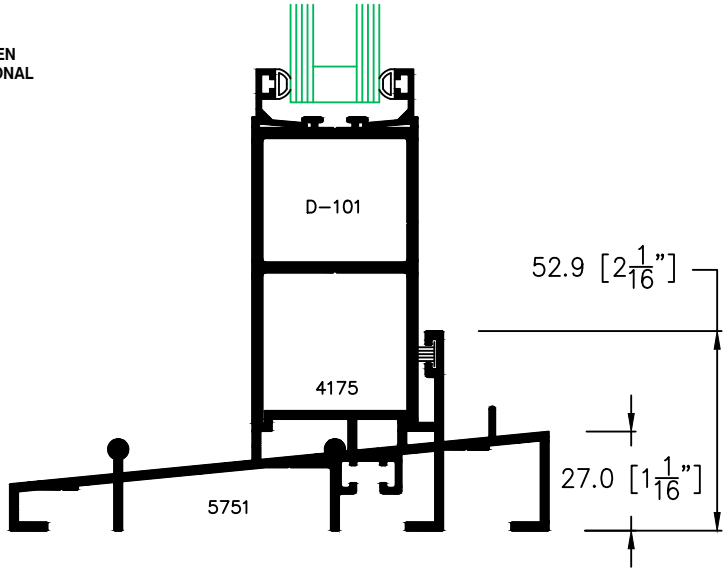
OXO ELEVATION



OXXO ELEVATION

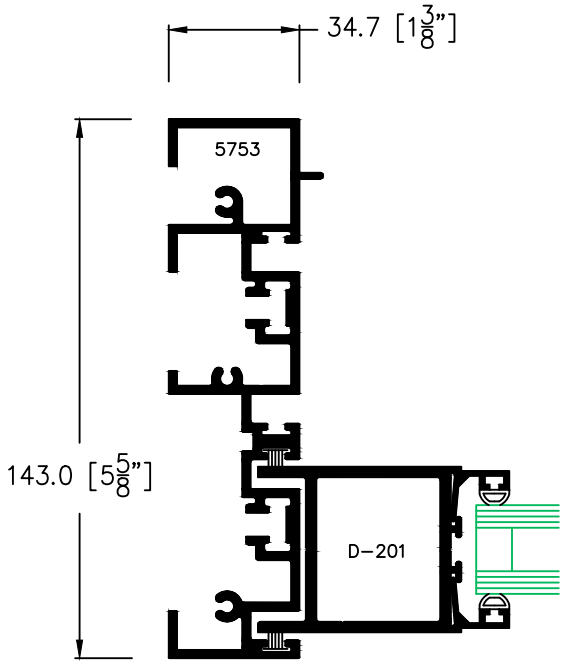


6 SILL AT SLIDER

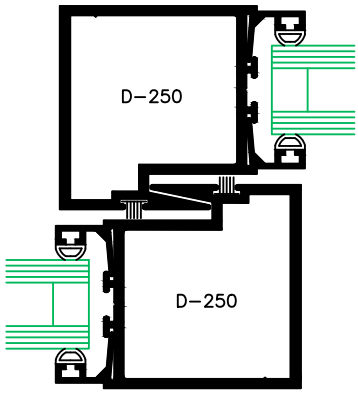


8 SILL AT FIXED PANEL

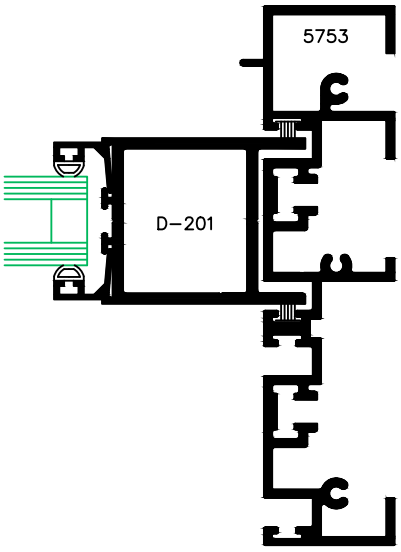
TYPICAL DETAILS



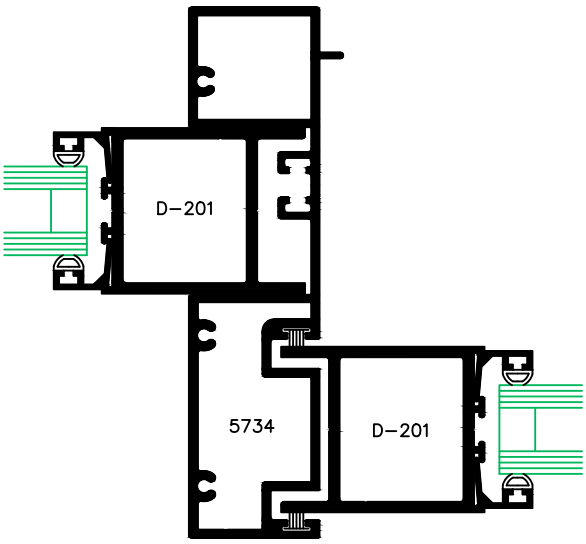
1 **JAMB AT SLIDER**



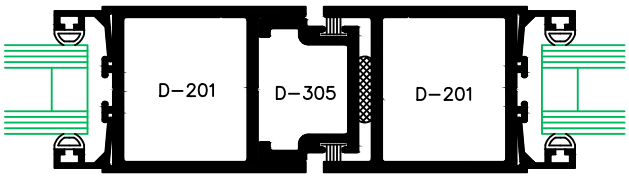
2 **INTERLOCK**



3 **JAMB AT FIXED PANEL**



4 **0XO**



5 **OXXO MEETING STILE**

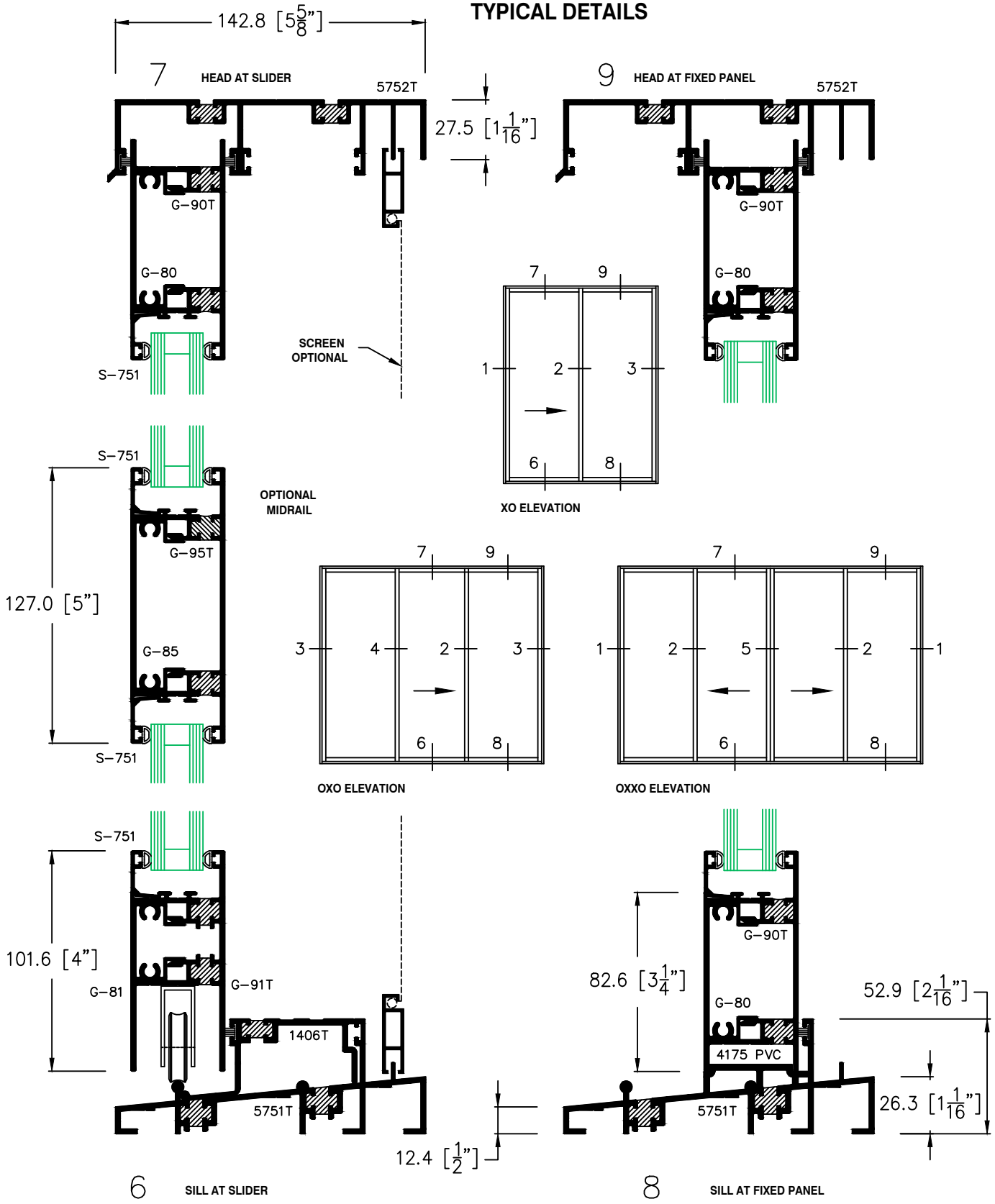
METRO ALUMINUM Products Ltd.

1100T SERIES

MONUMENTAL PATIO DOORS WITH SCREEN TRACK OPTION

B 08

TYPICAL DETAILS



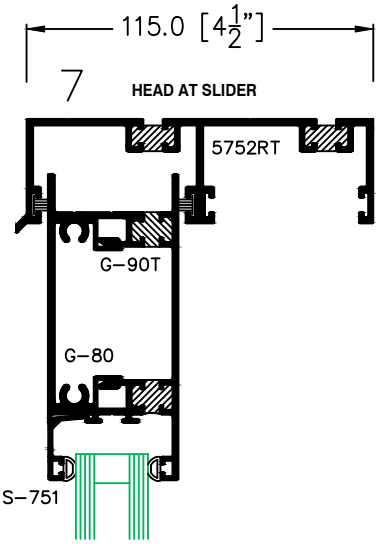
METRO ALUMINUM Products Ltd.

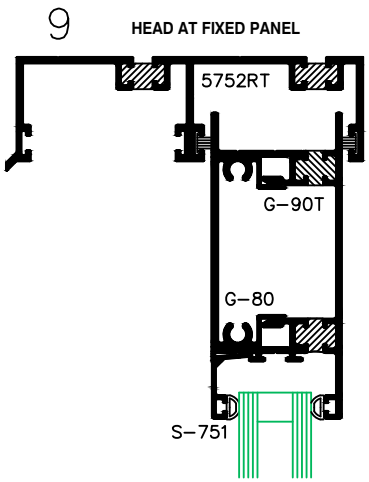
1100T SERIES

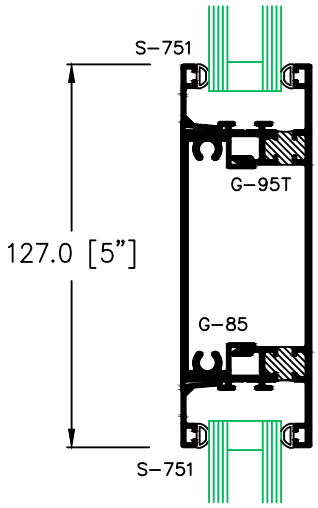
MONUMENTAL PATIO DOORS
NO SCREEN TRACK OPTION

B 08A

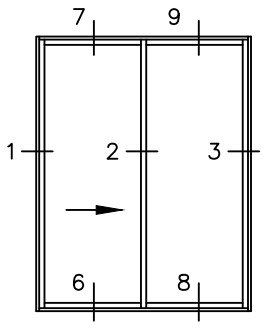
TYPICAL DETAILS



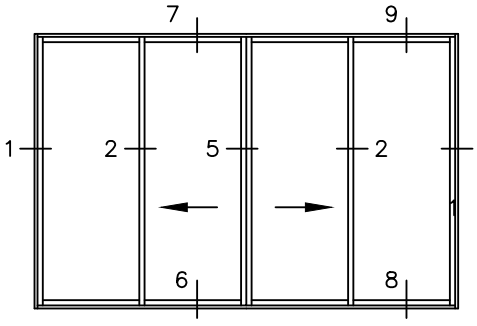




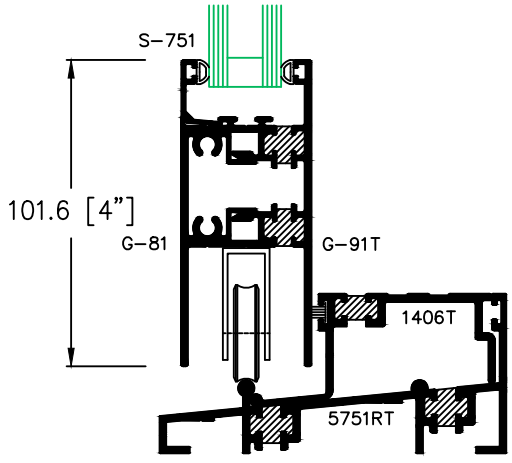
OPTIONAL MIDRAIL



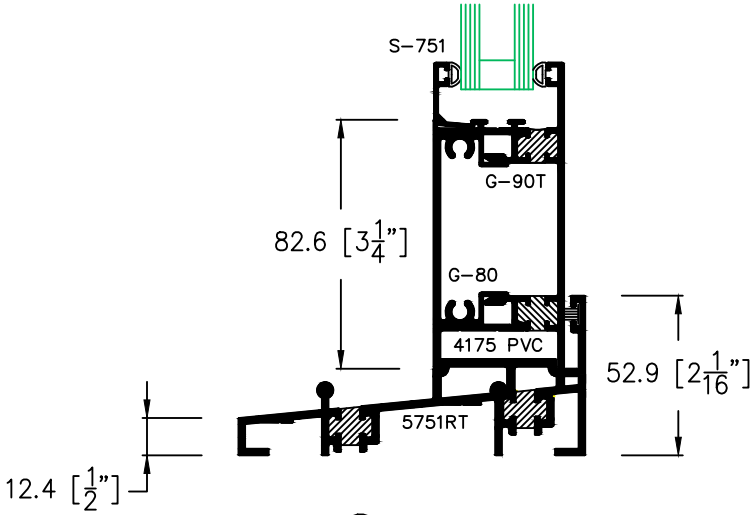
XO ELEVATION



OXXO ELEVATION



6 SILL AT SLIDER



8 SILL AT FIXED PANEL

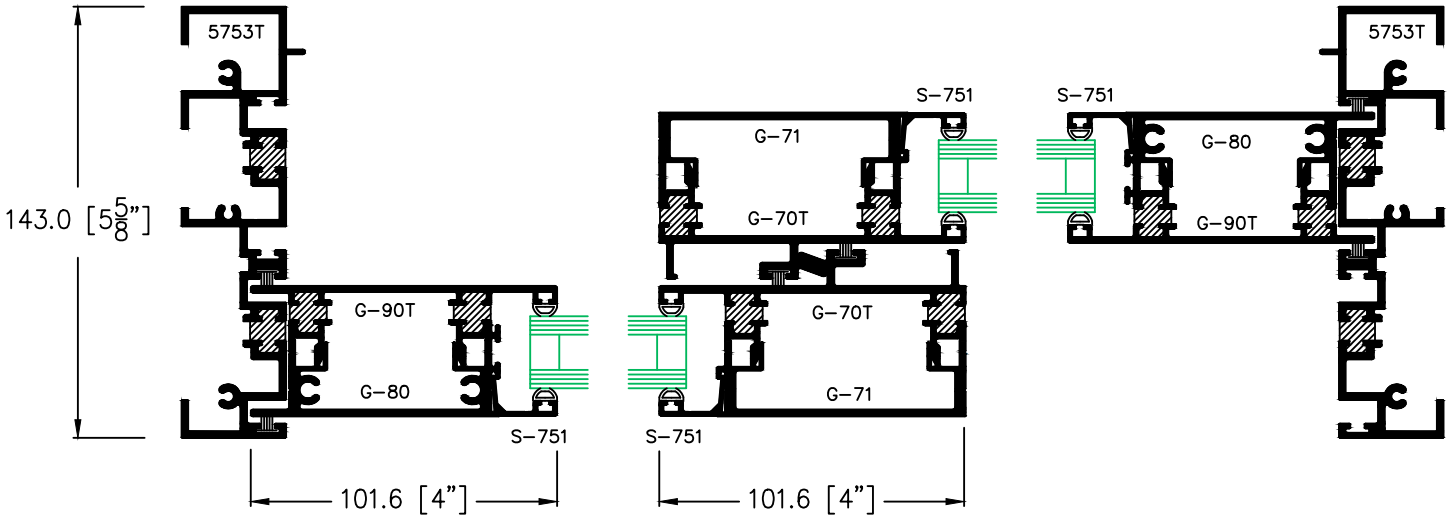
METRO ALUMINUM Products Ltd.

1100T SERIES

MONUMENTAL PATIO DOORS WITH SCREEN TRACK OPTION

B 09

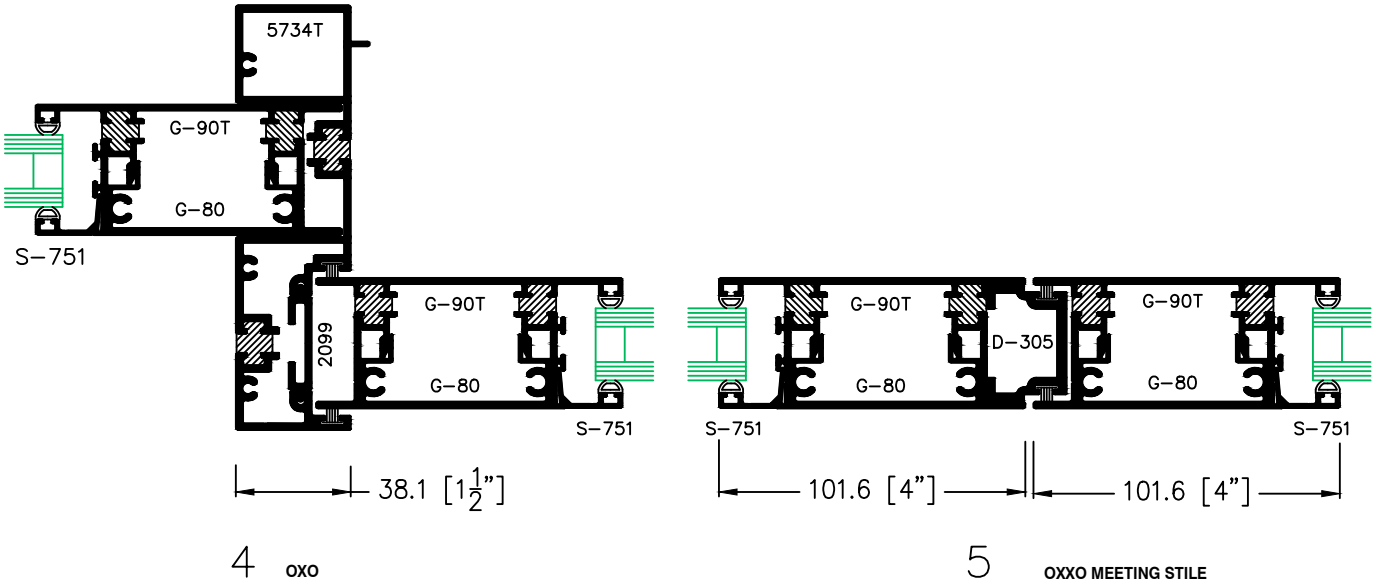
TYPICAL DETAILS



1 JAMB AT SLIDER

2 INTERLOCK

3 JAMB AT FIXED PANEL



4 OXO

5 OXXO MEETING STILE

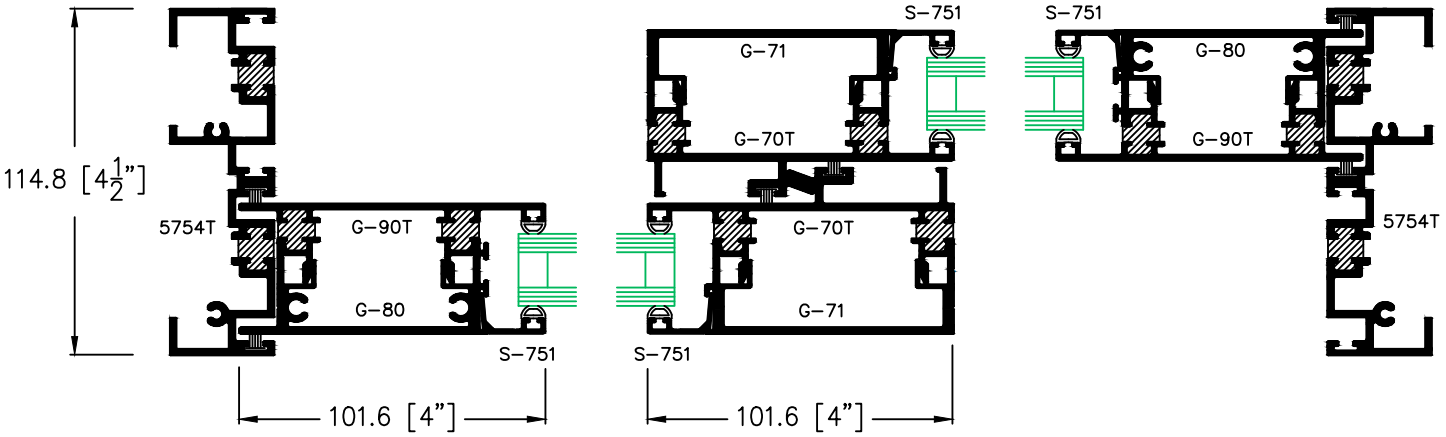
METRO ALUMINUM Products Ltd.

1100T SERIES

MONUMENTAL PATIO DOORS
NO SCREEN TRACK OPTION

B 09A

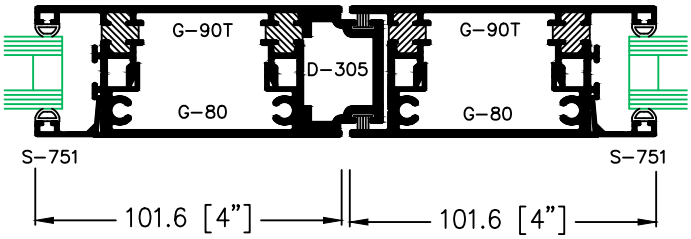
TYPICAL DETAILS



1 JAMB AT SLIDER

2 INTERLOCK

3 JAMB AT FIXED PANEL



5 OXXO MEETING STILE

METRO ALUMINUM Products Ltd.

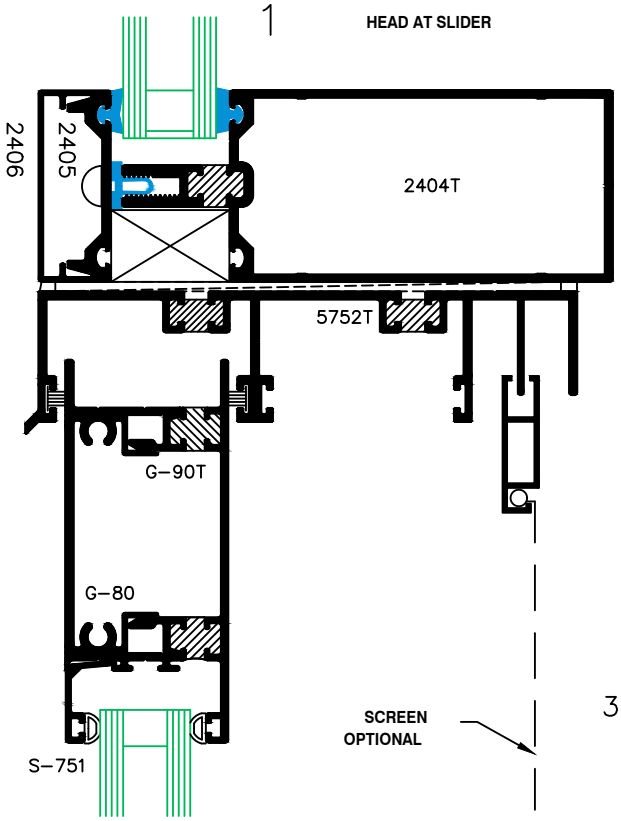
1100T SERIES

MONUMENTAL PATIO DOORS WITH SCREEN TRACK OPTION

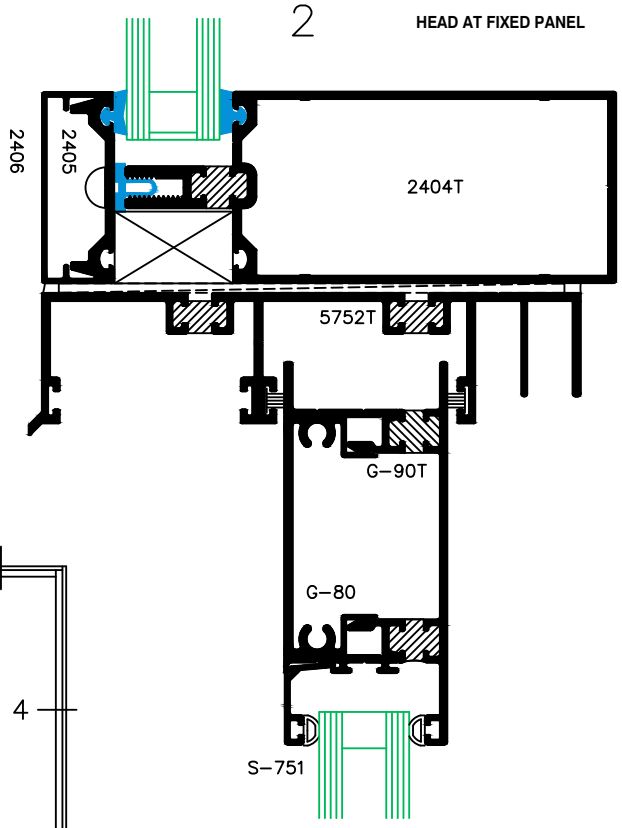
B 10

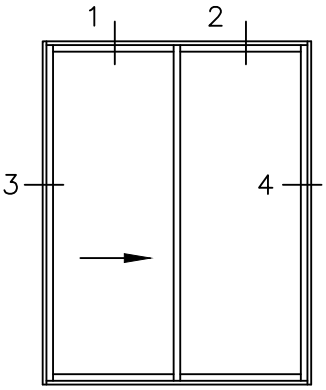
INTO CURTAIN WALL FRAMING

1 HEAD AT SLIDER

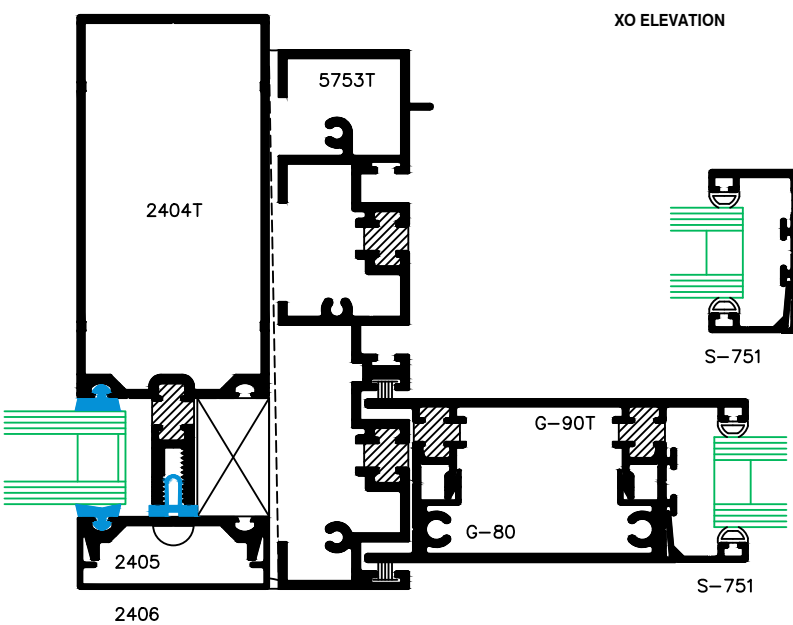


2 HEAD AT FIXED PANEL

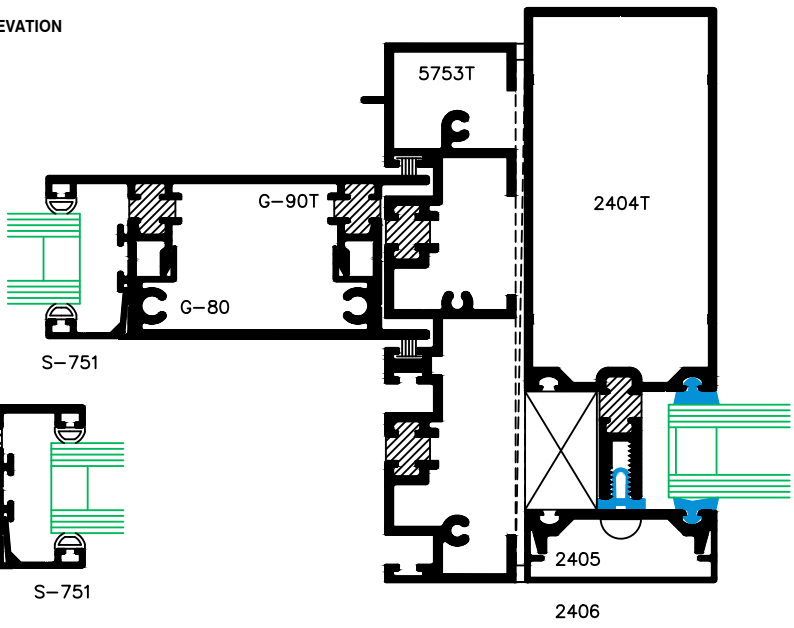




XO ELEVATION



3 JAMB AT SLIDER



4 JAMB AT FIXED PANEL

METRO ALUMINUM Products Ltd.

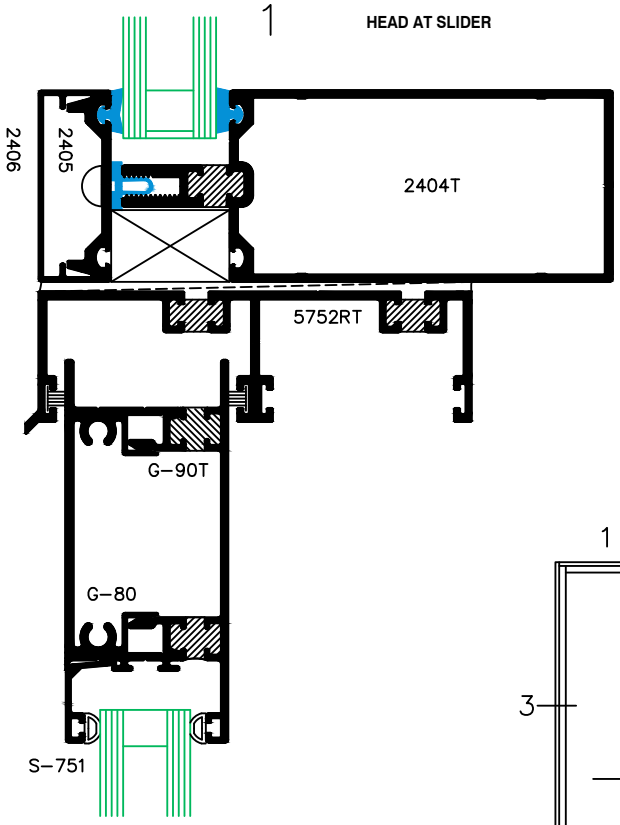
1100T SERIES

MONUMENTAL PATIO DOORS
NO SCREEN TRACK OPTION

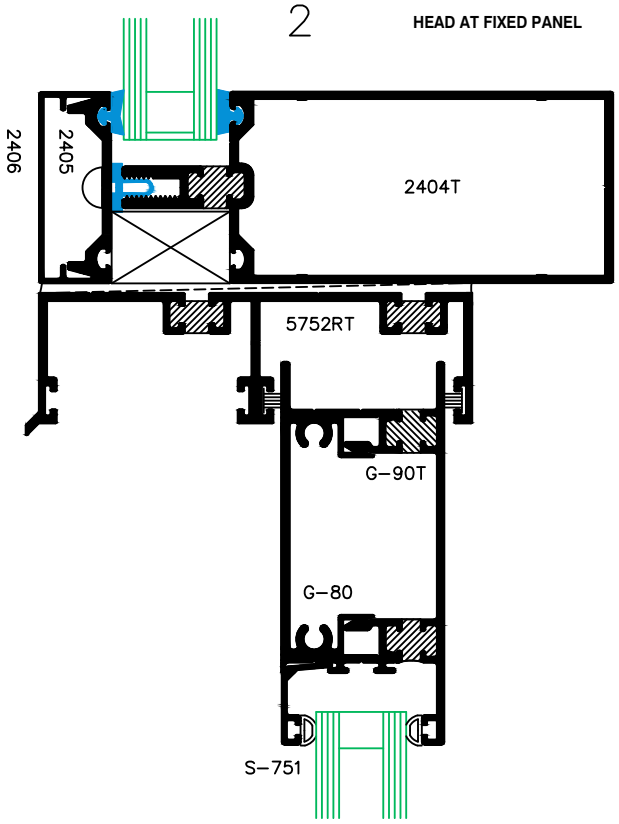
B
10A

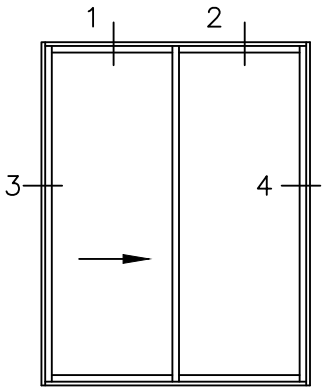
INTO CURTAIN WALL FRAMING

1 HEAD AT SLIDER

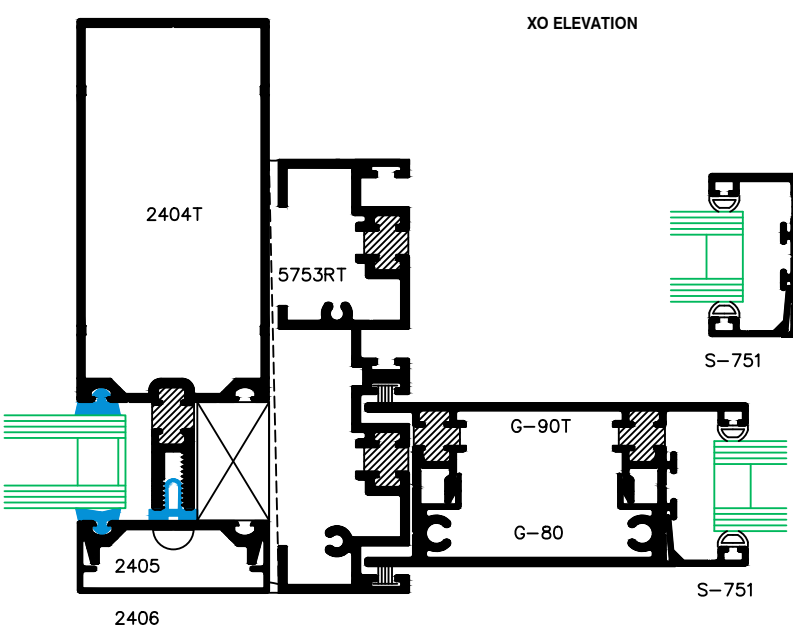


2 HEAD AT FIXED PANEL

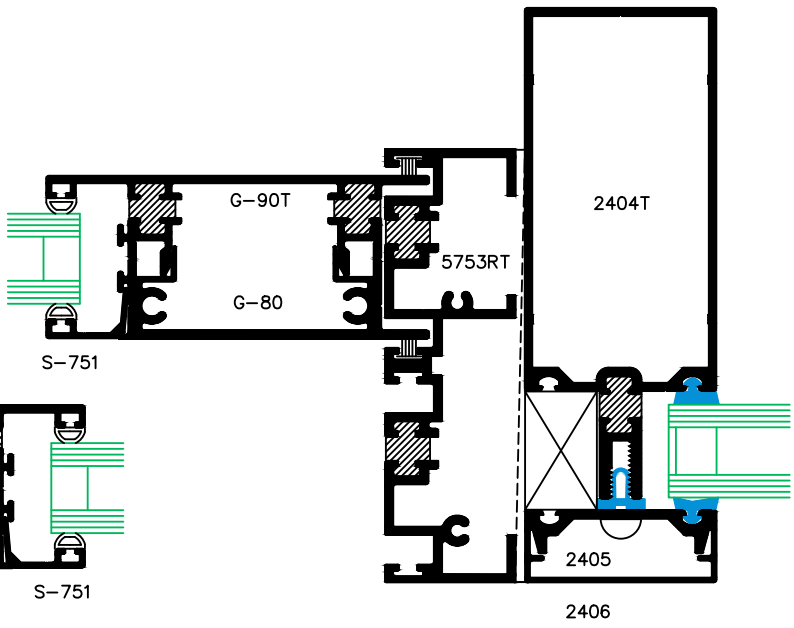




XO ELEVATION



3 JAMB AT SLIDER



4 JAMB AT FIXED PANEL

The following METRO storefront systems are all screw-port construction and designed for center pocket, flushing glazing

01 - General Specifications
02 - 1300 Series - Single Glazed
05 - 2300 Series - Double Glazed
07 - 2300T Series - Double Glazed Thermally Broken
10 - 1750 Series - Single Glazed
16 - 2050 Series - Double Glazed Thermally Broken
19 - 2100T Series - Double Glazed Thermally Broken

Part 1 - GENERAL

Scope - The storefront framing system shall be_____ Series as manufactured by METRO ALUMINUM Products Ltd. Supply and install aluminum framing, as described on the architectural drawings and as specified herein.

Work Not Included - See: Specifier's lists of excluded items; Items furnished but not installed and/or Items installed but not furnished.

Related Work Specified Elsewhere - See: Specifier's lists and related Sections.

Design & Performance Requirements - Framing to fully comply with applicable standard specifications as typically referenced to the following performance requirements criteria: Air Tightness, Water Tightness, Wind and Other Load resistance, Temperature Index and Energy Performance. (Specifier's selection)

Submittals - Shop Drawings & Samples - Submit all documentation and samples for review by Consultant at one time, prior to fabrication of door products.

Quality Assurance - Provide all necessary information to show that all involved products meet or exceed the requirements of these specifications.

Delivery, Storage and Handling - Deliver, store, handle, protect and schedule materials and products so as to avoid any damage. Follow recommendations of AAMA CW-10 "Care and Handling of Architectural Aluminum from Shop to Site" and others as applicable.

Part 2 - PRODUCTS

Materials - All materials to meet the applicable minimum design and specifications requirements. Any defects impairing strength, durability or appearance are not acceptable. Extruded aluminum shall be AA 6063 T6 alloy and temper - Fy = 110 MPa (16 KSI) minimum. Sufficient strength and size fasteners shall be made of corrosion-resistant and compatible material such as cadmium or zinc plated carbon steel, stainless steel or aluminum, to prevent any galvanic action (electrolytic corrosion). Standard gaskets shall be extruded from dense Neoprene, EPDM, or other equal material. Gasket profiles, for dry-dry, outside-flush glazing method, shall be designed and sized to fit tight and properly seal glass-metal interfacing. Glass setting to be compatible with glass unit seals and/or other parts involved as required.

System Description - Framing System shall be 1750, 2000, 2050, 1300, 2300 - non-thermally broken/uninsulated (thermally broken/insulated - T), for single glass (sealed insulating glass units) METRO Series - Specifier selection - as manufactured by METRO ALUMINUM Products Ltd.
Reference dimensions of extruded profiles shall be:
1750 - 1.75" 44.5 mm) x 4.5" (114.3 mm) - 0.5" (12.7 mm) GP - NTB
2100 - 2" (50.8 mm) x 4.5" (114.3 mm) - 1.25" (37.7 mm) GP - TB
2050 - 2" (50.8 mm) x 4.5" (114.3 mm) - 1.25" (37.7 mm) GP - TB
1300 - 1.75" (44.5 mm) x 3.25" (82.6 mm) - 0.5" (12.7 mm) GP - NTB
2300 - 2" (50.8 mm) x 3.25" (82.6 mm) - 1.25" (37.7 mm) GP - NTB
2300T - 2" (50.8 mm) x 3.25" (82.6 mm) - 1.25" (37.7 mm) GP - TB
Glass retention, as for dry-flush glazing method, shall be achieved by 3-side fixed pockets and a sill glazing stop profile and inorganic rubber gasket. Where applicable, thermal break shall be polyurethane poured-in resin type.
Whenever substitute/alternative products are considered, supporting data to be submitted ten (10) days prior to bid date to allow for valid comparison. Approval of alternates to be confirmed in advance of bid closing by addendum only.

Fabrication - Extruded profiles shall be accurately fabricated and assembled to provide tight fit hairline joints only. Corner joinery shall utilize concealed assembly screws or spigots. Parts involved shall be fastened by means of anticorrosive steel screws to allow for permanent true and square set of frame elements. Frame assemblies shall be free of warp. Uniformly compressed glazing gaskets shall secure glass in place. No exposed fasteners are permitted.

Finish - All exposed surfaces shall be finished as specified. The finish, as per AAM designation, shall be (Specifier's selection):
Standard clear anodizing to AA - M12C22A31
Standard perma bronze to AA - M12C22A44
Standard black anodized to AA - M10C21A44
Duracron acrylic enamel to AA - M12C4XR1X
Custom paint qualities and colors - Specifier's selection.
Hardware to have manufacturer's standard finish.

Part 3 - EXECUTION

Installation - Extruded subsills, completed with integrated end dams, to be set and sealed as required. Prefabricated framing to be installed in prepared openings, at correct locations as shown on drawings, set level, plumb, square and aligned with other work in accordance with manufacturer's instructions, approved shop and erection drawings. Anchoring shall suit perimeter conditions of rough openings and seals as required. Perimeter joints to be sealed/caulked as specified and detailed to ensure weathertight assembly.

Protection and Cleaning - Work to be protected from damage during and after installation. Consult with manufacturer and installer to determine appropriate protective measures. The General Contractor shall be responsible for protection during construction and for final cleaning. After installation, aluminum work and glass to be cleaned according to instructions/manuals provided by product manufacturers and glaziers. Use appropriates cleaning materials and methods. Do not scratch or damage glass or finishes.

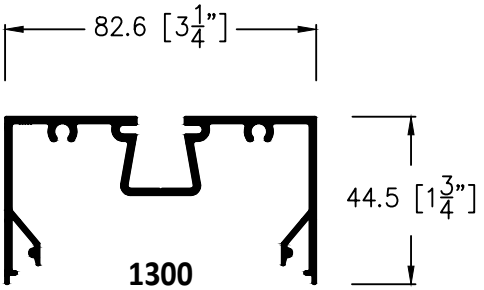
METRO ALUMINUM Products Ltd.

1300 SERIES

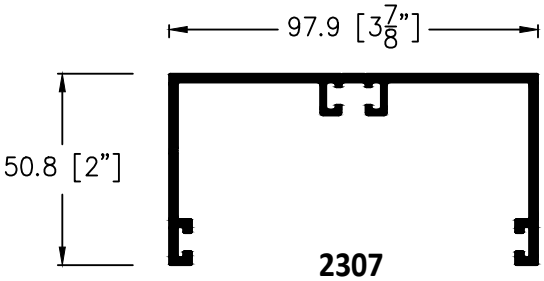
SINGLE GLAZING STOREFRONT SYSTEM
1 3/4" X 3 1/4" (44.5mm X 82.6mm)

C 02

COMPONENTS



1300
OPEN BACK MULLION



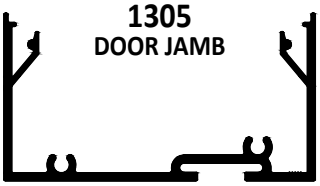
2307
DEFLECTION HEADER

5134
FACE GASKET

5130
BACK GASKET

1327
INSTALLATION CHANNEL

1301
POCKET FILLER



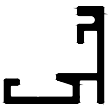
1305
DOOR JAMB

S 460
SASH GLAZING STOP

1713
POCKET FILLER

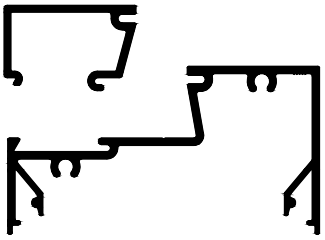
1712
DOOR STOP

2352
FLAT FILLER

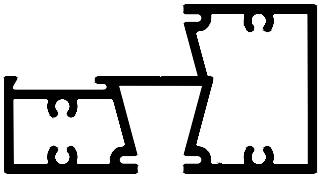


S 450
SINGE GLAZING SASH

1304
GLAZING STOP



1303
OPEN SILL / HORIZONTAL



1316
TUBULAR HORIZONTAL

1306
5" THRESHOLD

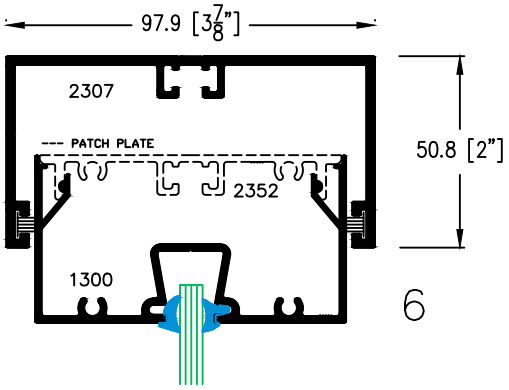
METRO ALUMINUM Products Ltd.

1300 SERIES

SINGLE GLAZING STOREFRONT SYSTEM
1 3/4" X 3 1/4" (44.5mm X 82.6mm)

C 03

TYPICAL DETAILS



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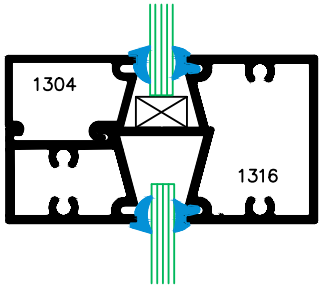

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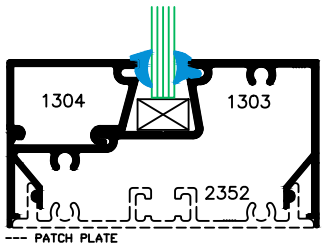

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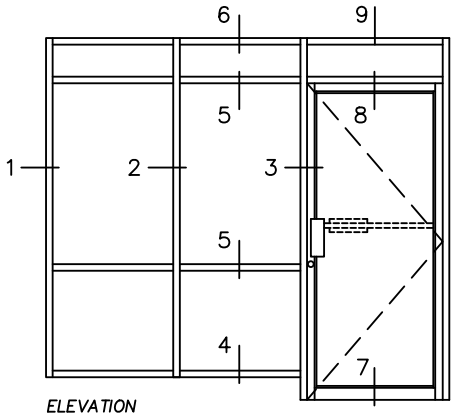
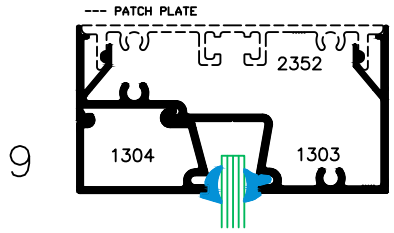


ELEVATION



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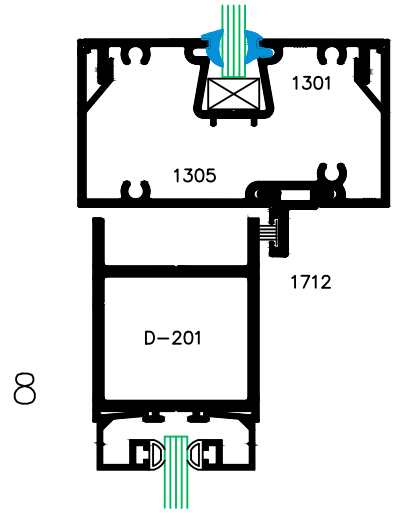

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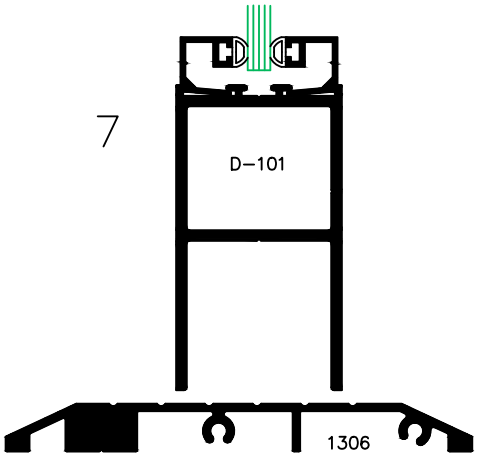

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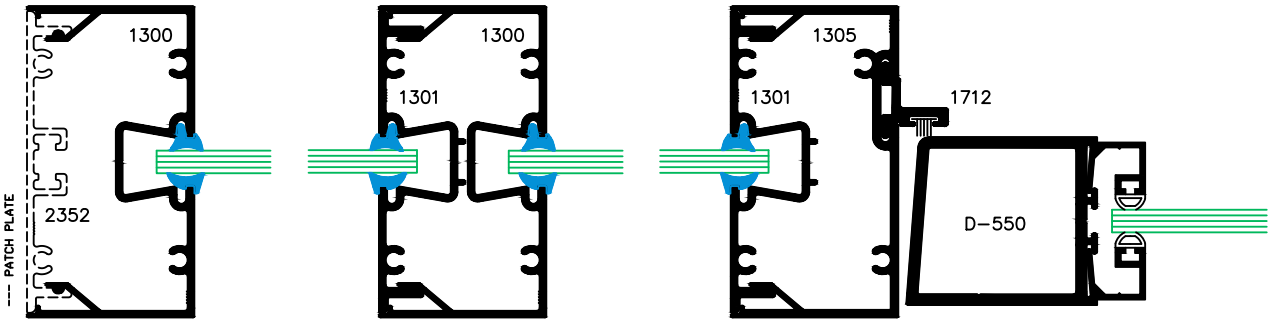


1 2 3

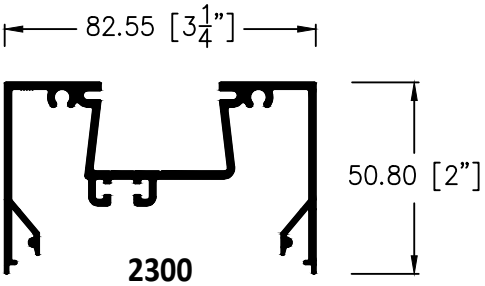
METRO ALUMINUM Products Ltd.

2300 SERIES

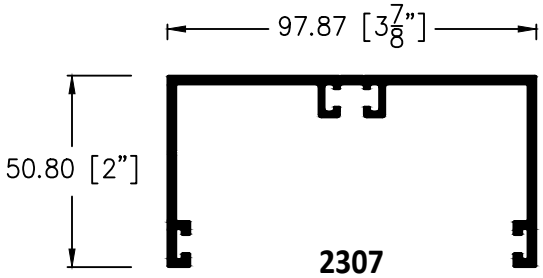
DOUBLE GLAZING STOREFRONT SYSTEM
2" X 3 1/4" (50.8mm X 82.6mm)

C 05

COMPONENTS



2300
OPEN BACK MULLION



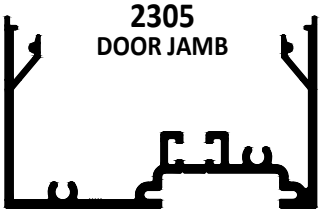
2307
DEFLECTION HEADER

2301
POCKET FILLER

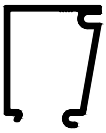
1327
INSTALLATION CHANNEL

2352
FLAT FILLER

S 460
SASH GLAZING STOP



2305
DOOR JAMB

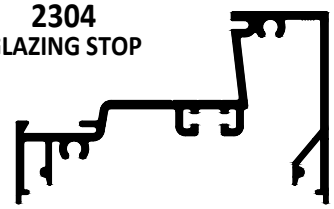


2304
GLAZING STOP

S 455
DOUBLE GLAZING SASH

5134
FACE GASKET

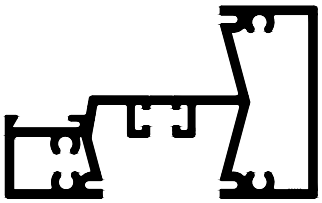
5130
BACK GASKET



2303
OPEN SILL / HORIZONTAL

2013
1 1/4" POCKET FILLER

2012
DOOR STOP
FOR 1 3/4" DOOR



2316
TUBULAR HORIZONTAL

1306
5" THRESHOLD

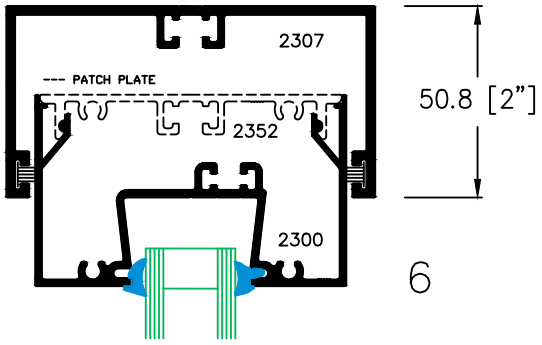
METRO ALUMINUM Products Ltd.

2300 SERIES

DOUBLE GLAZING STOREFRONT SYSTEM
2" X 3 1/4" (50.8mm X 82.6mm)

C
06

TYPICAL DETAILS



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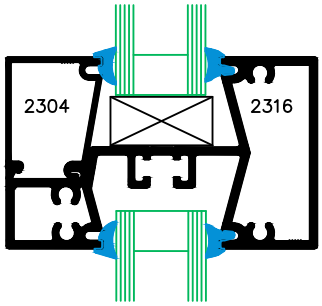

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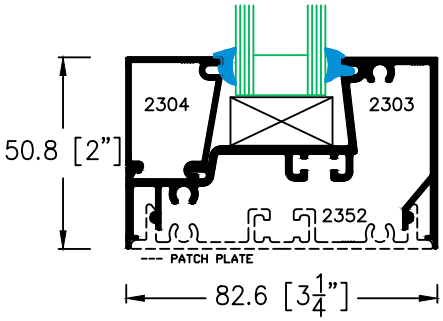

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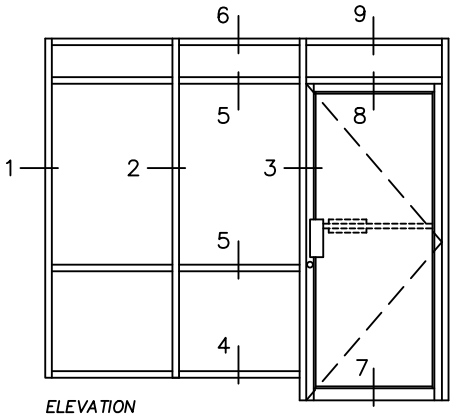
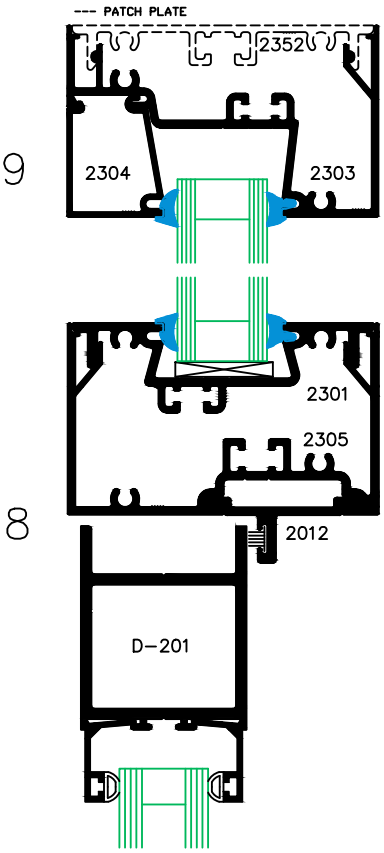


ELEVATION



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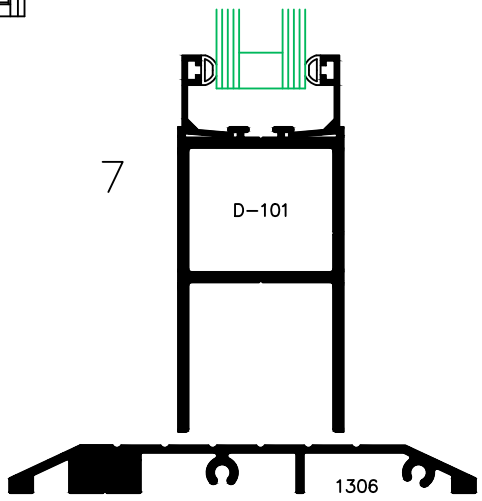
8



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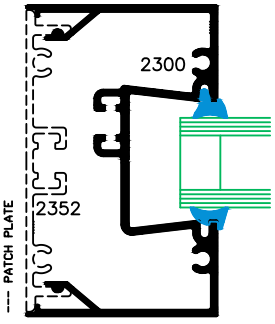

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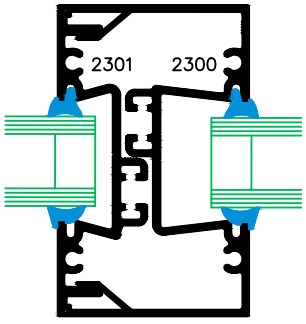

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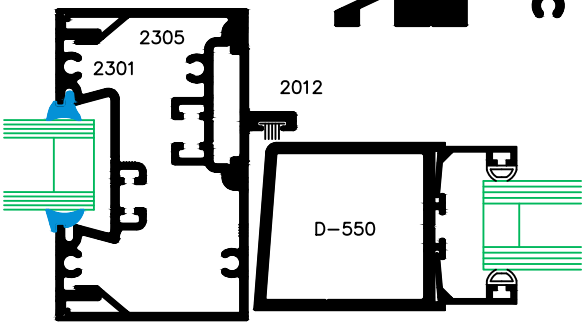


3

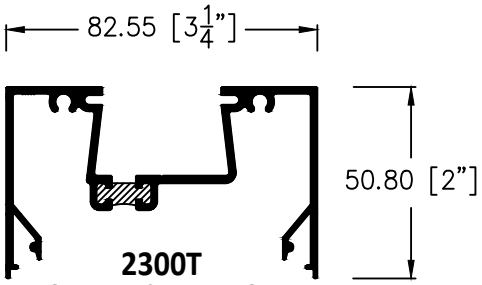
METRO ALUMINUM Products Ltd.

2300T SERIES

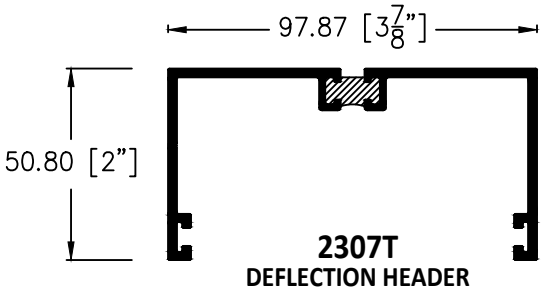
THERMALLY BROKEN STOREFRONT SYSTEM
2" X 3 1/4" (50.8mm X 82.6mm)

C 07

COMPONENTS

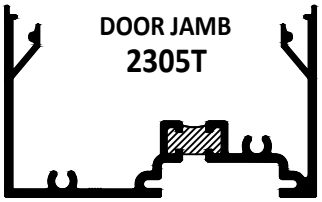


2300T
OPEN BACK MULLION



2307T
DEFLECTION HEADER

2301T
POCKET FILLER



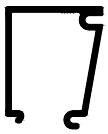
DOOR JAMB
2305T

S 460
SASH GLAZING STOP

2352T
FLAT FILLER

2013
1 1/4" POCKET FILLER

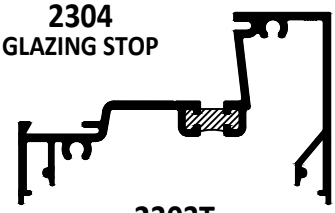
S 455T
DOUBLE GLAZING SASH



2304
GLAZING STOP

5134
FACE GASKET

5130
BACK GASKET

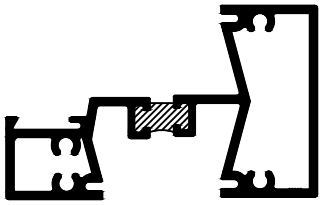


2303T
OPEN SILL / HORIZONTAL

20120T
DOOR STOP
FOR 2" DOOR

2012T
DOOR STOP
FOR 1 3/4" DOOR

2306 BEV.
5" THRESHOLD



2316T
TUBULAR HORIZONTAL

2306 SQ
5" THRESHOLD

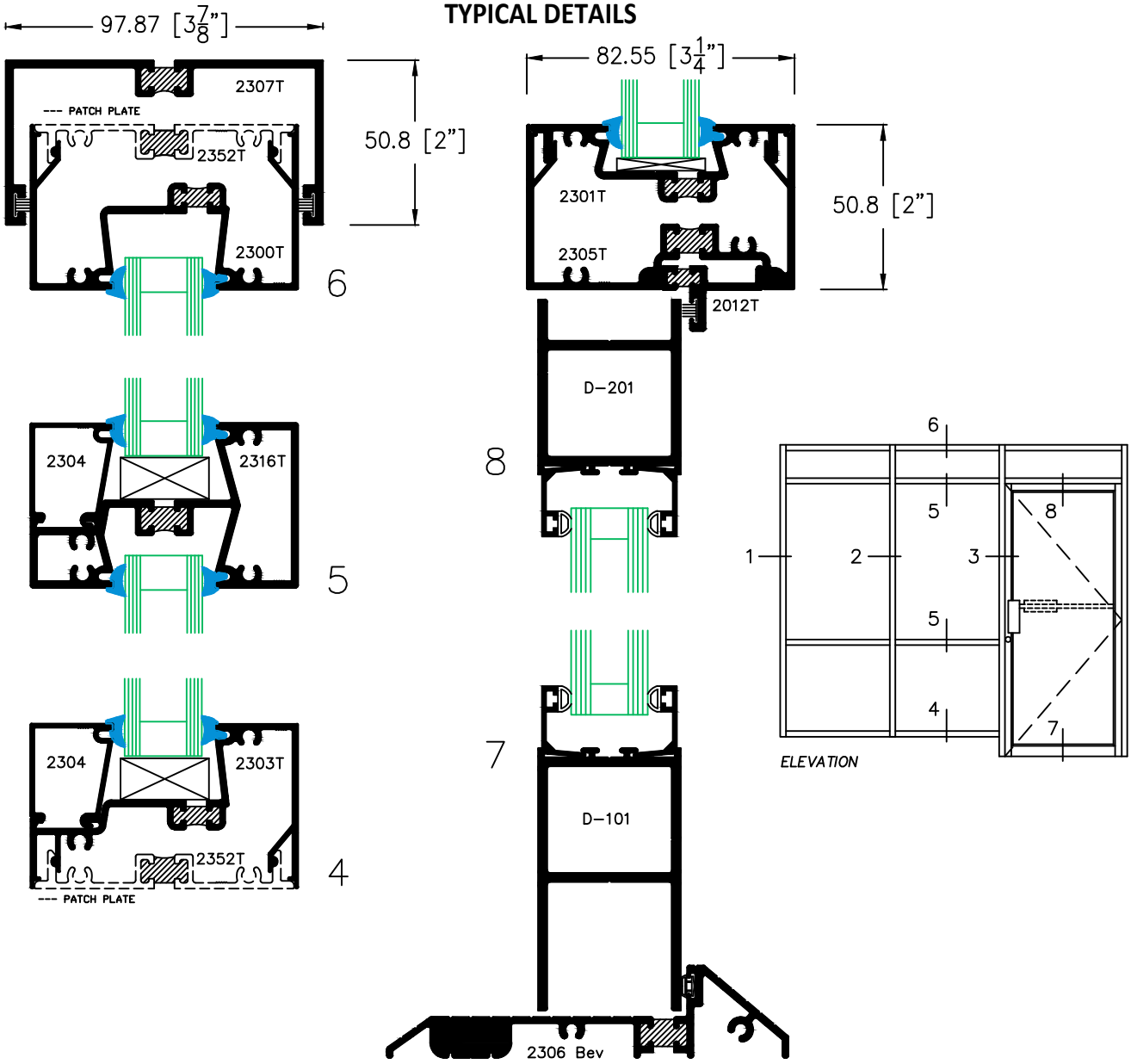
METRO ALUMINUM Products Ltd.

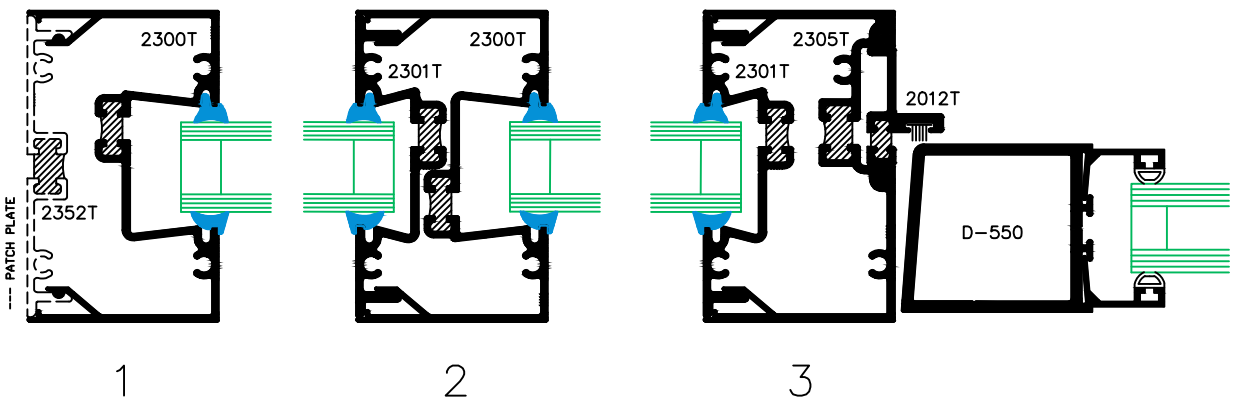
2300T SERIES

THERMALLY BROKEN STOREFRONT SYSTEM
2" X 3 1/4" (50.8mm X 82.6mm)

C 08

TYPICAL DETAILS





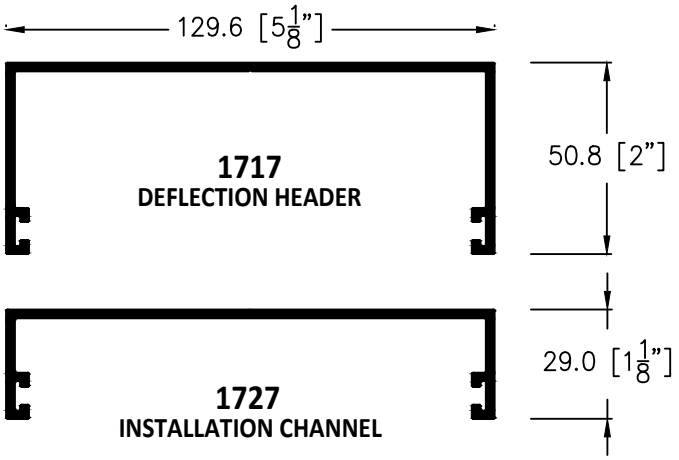
METRO ALUMINUM Products Ltd.

1750 SERIES

SINGLE GLAZING STOREFRONT SYSTEM
1 3/4" X 4 1/2" (44.5mm X 114.3mm)

C
10

COMPONENTS



1717
DEFLECTION HEADER

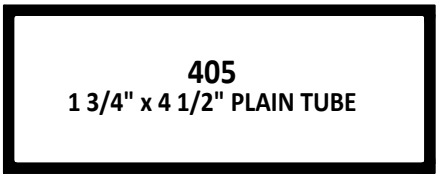
1727
INSTALLATION CHANNEL

5134
FACE GASKET

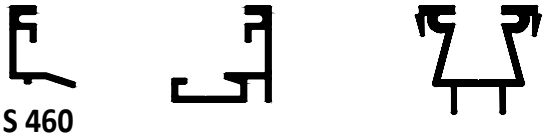
5130
BACK GASKET

1713
1/2" POCKET FILLER

1712
DOOR STOP



405
1 3/4" x 4 1/2" PLAIN TUBE



S 460
SASH GLAZING STOP

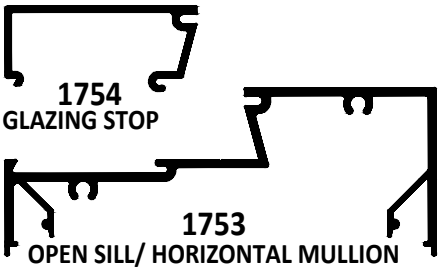
S 450
SINGLE GLAZING SASH

2021
SINGLE GLAZING ADAPTER

1750
OPEN BACK MULLION

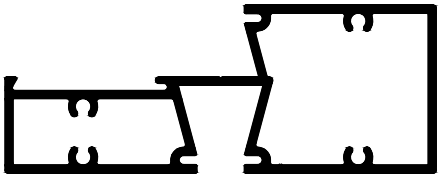
1751
DEEP POCKET FILLER

1752
FLAT POCKET FILLER



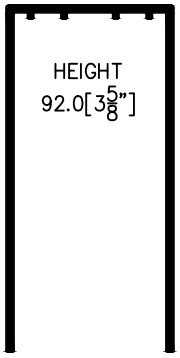
1754
GLAZING STOP

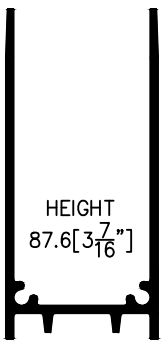
1753
OPEN SILL/ HORIZONTAL MULLION



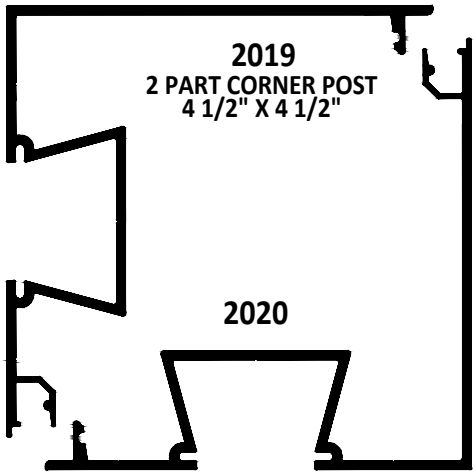
1716
TUBULAR SILL/ HORIZONTAL MULLION

5082
SIDELITE BASE/ UPPER





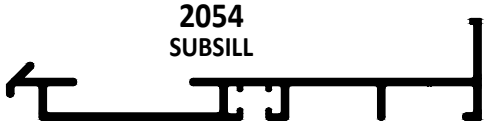
5081
SIDELITE BASE/ LOWER



2019
2 PART CORNER POST
4 1/2" X 4 1/2"

2020

1506
6" THRESHOLD



2054
SUBSILL

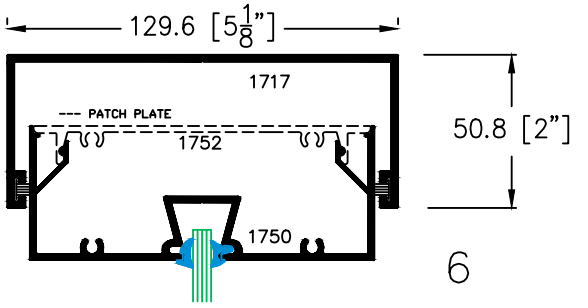
METRO ALUMINUM Products Ltd.

1750 SERIES

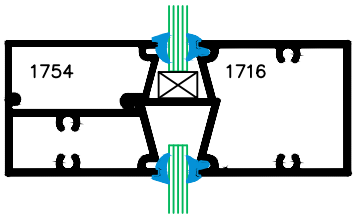
SINGLE GLAZING STOREFRONT SYSTEM
1 3/4" X 4 1/2" (44.5mm X 114.3mm)

C 11

TYPICAL DETAILS



6



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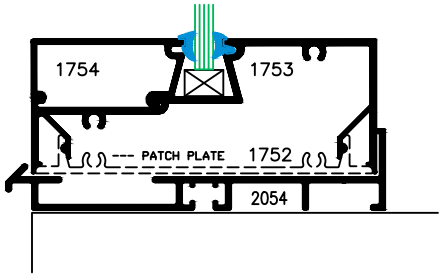
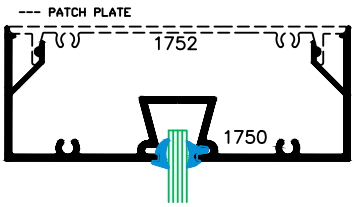
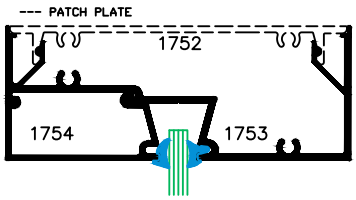


4

6a



6a



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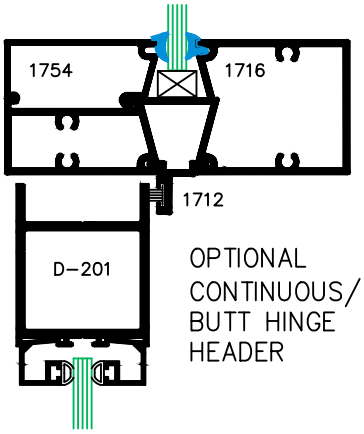
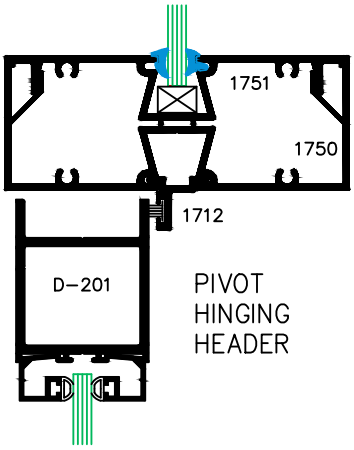
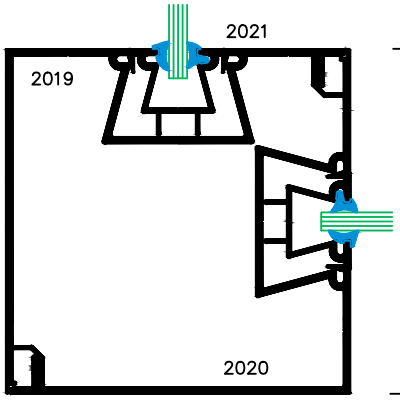


OPTIONAL CONTINUOUS/ BUTT HINGE HEADER

8



PIVOT HINGING HEADER



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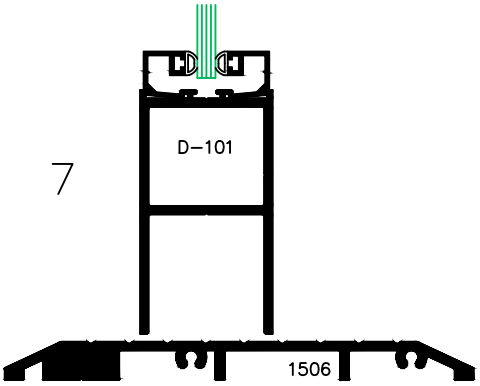
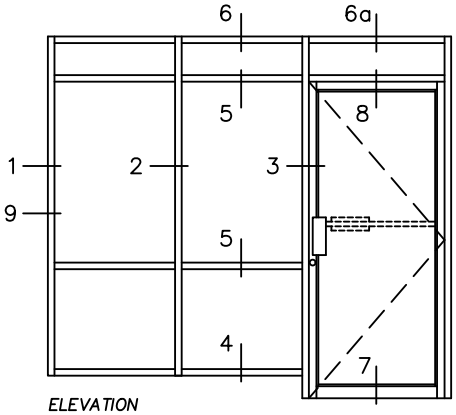
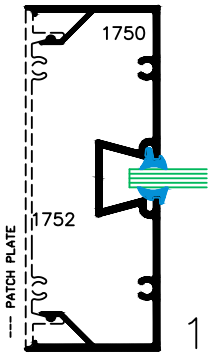




ELEVATION



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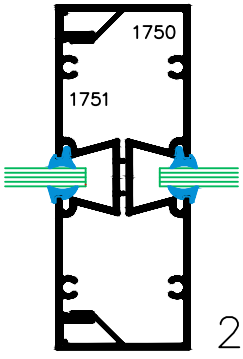

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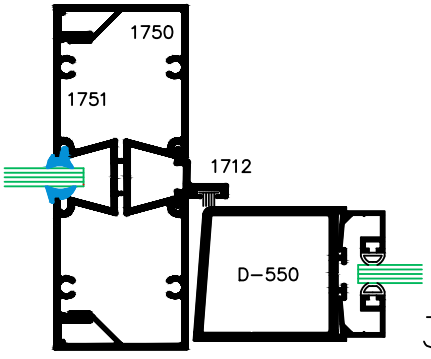


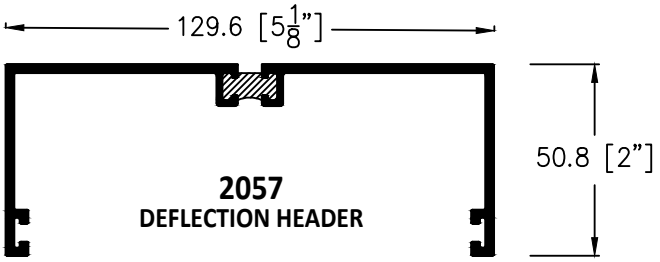
3

METRO ALUMINUM Products Ltd.

2050 SERIES

THERMALLY BROKEN STOREFRONT SYSTEM
2" X 4 1/2" (50.8mm X 114.3mm)

C
16



2057
DEFLECTION HEADER

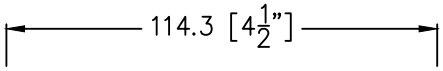
COMPONENTS

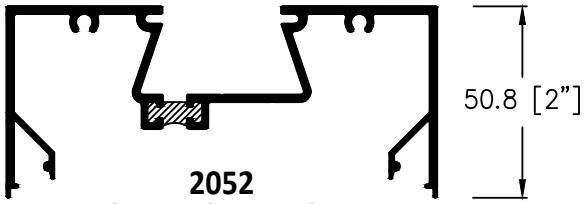
5134
FACE GASKET

5130
BACK GASKET

S 460
SASH GLAZING STOP

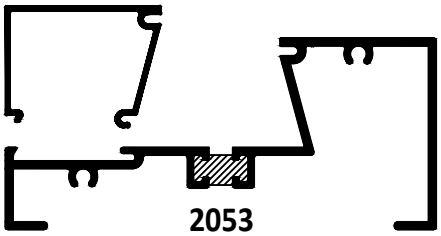
S 455T
DOUBLE GLAZING SASH



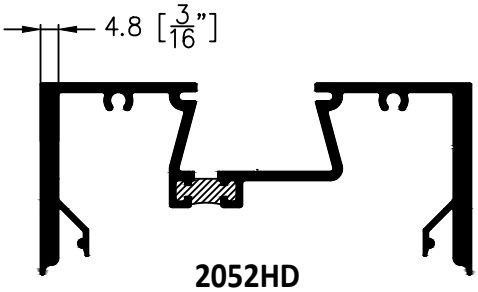


2052
OPEN BACK MULLION

2004
GLAZING STOP

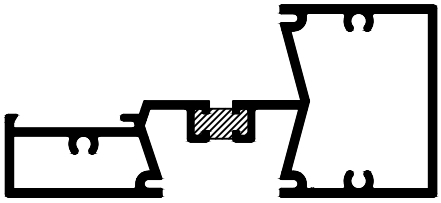


2053
OPEN SILL



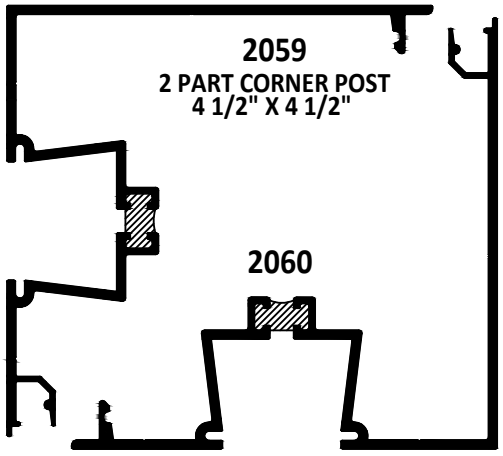
2052HD
HEAVY DUTY
OPEN BACK MULLION

2012T
DOOR STOP
FOR 1 3/4" DOOR



2056
TUBULAR
HORIZONTAL MULLION

20120T
DOOR STOP
FOR 2" DOOR

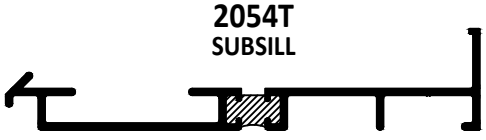


2059
2 PART CORNER POST
4 1/2" X 4 1/2"

2060

2051
POCKET FILLER

2054T
SUBSILL



1506
6" THRESHOLD

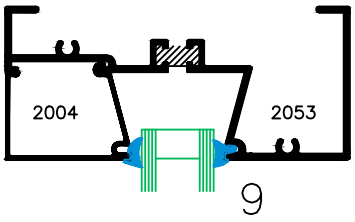
METRO ALUMINUM Products Ltd.

2050 SERIES

THERMALLY BROKEN STOREFRONT SYSTEM
2" X 4 1/2" (50.8mm X 114.3mm)

C 17

TYPICAL DETAILS



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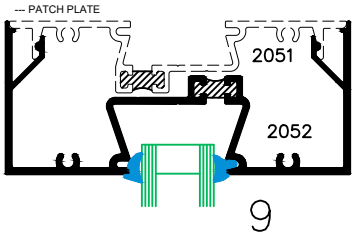

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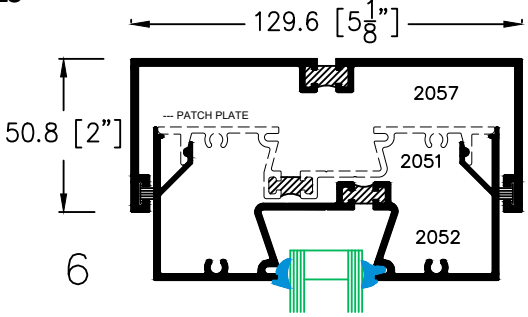

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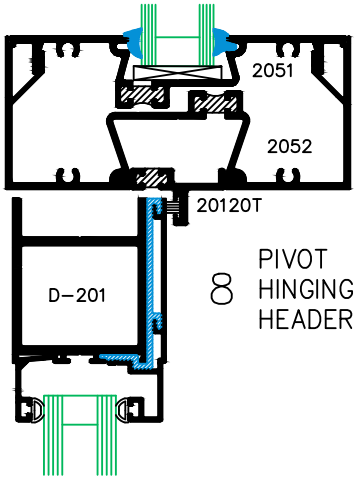
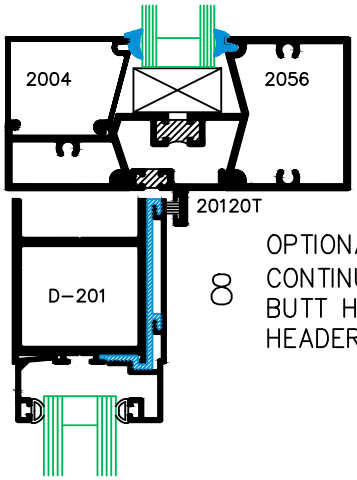
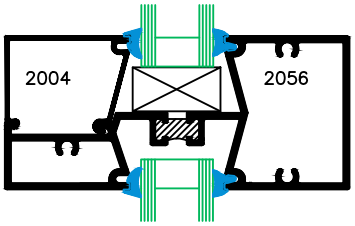


8 PIVOT HINGING HEADER



8 OPTIONAL CONTINUOUS/ BUTT HINGE HEADER



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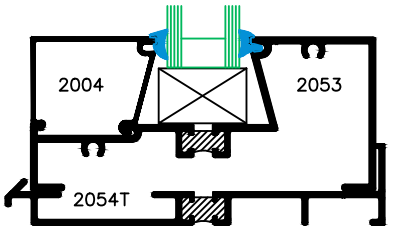

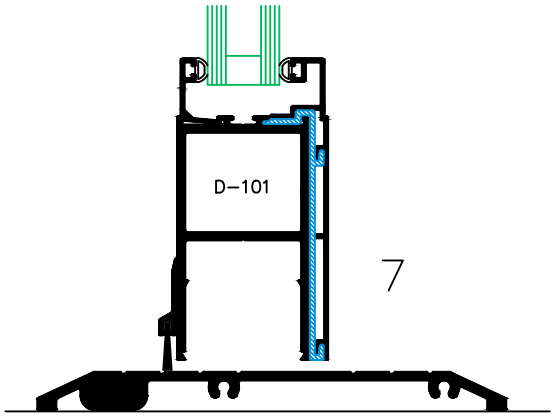

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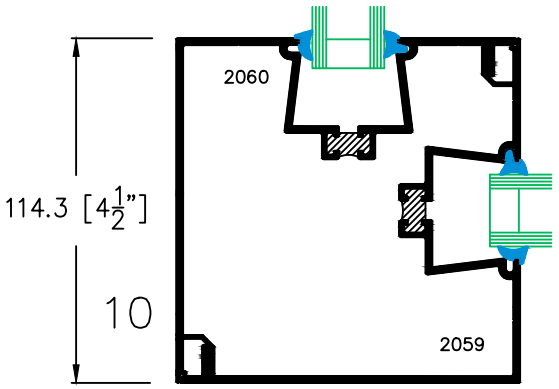

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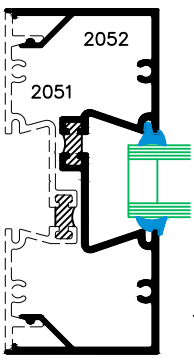

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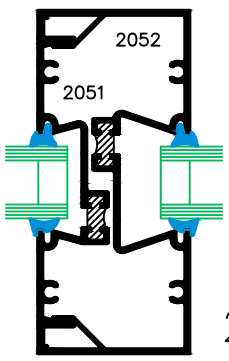

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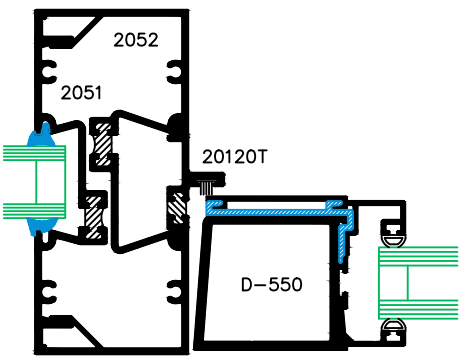
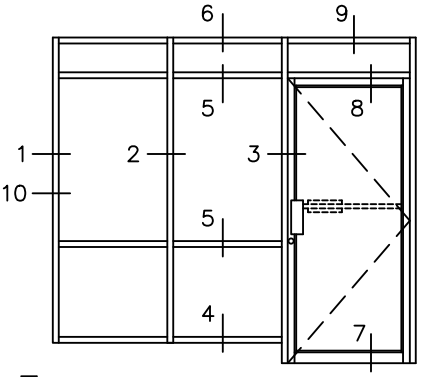




3 *ELEVATION*

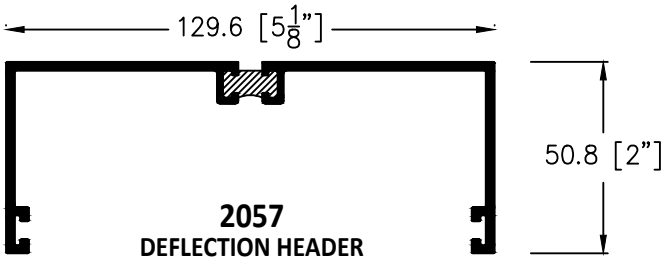
METRO ALUMINUM Products Ltd.

2100T SERIES

THERMALLY BROKEN STOREFRONT SYSTEM
2" X 4 1/2" (50.8mm X 114.3mm)

C
19

COMPONENTS

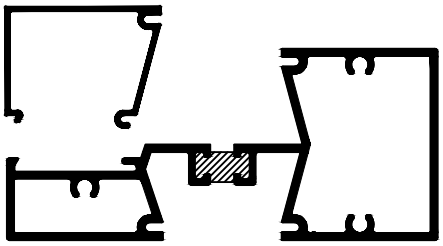


2057
DEFLECTION HEADER

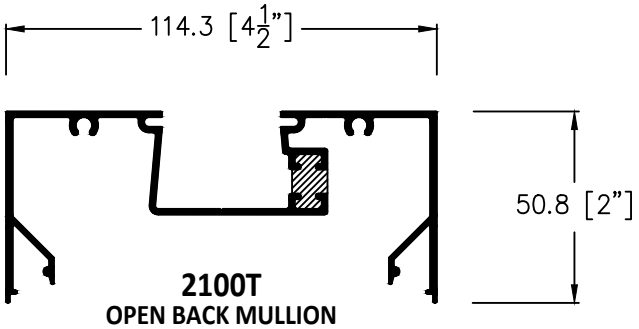
5134
FACE GASKET

5130
BACK GASKET

2004
GLAZING STOP



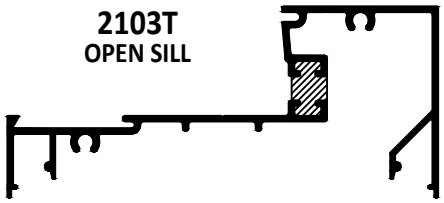
2056
TUBULAR
HORIZONTAL MULLION



2100T
OPEN BACK MULLION

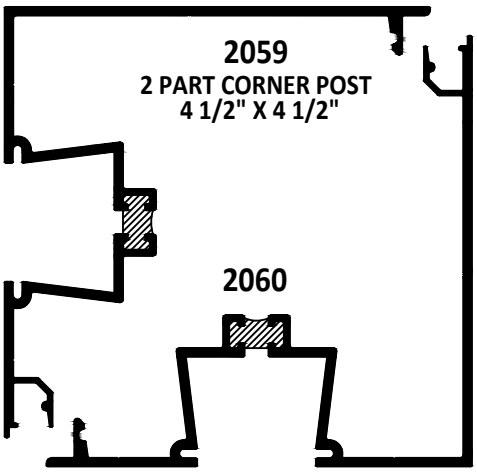
2101T
POCKET FILLER

2103T
OPEN SILL



20120T
DOOR STOP
FOR 2" DOOR

2012T
DOOR STOP
FOR 1 3/4" DOOR



2059
2 PART CORNER POST
4 1/2" X 4 1/2"

2060

2054T
SUBSILL

1506
6" THRESHOLD

S 460
SASH GLAZING STOP

S 455T
DOUBLE GLAZING SASH

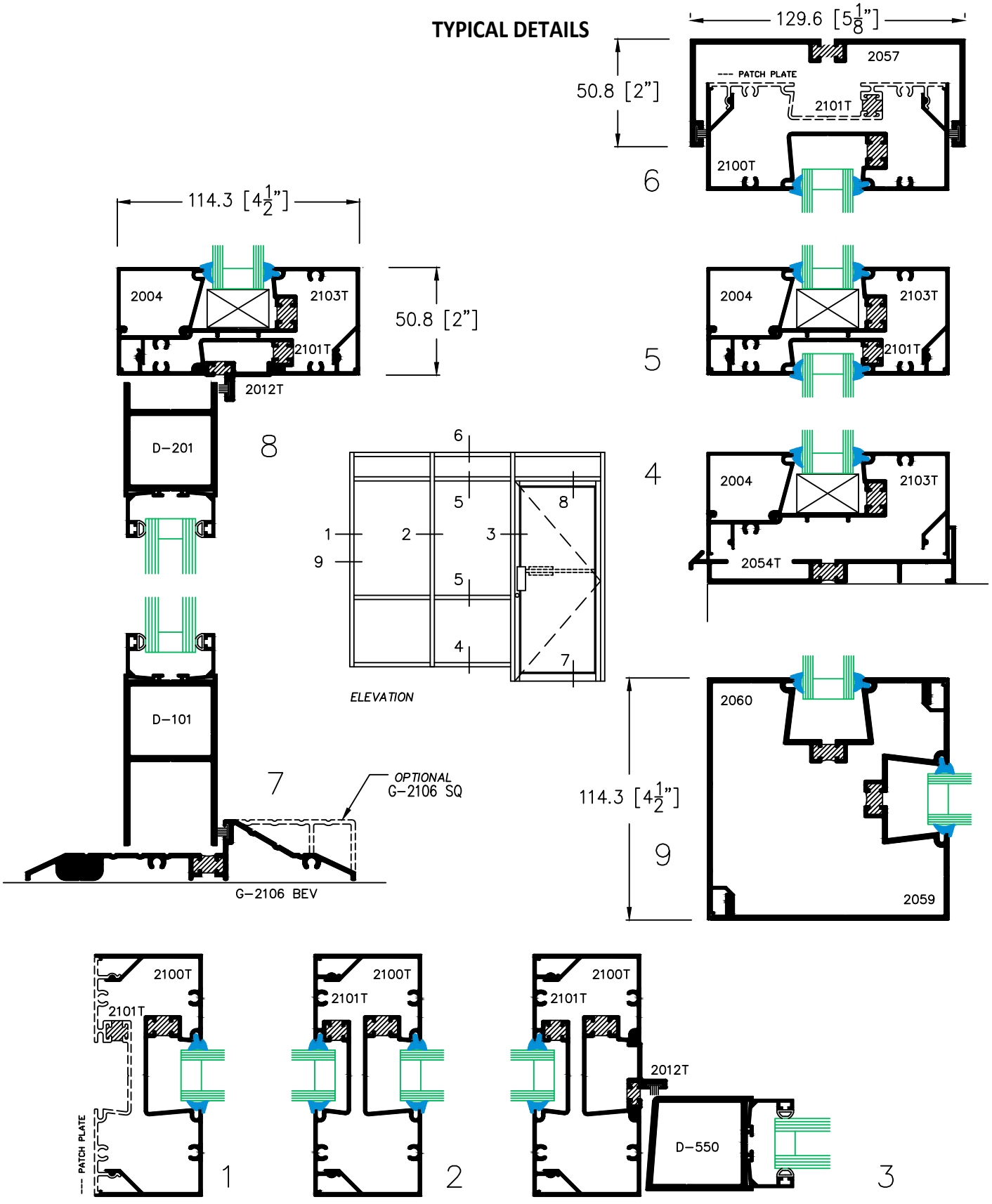
METRO ALUMINUM Products Ltd.

2100T SERIES

THERMALLY BROKEN STOREFRONT SYSTEM
2" X 4 1/2" (50.8mm X 114.3mm)

C
20

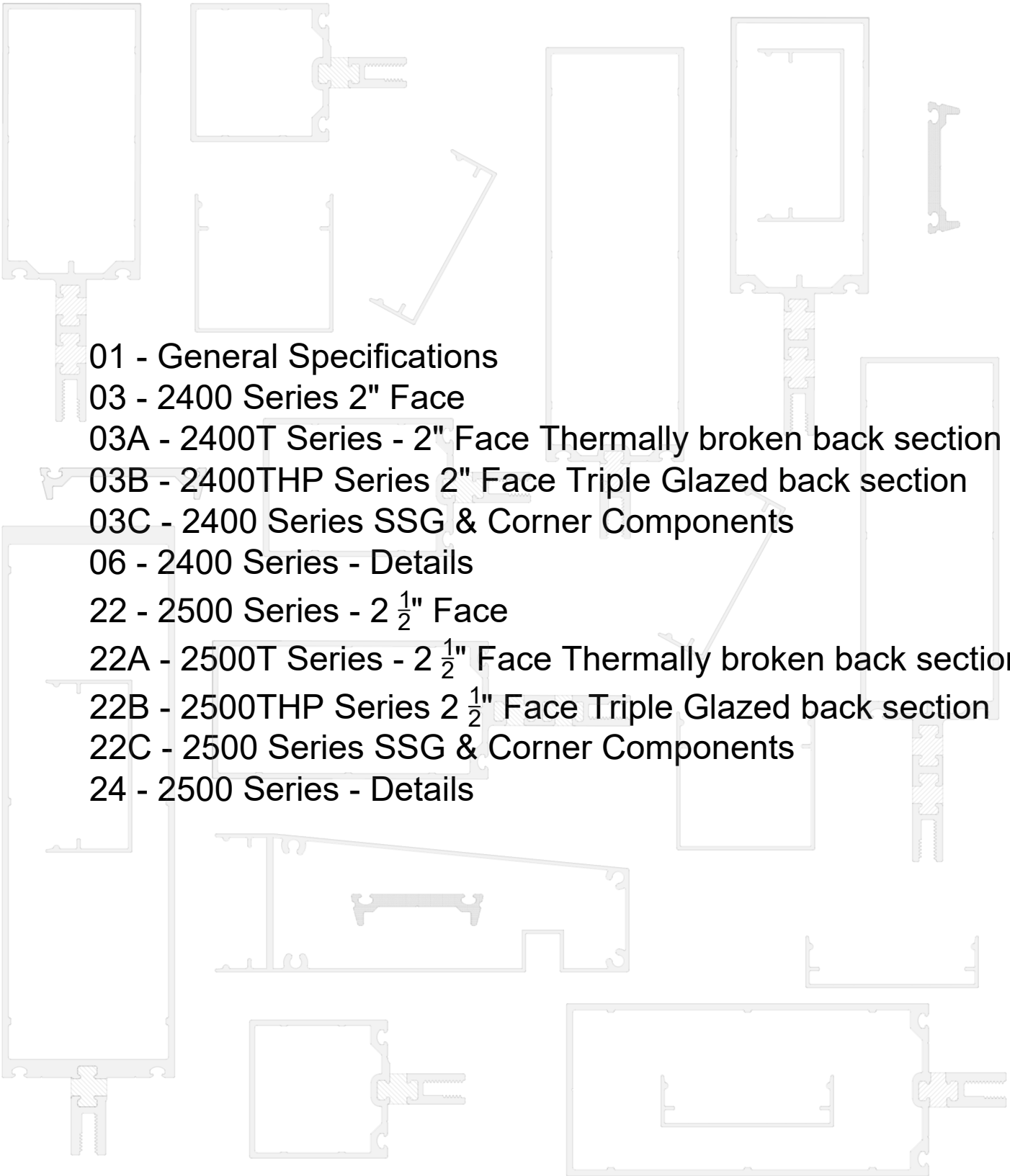
TYPICAL DETAILS



METRO ALUMINUM Products Ltd.

CURTAIN WALL

D



01 - General Specifications
03 - 2400 Series 2" Face
03A - 2400T Series - 2" Face Thermally broken back section
03B - 2400THP Series 2" Face Triple Glazed back section
03C - 2400 Series SSG & Corner Components
06 - 2400 Series - Details
22 - 2500 Series - 2 $\frac{1}{2}$" Face
22A - 2500T Series - 2 $\frac{1}{2}$" Face Thermally broken back section
22B - 2500THP Series 2 $\frac{1}{2}$" Face Triple Glazed back section
22C - 2500 Series SSG & Corner Components
24 - 2500 Series - Details

Part 1 - GENERAL

Scope - The curtain wall framing system shall be_____ Series as manufactured by METRO ALUMINUM Products Ltd. Supply and install aluminum framing, as described on the architectural drawings and as specified herein.

Work Not Included - See: Specifier's lists of excluded items; Items furnished but not installed and/or Items installed but not furnished.

Related Work Specified Elsewhere - See: Specifier's lists and related Sections.

Design & Performance Requirements - Framing to fully comply with applicable standard specifications as typically referenced to the following performance requirements criteria: Air Tightness, Water Tightness, Wind (and other applicable) Load Resistance, Temperature Index and Energy Performance. (Specifier's selection)

Submittals - Shop Drawings & Samples - Submit all documentation and samples for review by Consultant at one time, prior to fabrication of curtain wall products.

Quality Assurance - Provide all necessary information to show that all involved products meet or exceed the requirements of these specifications.

Delivery, Storage and Handling - Deliver, store, handle, protect and schedule materials and products so as to avoid any damage. Follow recommendations of AAMA CW-10 "Care and Handling of Architectural Aluminum from Shop to Site" and others as applicable.

Part 2 - PRODUCTS

Materials - All materials to meet the applicable minimum design and specifications requirements. Any defects impairing strength, durability or appearance are not acceptable. Extruded aluminum shall be AA 6063 T6 alloy and temper - Fy = 110 MPa (16 KSI) minimum. Sufficient strength and size assembly fasteners and anchoring bolts shall be made of corrosion-resistant and compatible material such as cadmium or zinc plated carbon steel or stainless steel. Separate incompatible materials and prevent galvanic action (electrolytic corrosion). Structurally adequate anchoring metal brackets shall be anticorrosive painted. Standard gaskets, dense exterior and sponge interior, shall be extruded from Neoprene, EPDM, or other equal material as required for conventional dry-dry, outside glazing method. Gasket profile shall be designed and sized to uniformly fit tight and properly seal glass-metal interfacing. Acceptable gasket compression range to be 0.7 to 1.7 kN/m (4 – 10 lbs/in). Glass setting to be compatible with glass unit seals and/or other parts involved as required.

System Description - Framing System, thermally broken/insulated for sealed insulating glass units and spandrel single glass, utilizing Rainscreen Principle and allowing for full integration with the building envelope, shall be 2400/2500 - METRO Series (Specifier's selection) as manufactured by METRO ALUMINUM Products Ltd.

Reference dimensions of extruded profiles shall be (Specifier's selection):

2400 Series - 2" (50.8 mm) face width, and
2500 Series – 2.5" (63.5 mm) face width.

Glass retention, as for dry-dry glazing method, shall be achieved by 4-side pressure plate (retainer) profile and inorganic rubber gasket. Glass hard bite to be 12.7 mm (0.5") minimum.
Whenever substitute/alternative products are considered, supporting data to be submitted ten (10) days prior to bid date to allow for valid comparison. Approval of alternates to be confirmed in advance of bid closing by addendum only.

Fabrication - Extruded profiles shall be accurately fabricated and assembled and sealed to provide air/water tight fit hairline joints only. Fastening shall allow for permanent true and square set of frame elements. Assembly shall utilize concealed spigots and screws and/or screws only. Properly sealed frame assembly joints and corner blocks to result in continuity of air barrier and full compartmentization. Frame assemblies shall be free of warp. Uniformly compressed glazing gaskets shall secure glass in place. No exposed fasteners are permitted.

Finish - All exposed surfaces shall be finished as specified. The finish, as per AAM designation, shall be (Specifier's selection):
Standard clear anodizing to AA - M12C22A31
Standard perma bronze to AA - M12C22A44
Standard black anodized to AA - M10C21A44
Duracron acrylic enamel to AA - M12C4XR1X
Custom paint qualities and colors - Specifier's selection.
Hardware to have manufacturer's standard finish.

Part 3 - EXECUTION

Installation – Steel embeds and anchoring brackets to be placed and ready as required. Anchoring shall suit perimeter conditions of rough openings and seals as required. Stick or prefabricated framing to be installed at prepared structure, at correct locations as shown on drawings, set level, plumb, square and aligned with other work in accordance with manufacturer's instructions, approved shop and erection drawings. Perimeter joints to be sealed/caulked as specified and detailed to ensure weathertight assembly.

Protection and Cleaning - Work to be protected from damage during and after installation. Consult with manufacturer and installer to determine appropriate protective measures. The General Contractor shall be responsible for protection during construction and for final cleaning. After installation, aluminum work and glass to be cleaned according to instructions/manuals provided by product manufacturers and glaziers. Use appropriates cleaning materials and methods. Do not scratch or damage glass or finishes.

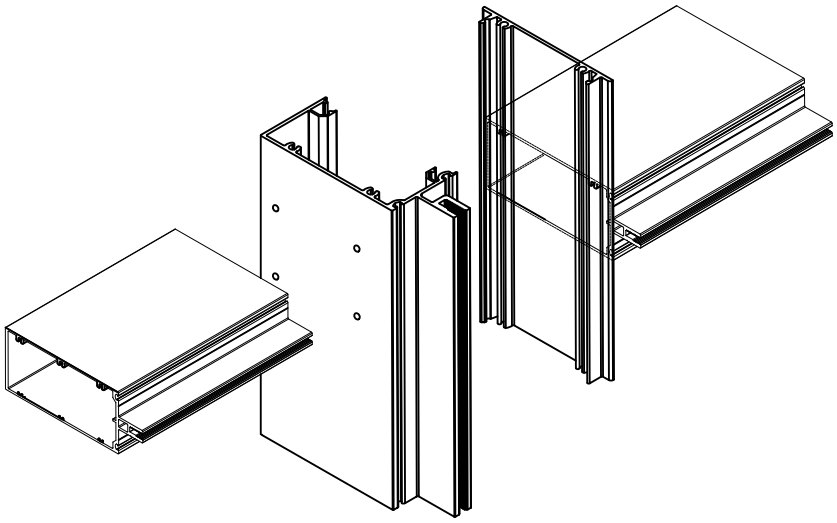
METRO ALUMINUM Products Ltd.

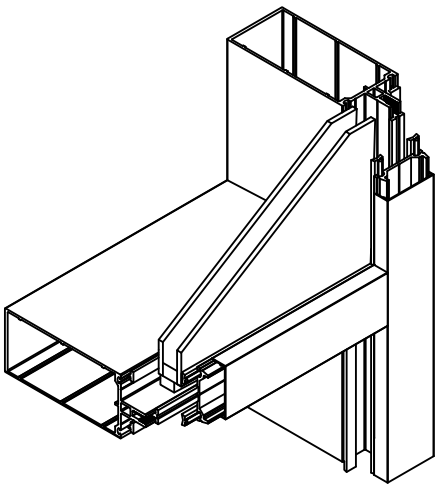
2400 SERIES

CURTAIN WALL & WINDOW SYSTEM
NARROW - 2" (50.8 mm) - FRAME

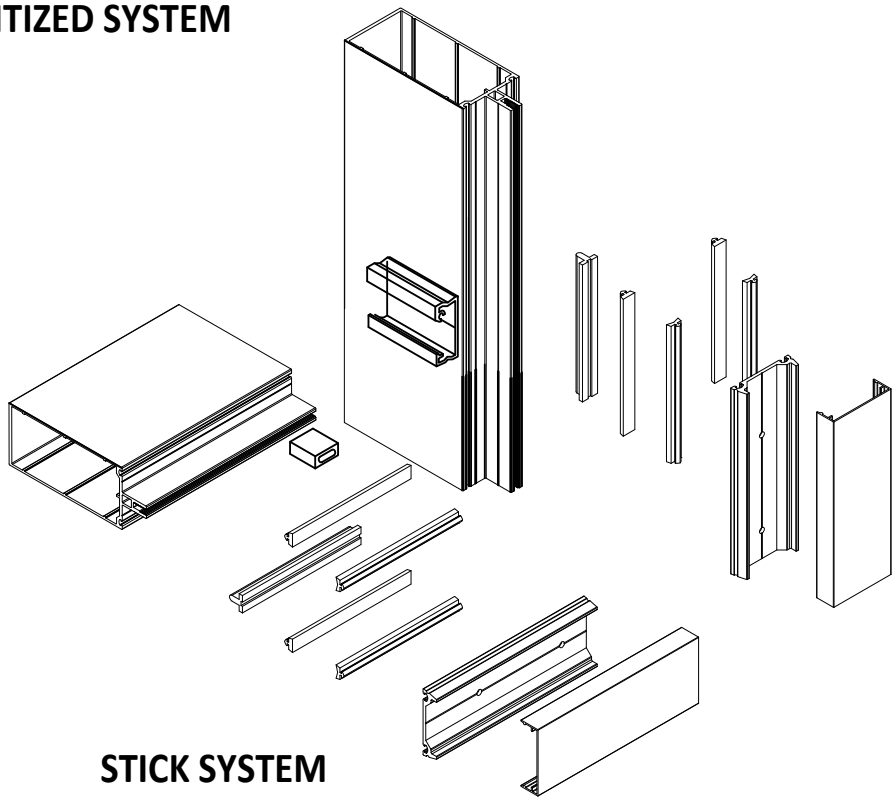
D 02

PICTORIAL (3D) PRESENTATION





UNITIZED SYSTEM



STICK SYSTEM

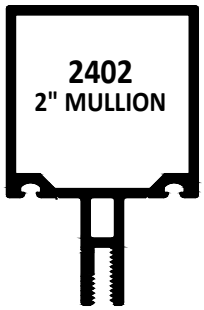
METRO ALUMINUM Products Ltd.

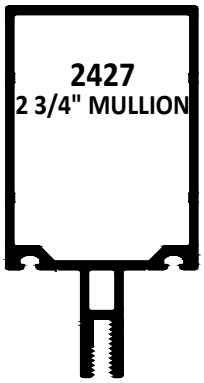
2400 SERIES

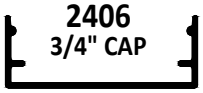
CURTAIN WALL & WINDOW SYSTEM
NARROW - 2" (50.8 mm) - FRAME

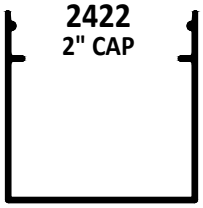
D
03

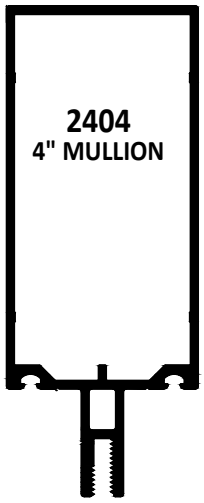
BACK SECTIONS & CAPS

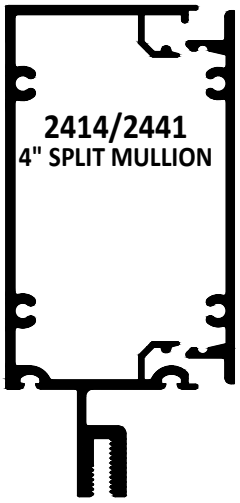


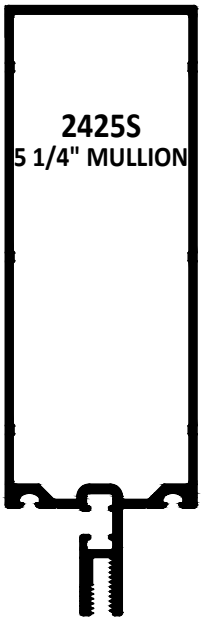


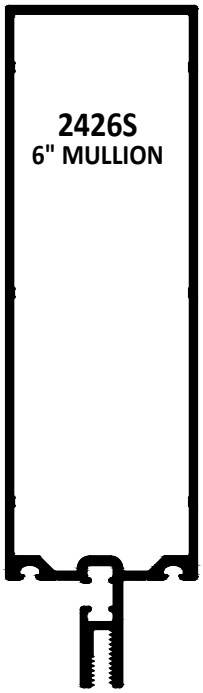


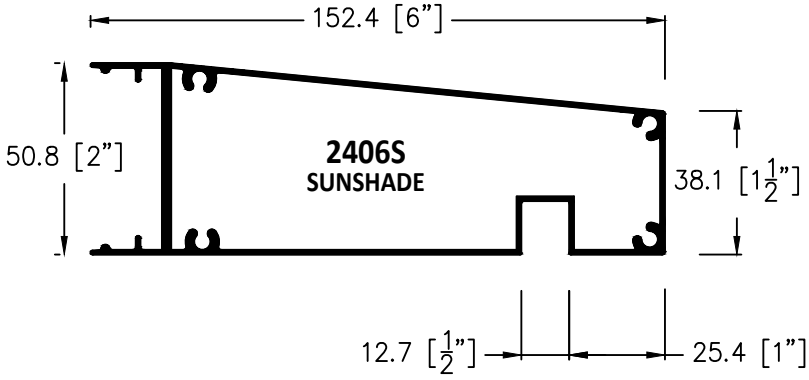












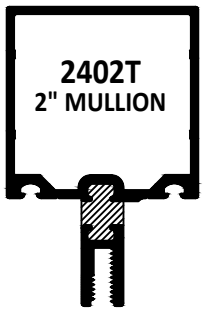
METRO ALUMINUM Products Ltd.

2400T SERIES

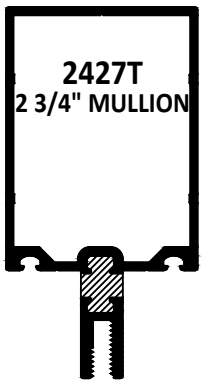
THERMALLY BROKEN
CURTAIN WALL & WINDOW SYSTEM
NARROW - 2" (50.8 mm) - FRAME

D
03A

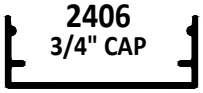
BACK SECTIONS & CAPS



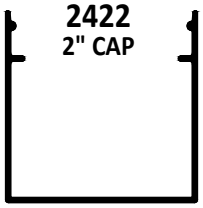
2402T
2" MULLION



2427T
2 3/4" MULLION



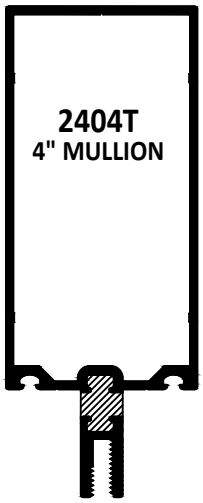
2406
3/4" CAP



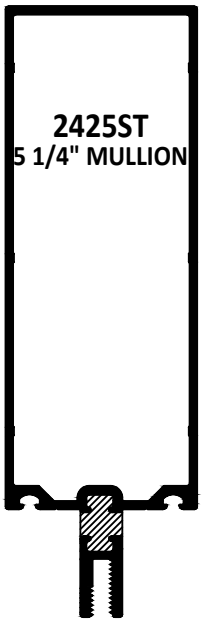
2422
2" CAP

2405
PRESSURE PLATE

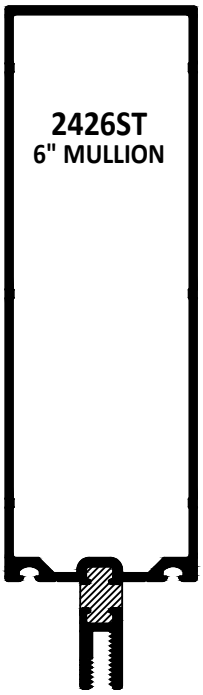
2405F
FIBRE GLASS
PRESSURE PLATE



2404T
4" MULLION



2425ST
5 1/4" MULLION



2426ST
6" MULLION

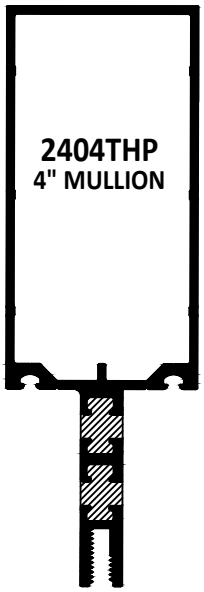
METRO ALUMINUM Products Ltd.

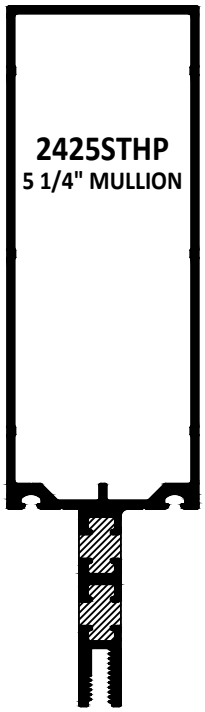
2400THP SERIES

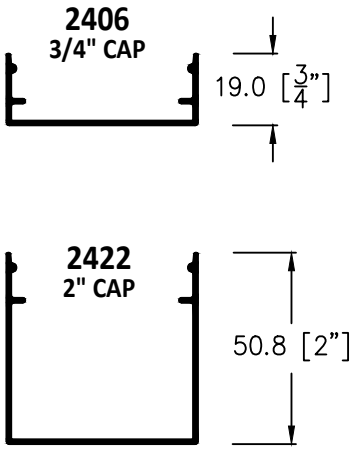
TRIPLE GLAZED - THERMALLY BROKEN
CURTAIN WALL & WINDOW SYSTEM
NARROW - 2" (50.8 mm) - FRAME

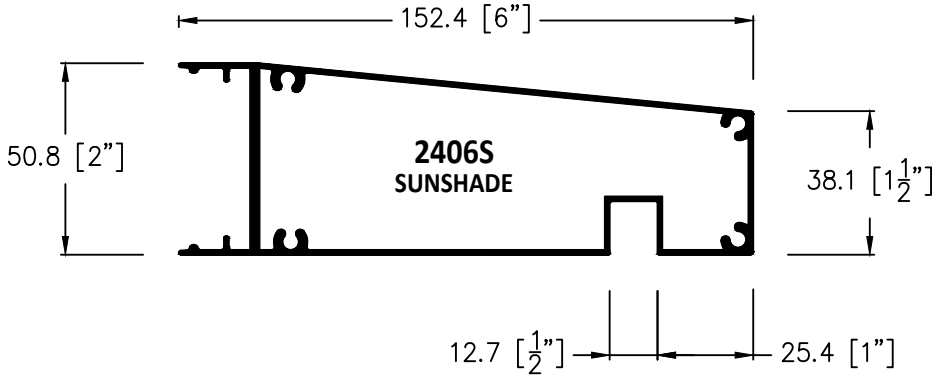
D
03B

BACK SECTIONS & CAPS









METRO ALUMINUM Products Ltd.

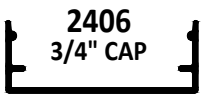
2400 SERIES

CURTAIN WALL & WINDOW SYSTEM
NARROW - 2" (50.8 mm) - FRAME

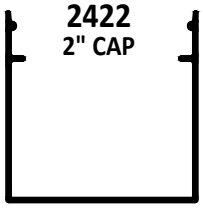
D
03C

SSG & CORNERS

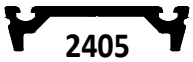
2404SSG
2" X 4" SSG



2406
3/4" CAP

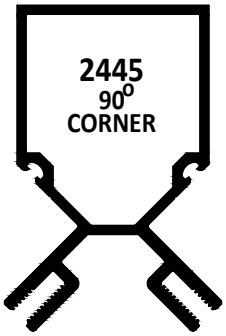


2422
2" CAP

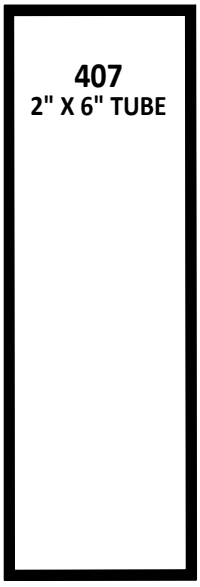


2405
PRESSURE PLATE

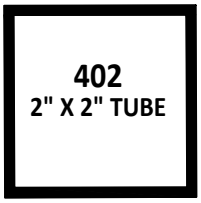
2405F
FIBRE GLASS
PRESSURE PLATE



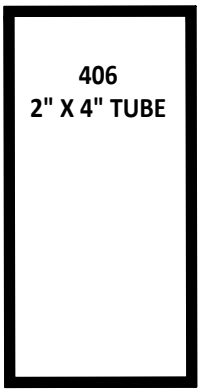
2445
90° CORNER



407
2" X 6" TUBE

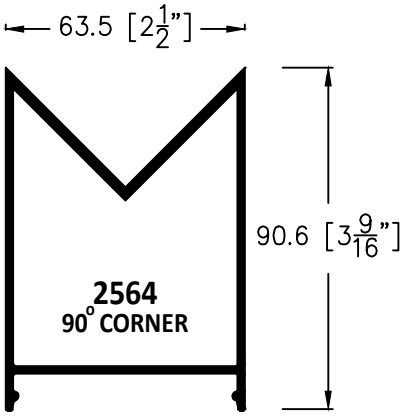


402
2" X 2" TUBE

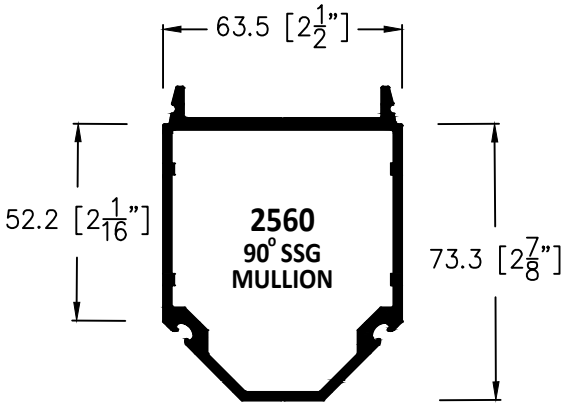


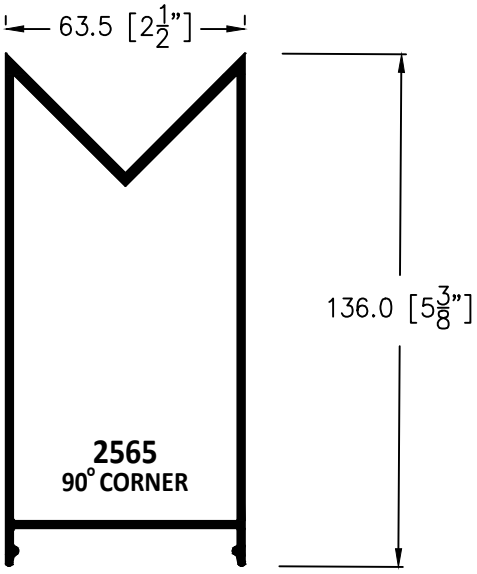
406
2" X 4" TUBE

SSG COMPONENTS



EXTENSION CAP FOR 4" BACK





EXTENSION CAP FOR 5 1/4" BACK

METRO ALUMINUM Products Ltd.

2400 SERIES

CURTAIN WALL & WINDOW SYSTEM
NARROW - 2" (50.8 mm) - FRAME

D
04

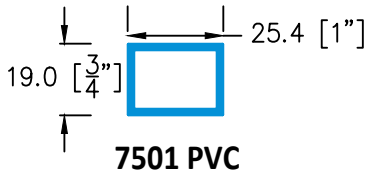
MISC. COMPONENTS

2410
THERMAL BREAK

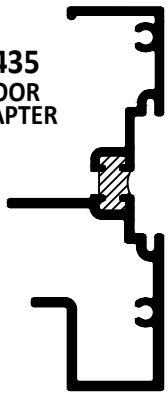
2415
CORNER BLOCK

2460
SPONGE GASKET
(INTERIOR)

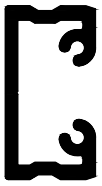
2450
DENSE GASKET
(EXTERIOR)



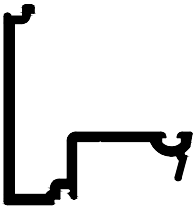
7501 PVC
ANTI-ROTATION



2435
DOOR
ADAPTER



2420
SPIGOT

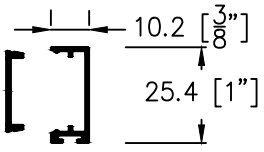


2407
PRESSURE PLATE
FLUSH
DOOR ADAPTOR

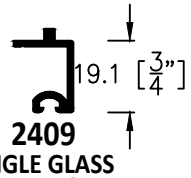
2408
3/4" CAP

20120T
DOOR STOP
FOR 2" DOORS

2012T
DOOR STOP
FOR 1 3/4" DOORS



2417/2418
SURFACE APPLIED
DOOR STOP



2409
SINGLE GLASS
ADAPTOR

2430
BACK-PAN
ADAPTOR

5100
1" X 1" PERIMETER ANGLE

5102
1" X 2" PERIMETER ANGLE

5103
1" X 3" PERIMETER ANGLE

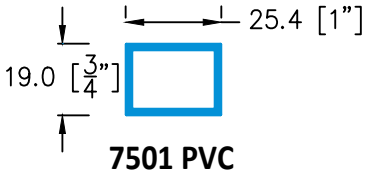
MISC. COMPONENTS

2410
THERMAL BREAK

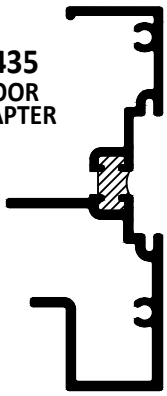
2415-3
CORNER BLOCK

2460
SPONGE GASKET
(INTERIOR)

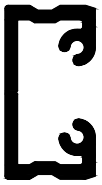
2450
DENSE GASKET
(EXTERIOR)



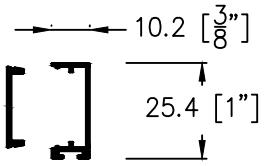
7501 PVC
ANTI-ROTATION



2435
DOOR
ADAPTER



2420
SPIGOT



2417/2418
SURFACE APPLIED
DOOR STOP

20120T
DOOR STOP
FOR 2" DOORS

2012T
DOOR STOP
FOR 1 3/4" DOORS

2430
BACK-PAN
ADAPTOR

5100
1" X 1" PERIMETER ANGLE

5102
1" X 2" PERIMETER ANGLE

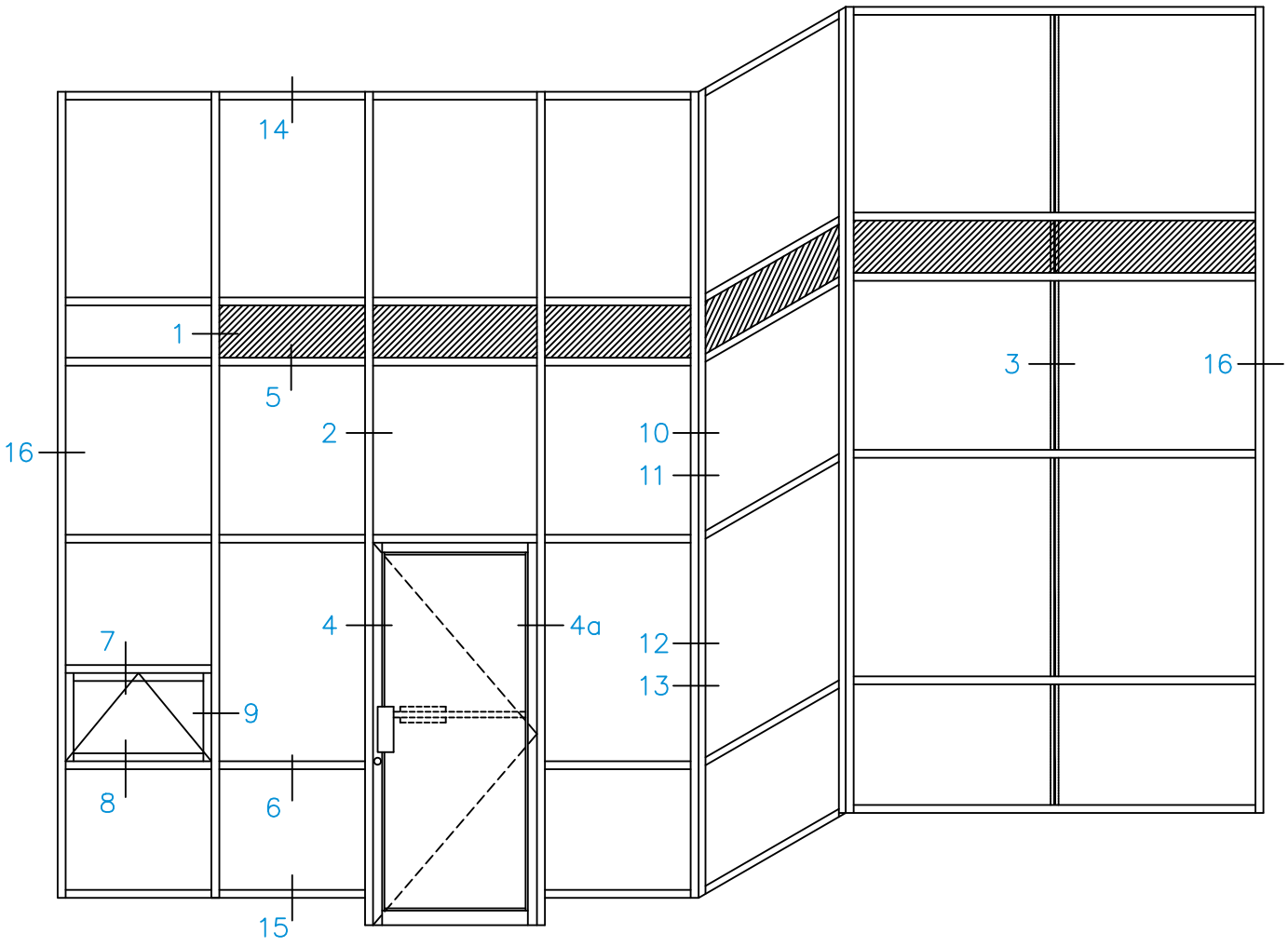
5103
1" X 3" PERIMETER ANGLE

METRO ALUMINUM Products Ltd.

2400 SERIES

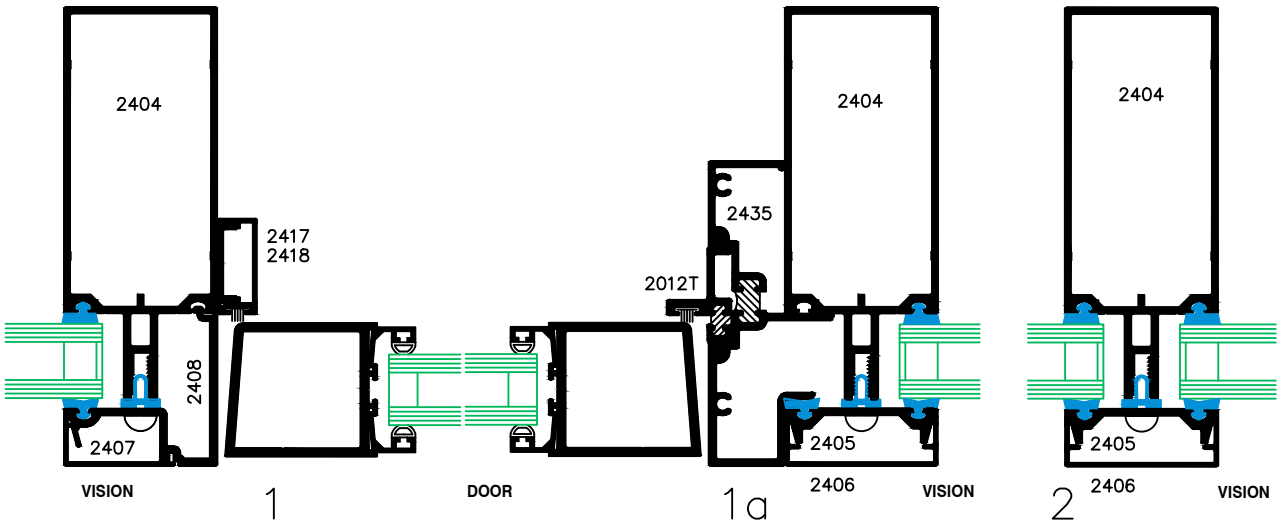
CURTAIN WALL & WINDOW SYSTEM
2 " (50.8 mm) - FRAME

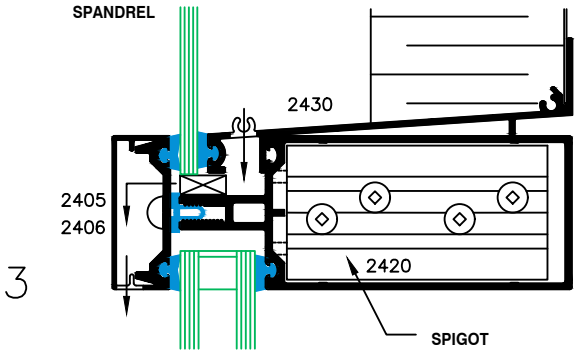
D
05

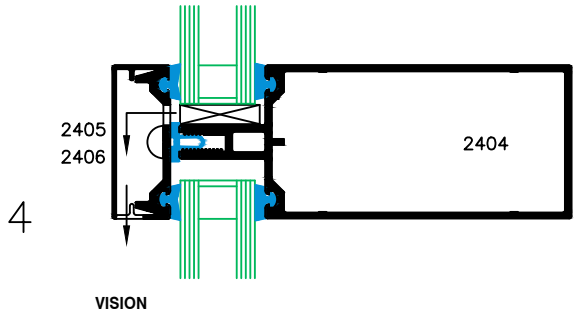


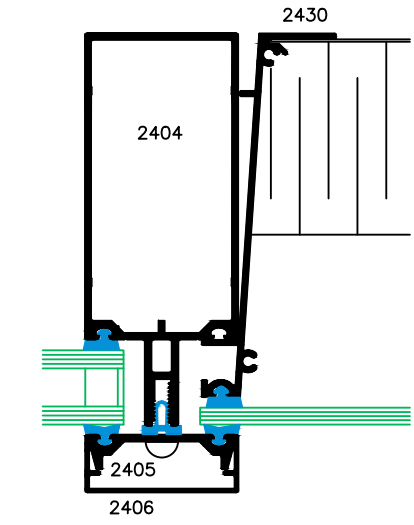
ELEVATION

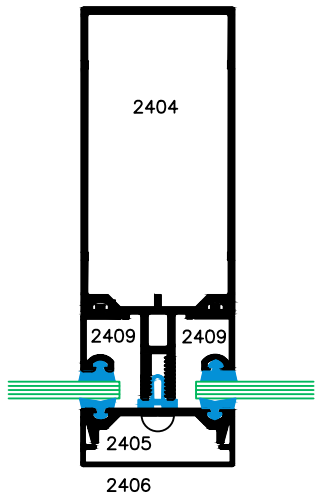
TYPICAL DETAILS











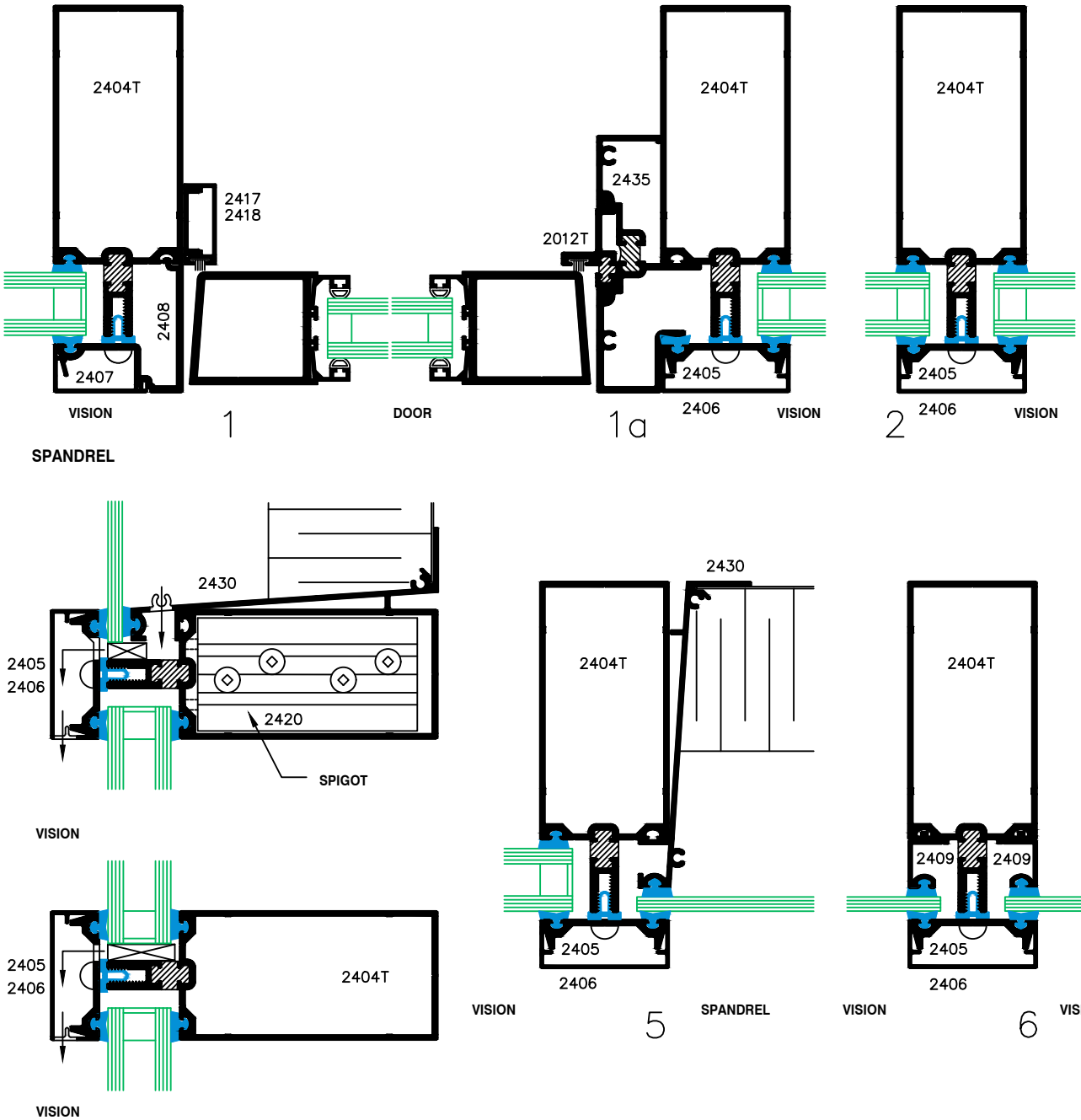
METRO ALUMINUM Products Ltd.

2400T SERIES

THERMALLY BROKEN
CURTAIN WALL & WINDOW SYSTEM
NARROW - 2" (50.8 mm) - FRAME

D
06A

TYPICAL DETAILS



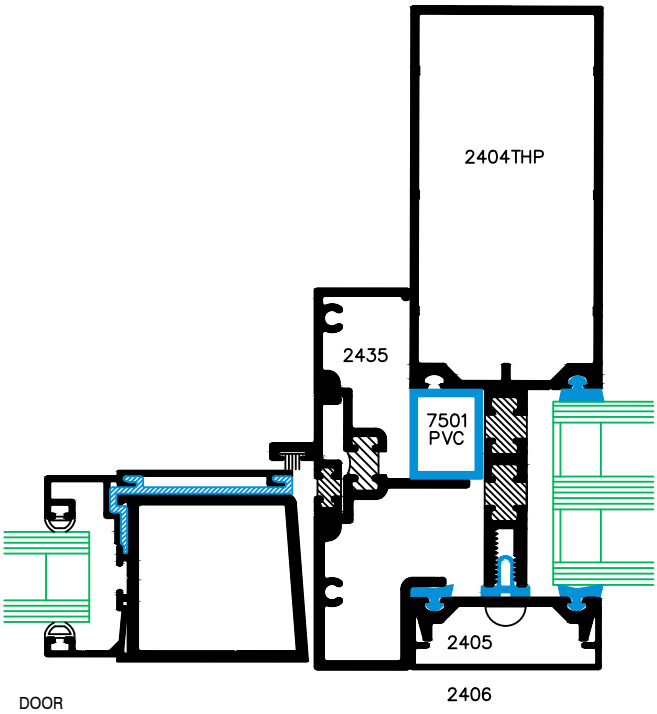
METRO ALUMINUM Products Ltd.

2400THP SERIES

TRIPLE GLAZED - THERMALLY BROKEN
CURTAIN WALL & WINDOW SYSTEM
NARROW - 2" (50.8 mm) - FRAME

D
06B

TYPICAL DETAILS



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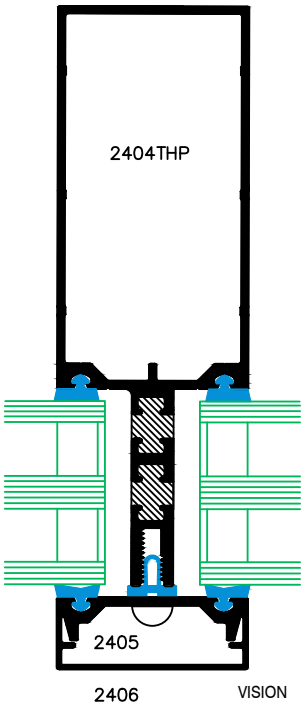

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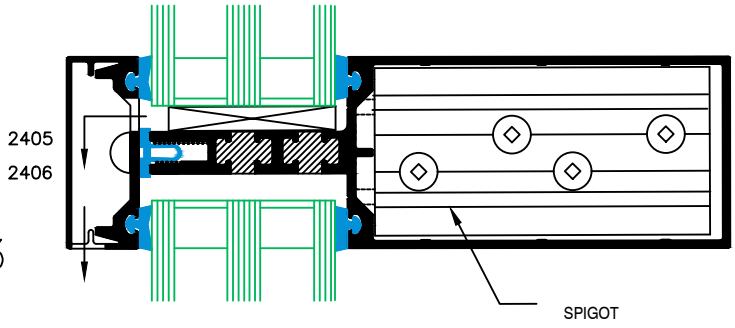

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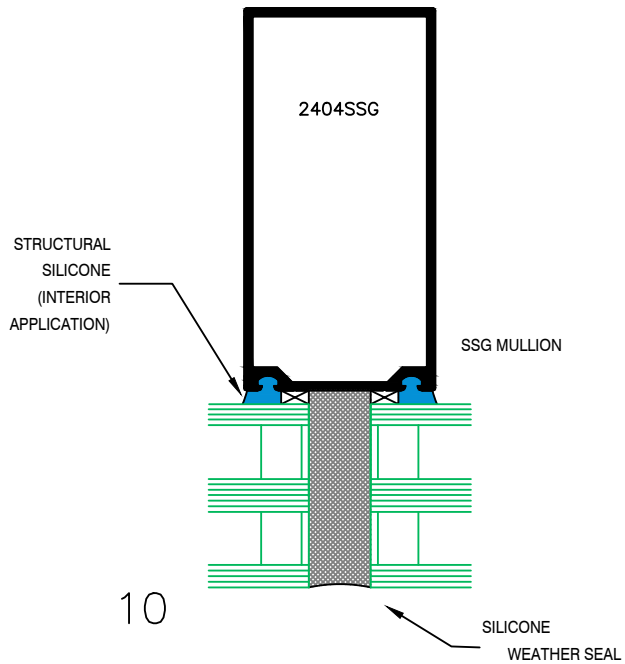
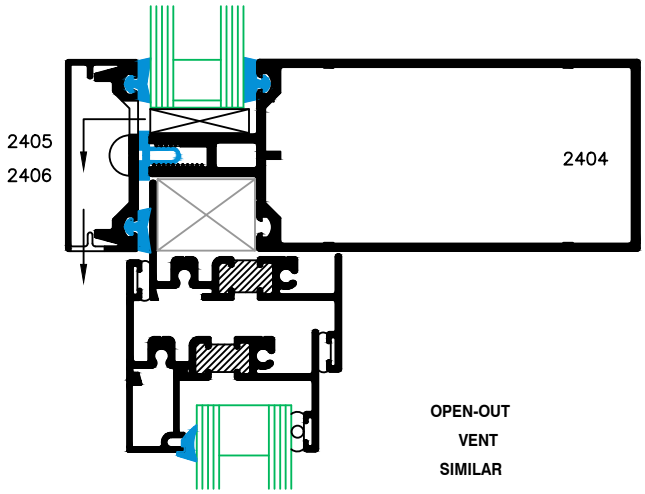


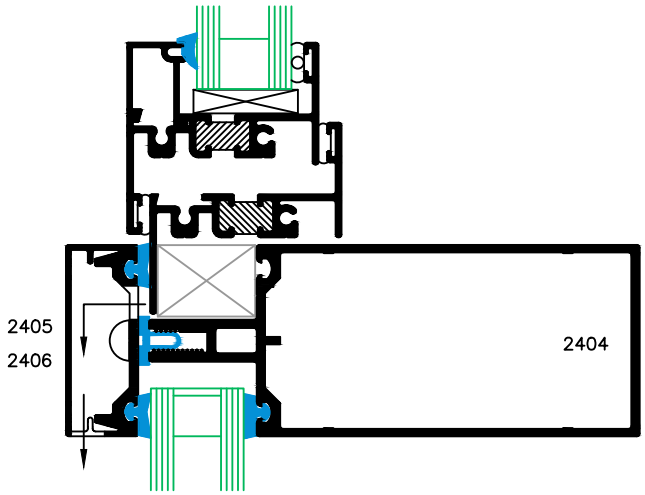
10



7

OPEN-OUT
VENT
200T SERIES

OPEN-OUT
VENT
SIMILAR



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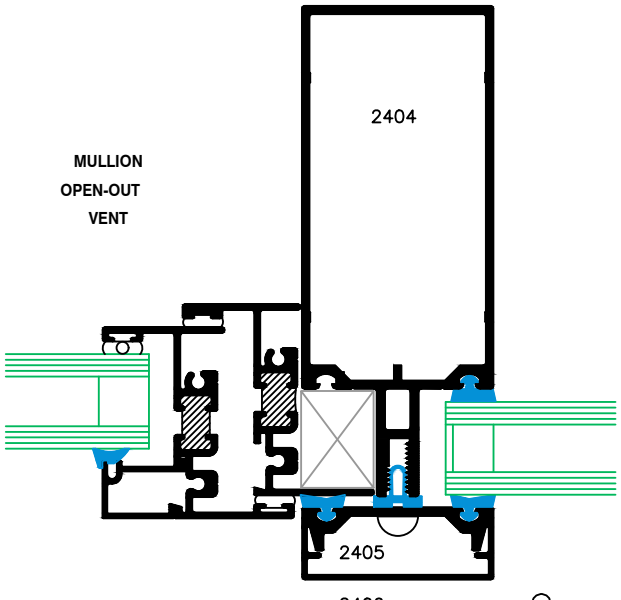
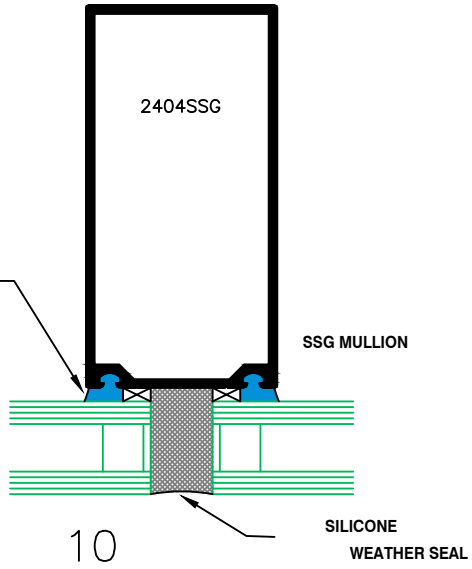


MULLION
OPEN-OUT
VENT

9



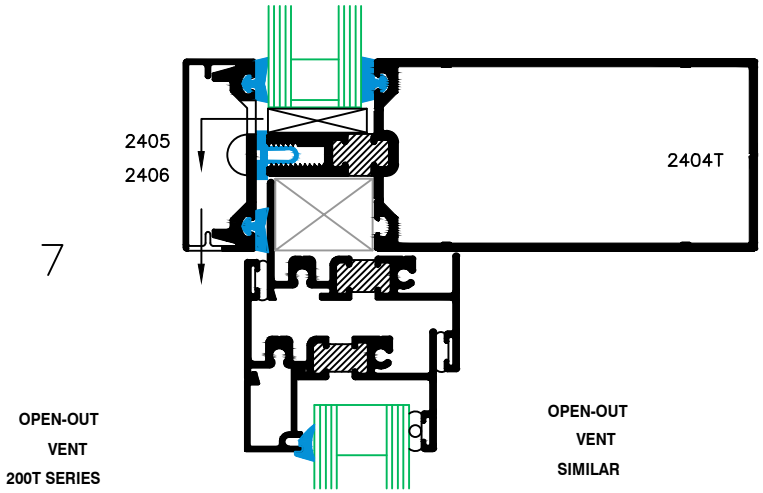
10

METRO ALUMINUM Products Ltd.

2400T SERIES

THERMALLY BROKEN CURTAIN WALL & WINDOW SYSTEM NARROW - 2" (50.8 mm) - FRAME

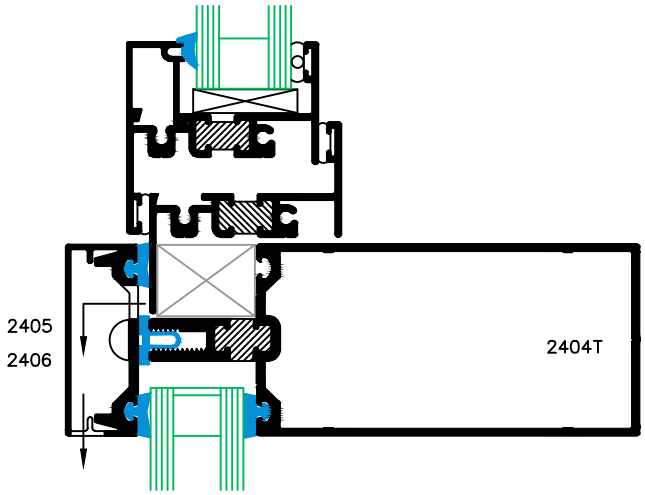
D
07A



7

OPEN-OUT
VENT
200T SERIES

OPEN-OUT
VENT
SIMILAR



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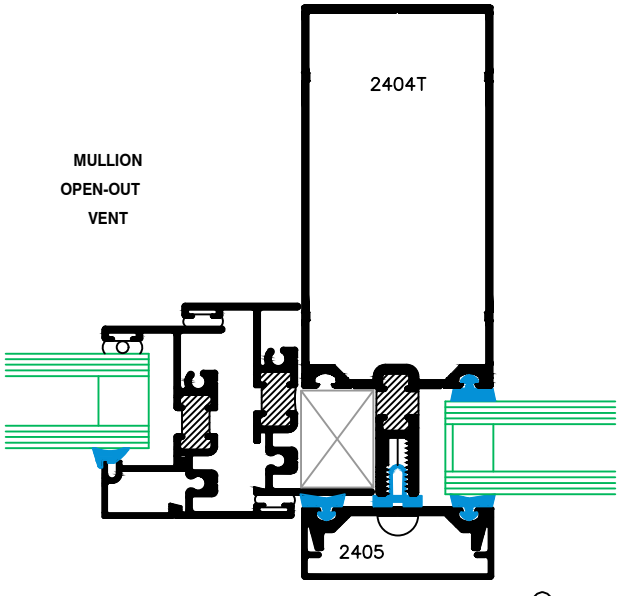
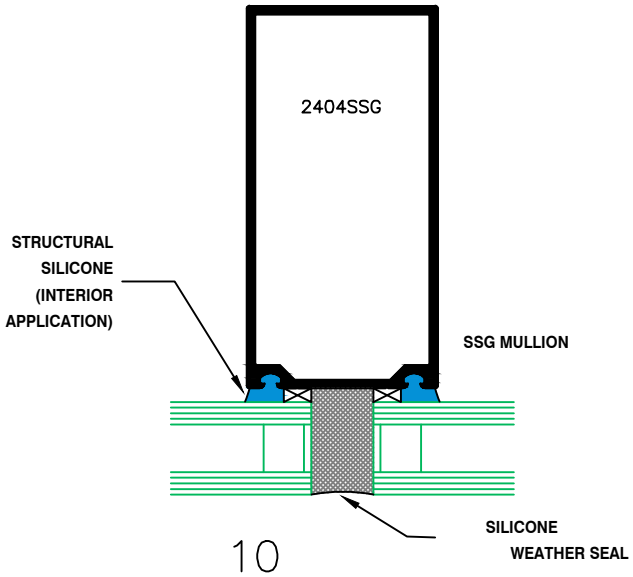
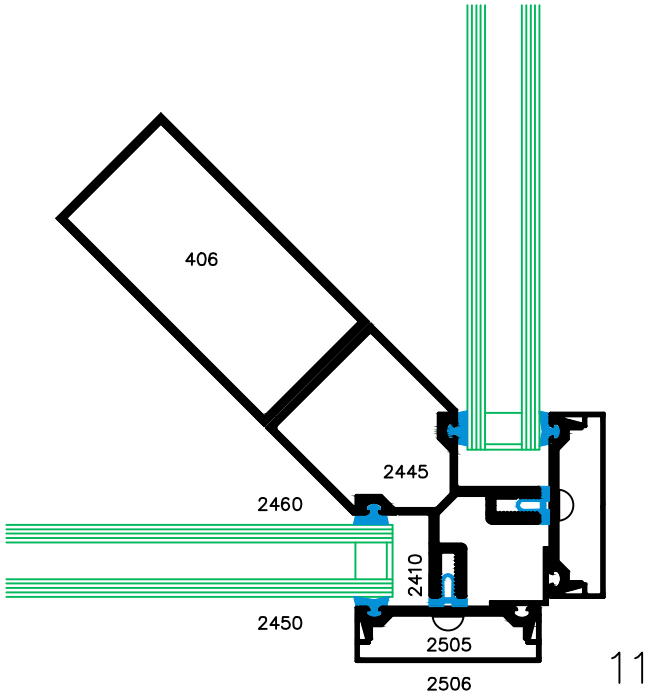


9



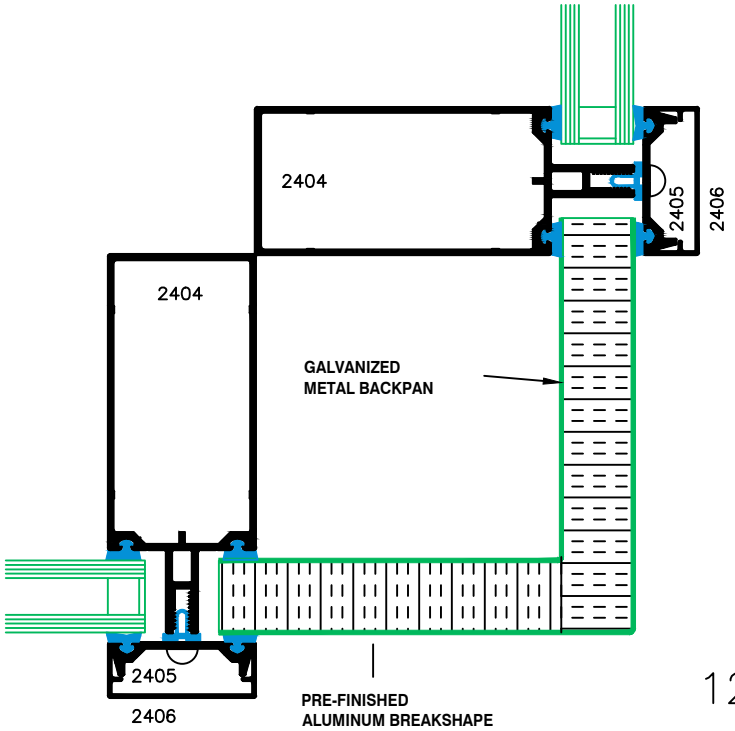
10

TYPICAL CAPTURED CORNER DETAILS



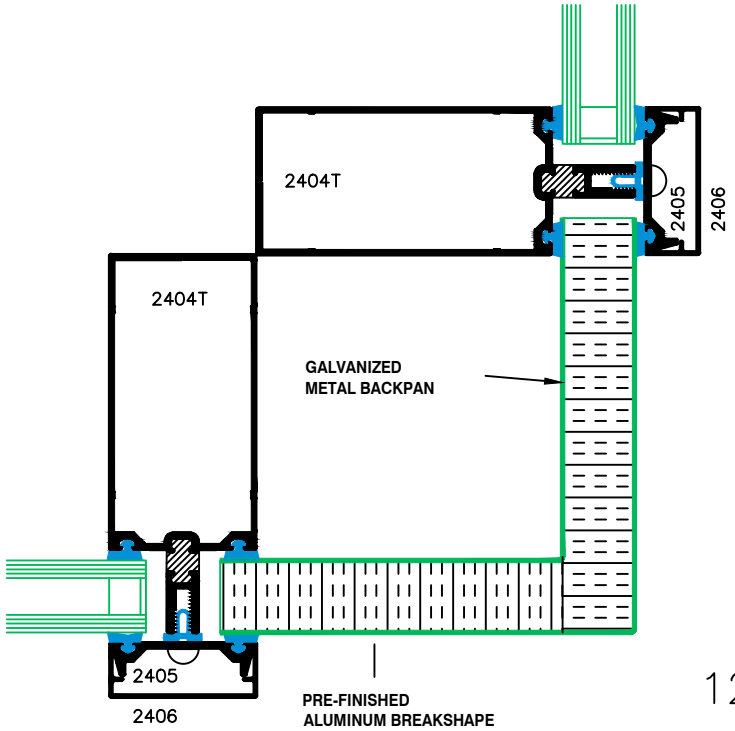
11

90° CAPTURED CORNER



12

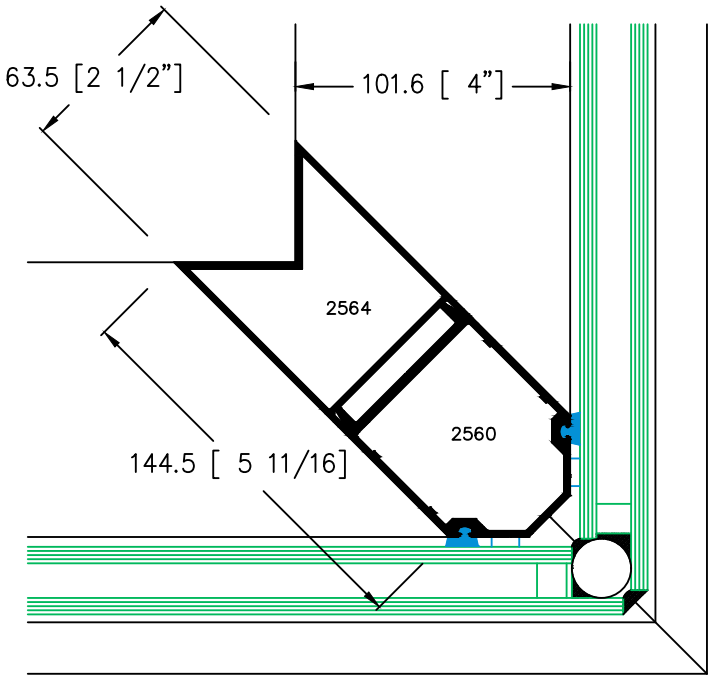
90° BREAKSHAPE CORNER



12

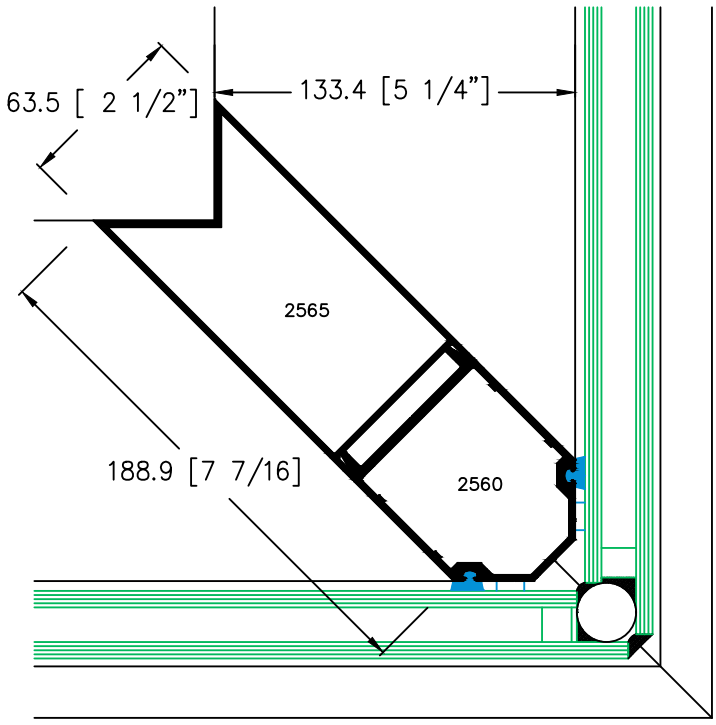
90° BREAKSHAPE CORNER

TYPICAL BUTT-JOINT CORNER DETAILS



90° BUTT-JOINT CORNER
AT 4" BACK MEMBER

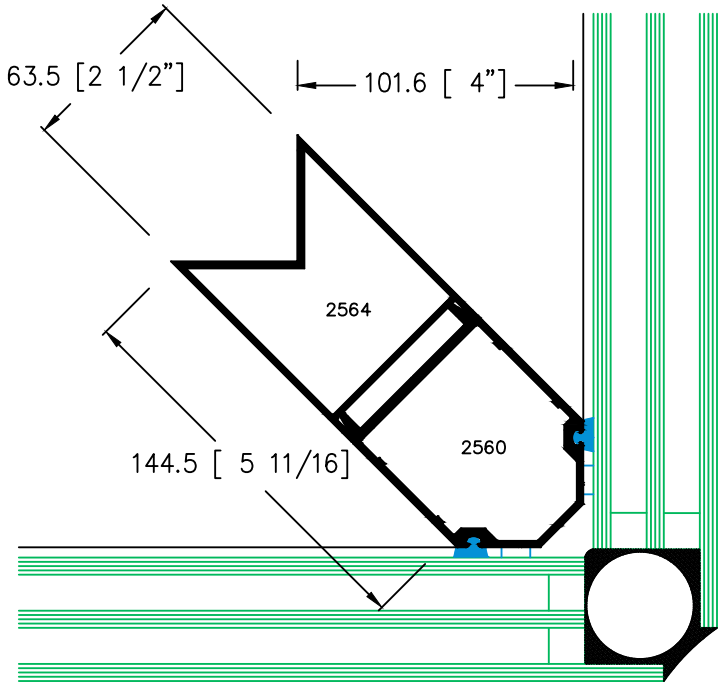
13



90° BUTT-JOINT CORNER
AT 5 1/4" BACK MEMBER

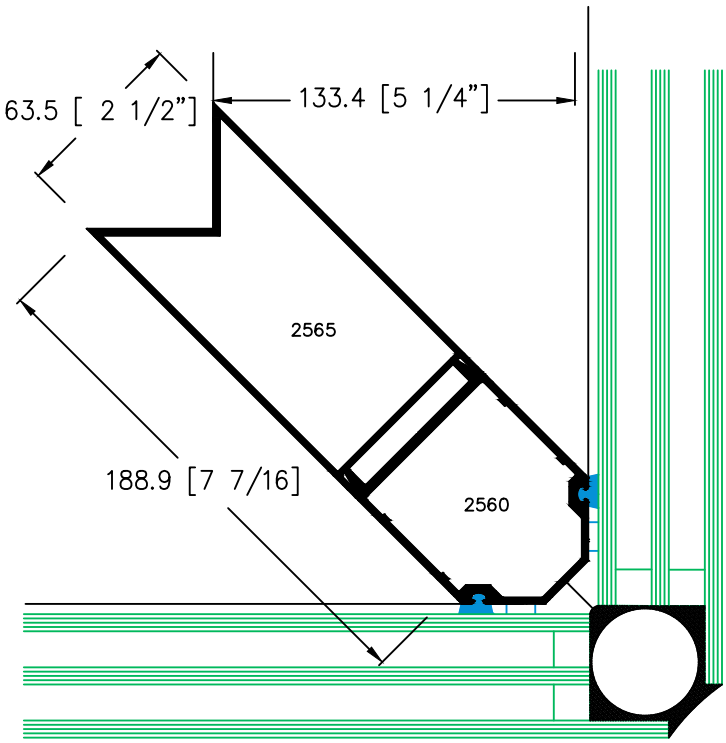
14

TYPICAL BUTT-JOINT CORNER DETAILS



90° BUTT-JOINT CORNER
AT 4" BACK MEMBER

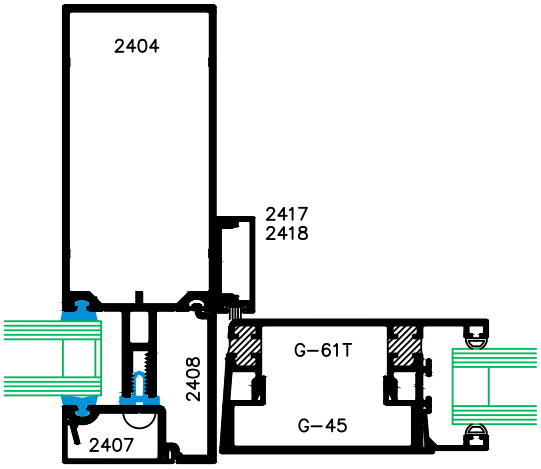
13



90° BUTT-JOINT CORNER
AT 5 1/4" BACK MEMBER

14

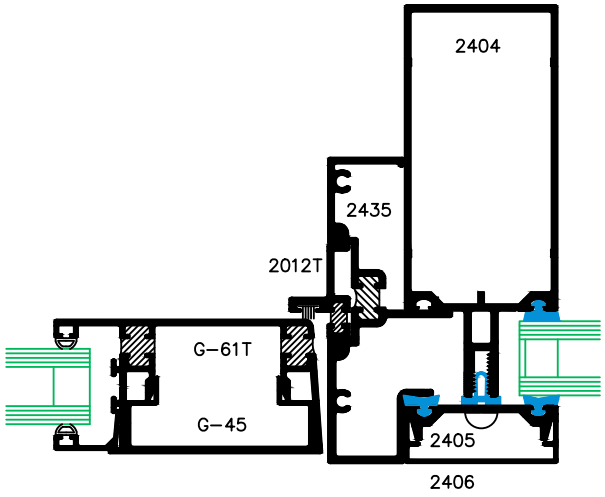
ALTERNATE DOOR DETAILS



GLACIER DOOR

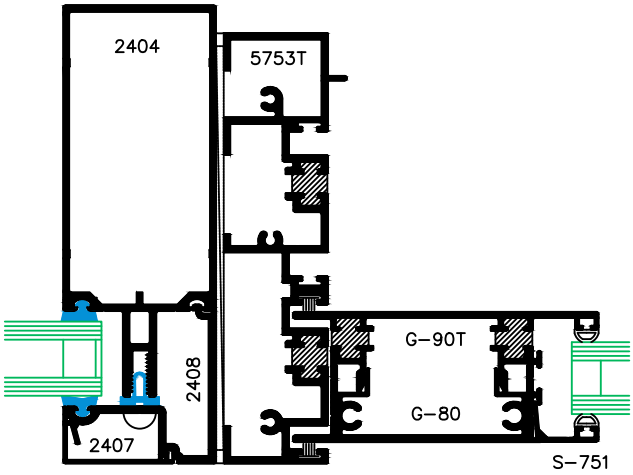
15

SWING DOORS



GLACIER DOOR

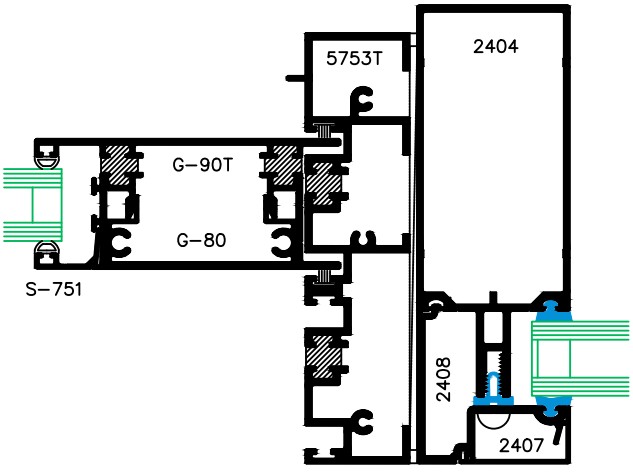
15a



1100T JAMB AT SLIDER

16

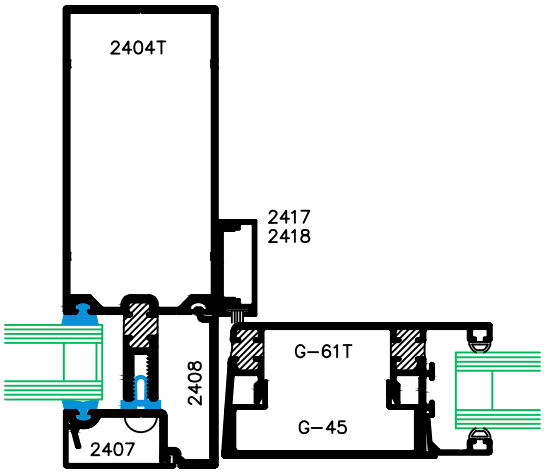
SLIDING DOORS



1100T JAMB AT FIXED PANEL

16a

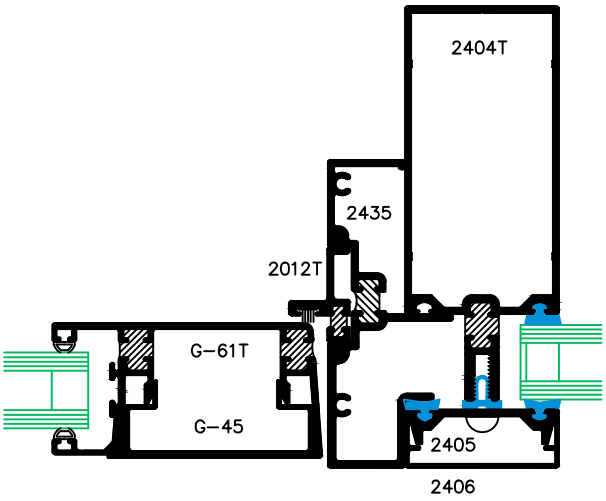
ALTERNATE DOOR DETAILS



GLACIER DOOR

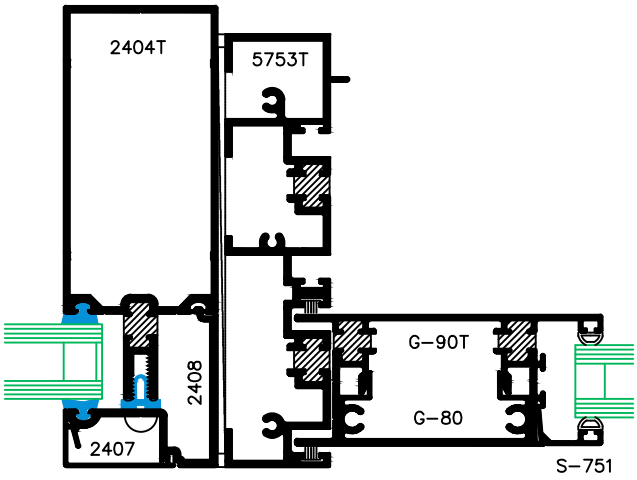
15

SWING DOORS



GLACIER DOOR

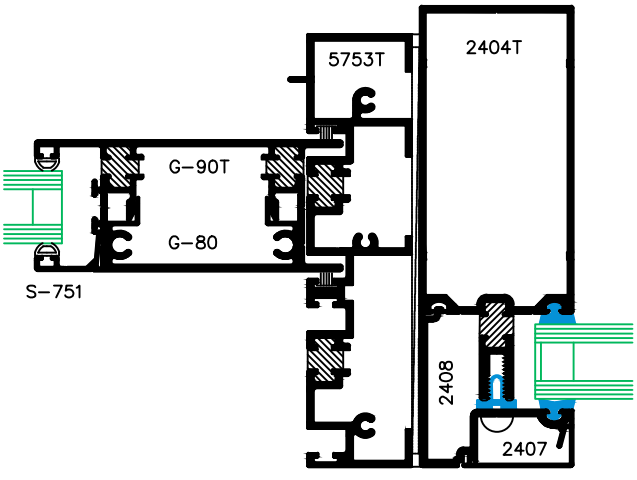
15a



1100T JAMB AT SLIDER

16

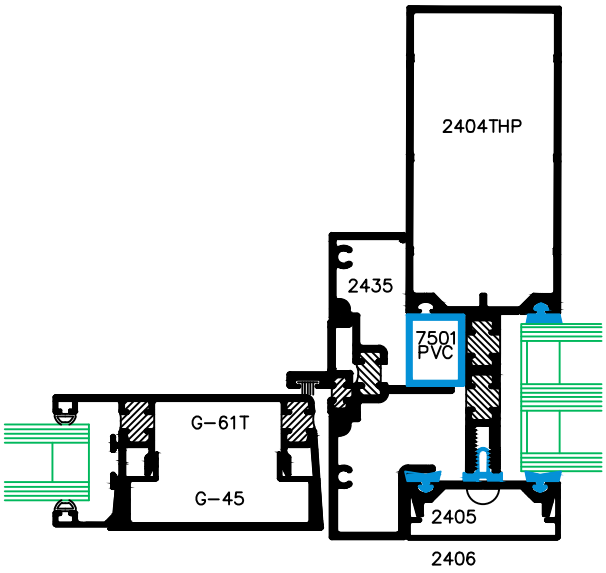
SLIDING DOORS



1100T JAMB AT FIXED PANEL

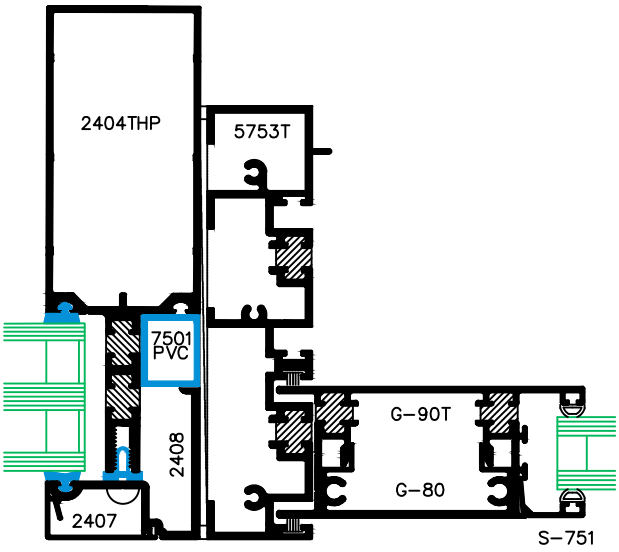
16a

ALTERNATE DOOR DETAILS



GLACIER DOOR

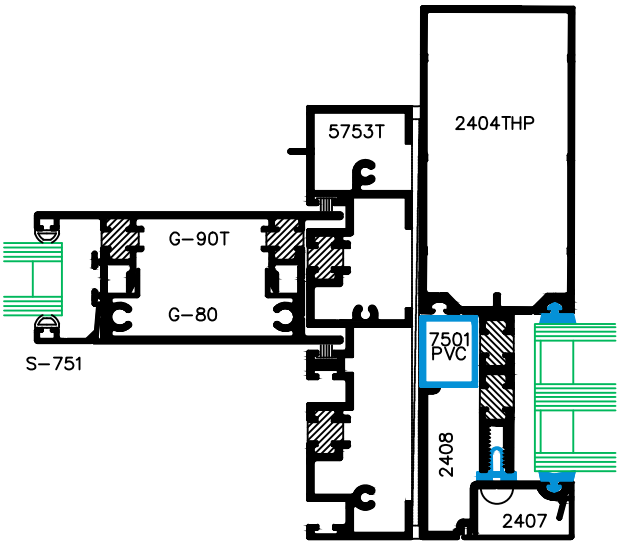
15a



1100T JAMB AT SLIDER

16

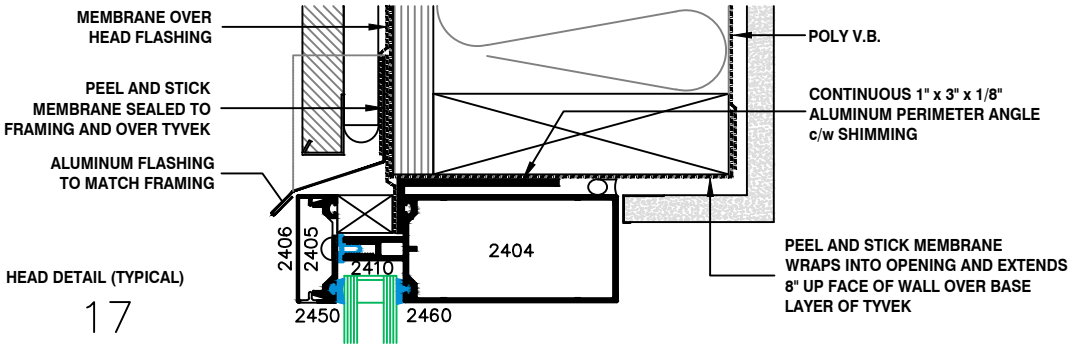
SLIDING DOORS



1100T JAMB AT FIXED PANEL

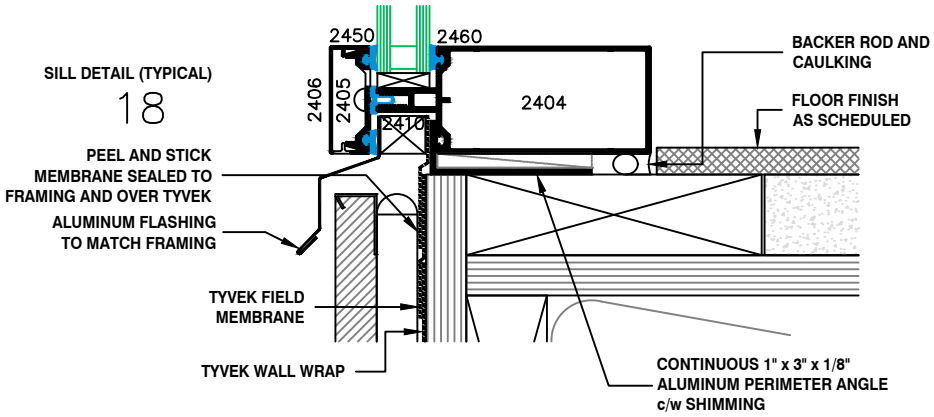
16a

INTERFACE DETAILS
(SUGGESTED ONLY)



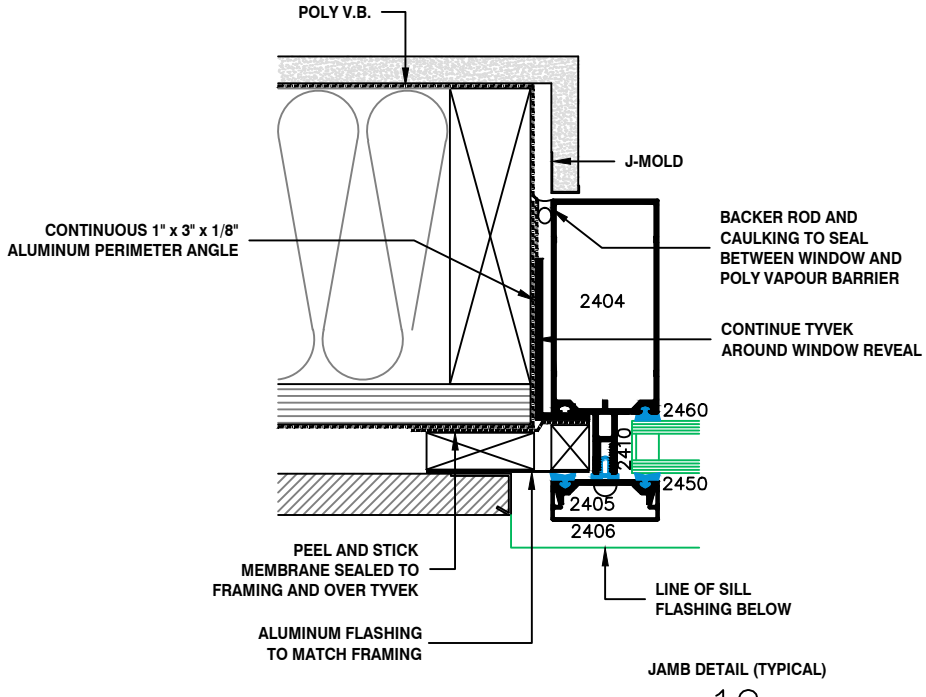
HEAD DETAIL (TYPICAL)

17



SILL DETAIL (TYPICAL)

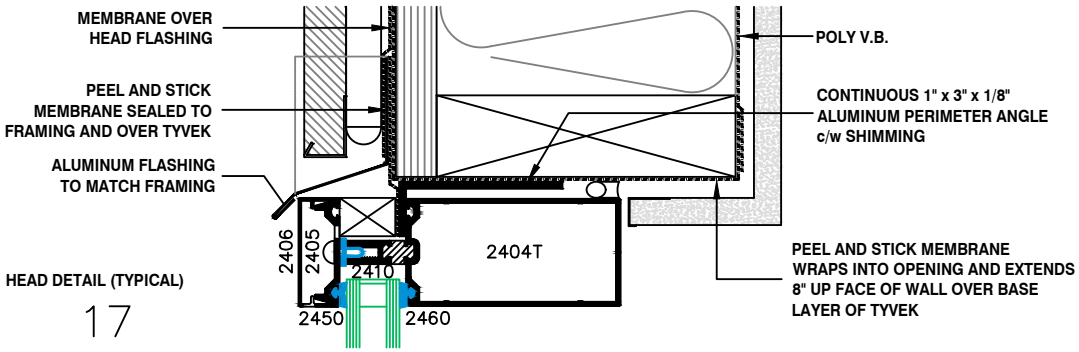
18



JAMB DETAIL (TYPICAL)

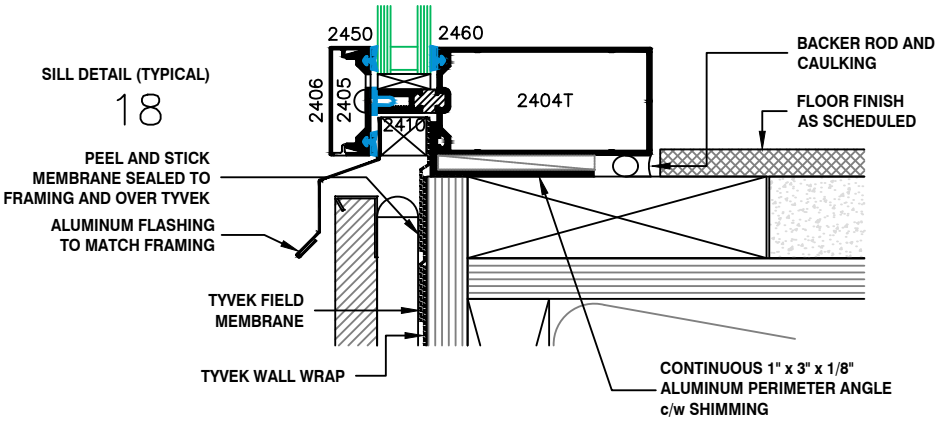
19

INTERFACE DETAILS (SUGGESTED ONLY)



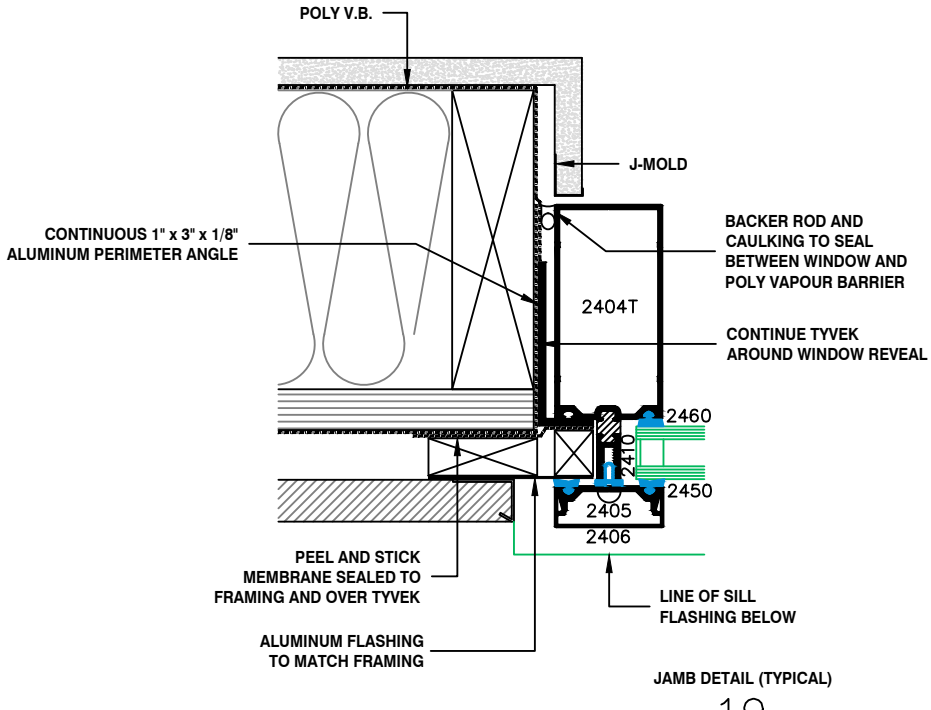
HEAD DETAIL (TYPICAL)

17



SILL DETAIL (TYPICAL)

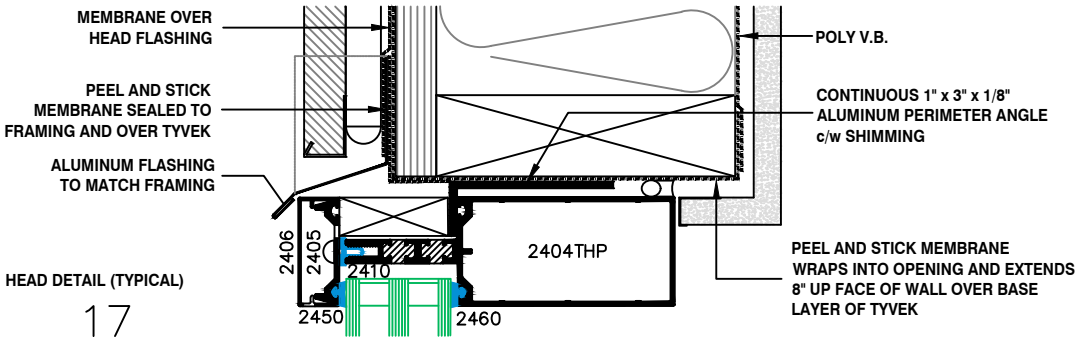
18



JAMB DETAIL (TYPICAL)

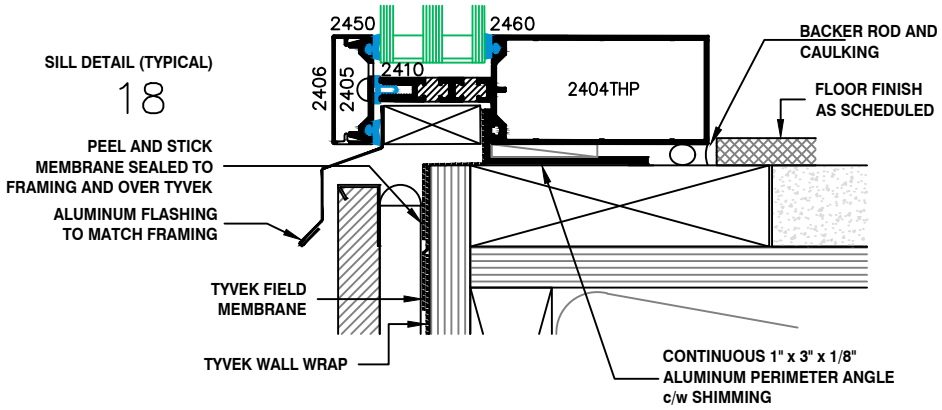
19

INTERFACE DETAILS
(SUGGESTED ONLY)



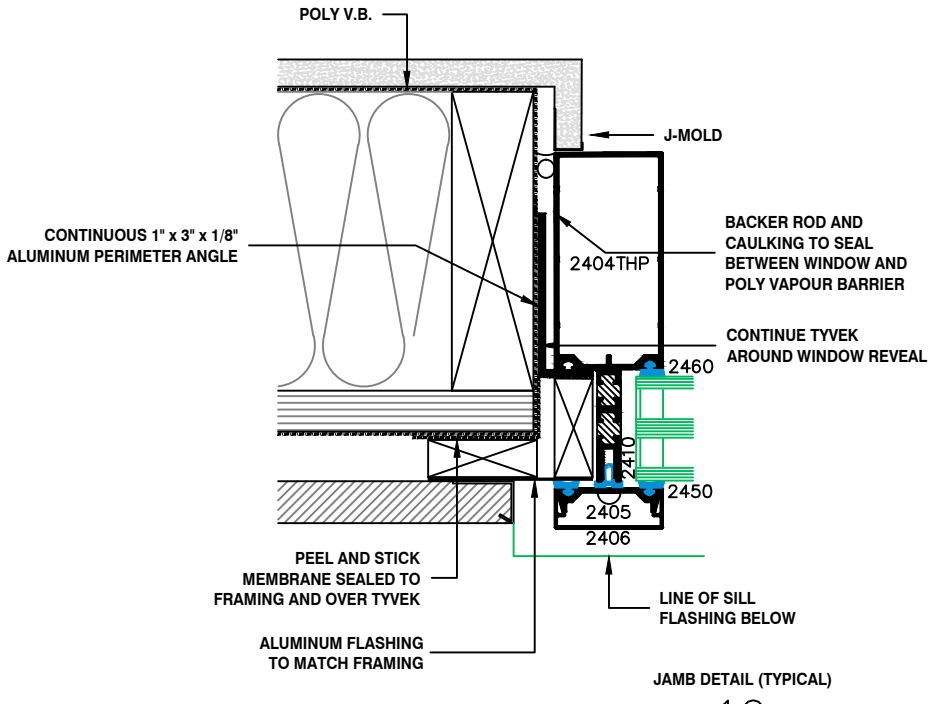
HEAD DETAIL (TYPICAL)

17



SILL DETAIL (TYPICAL)

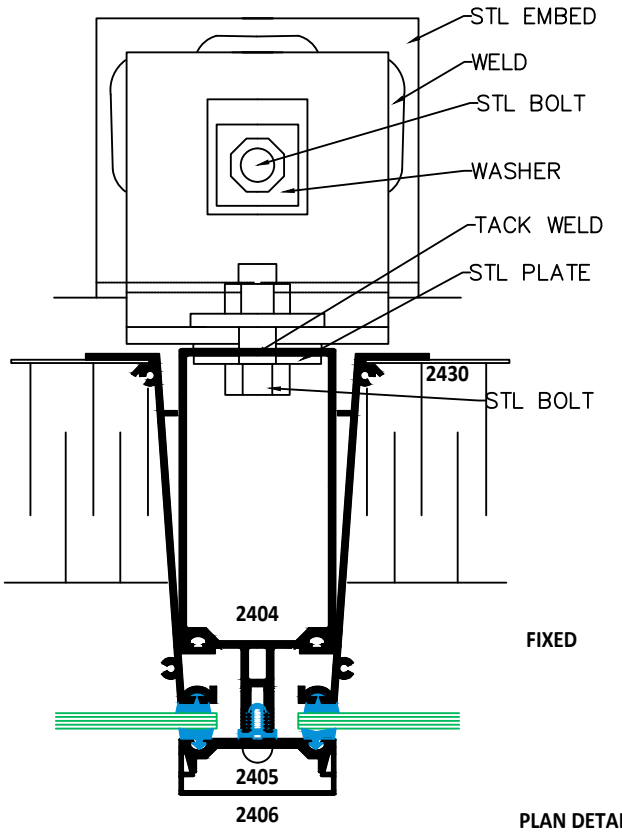
18



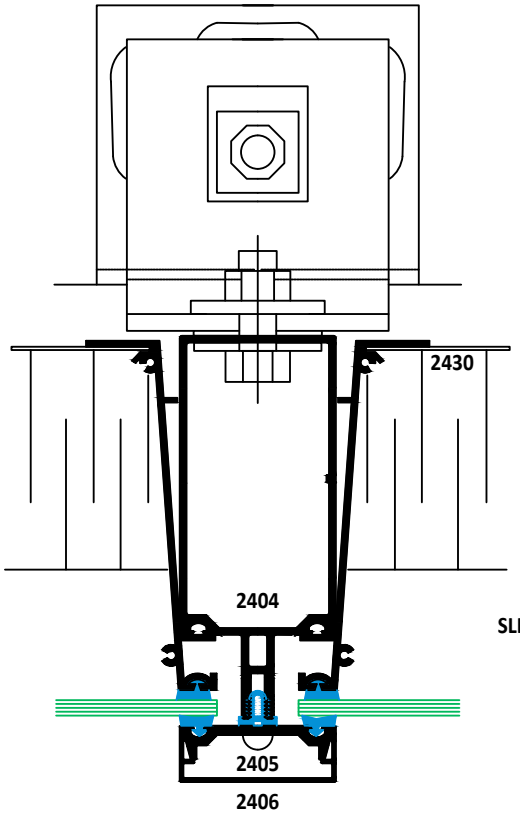
JAMB DETAIL (TYPICAL)

19

TYPICAL ANCHORING DETAILS

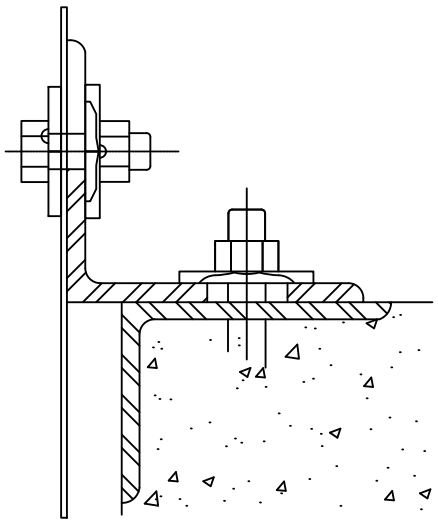


FIXED

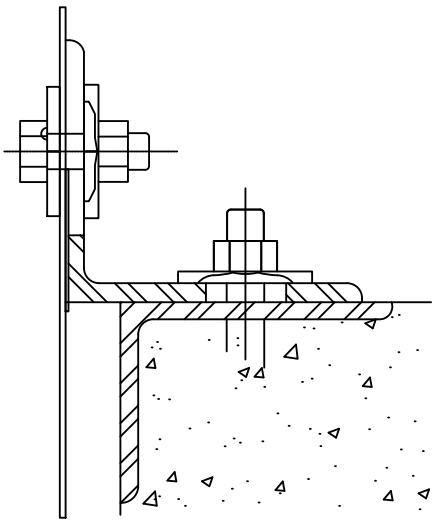


SLIP

PLAN DETAILS



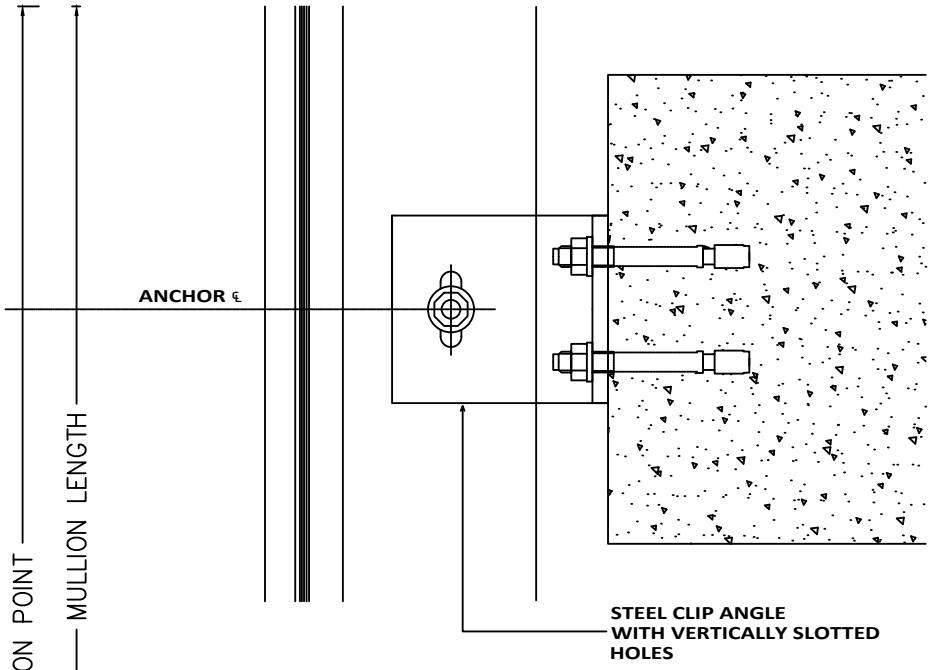
FIXED



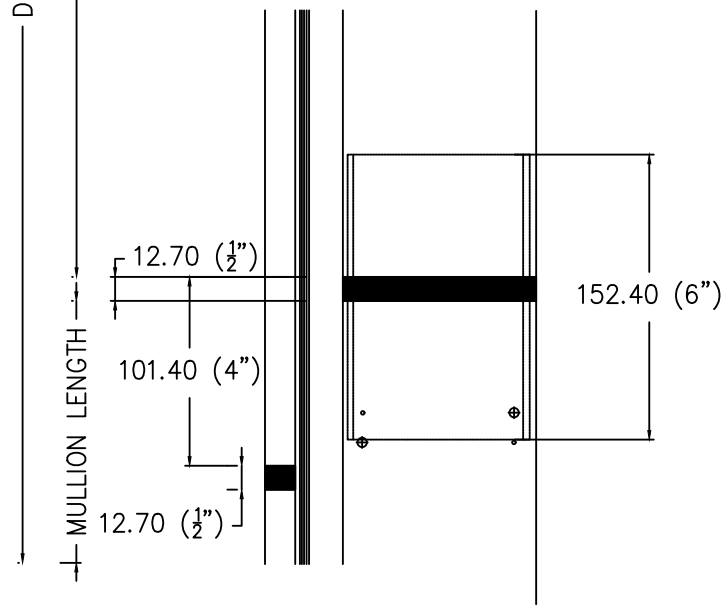
SLIP

SECTION DETAILS

EXPANSION & SPLICE DETAILS



EXPANSION DETAIL



SPLICE DETAIL

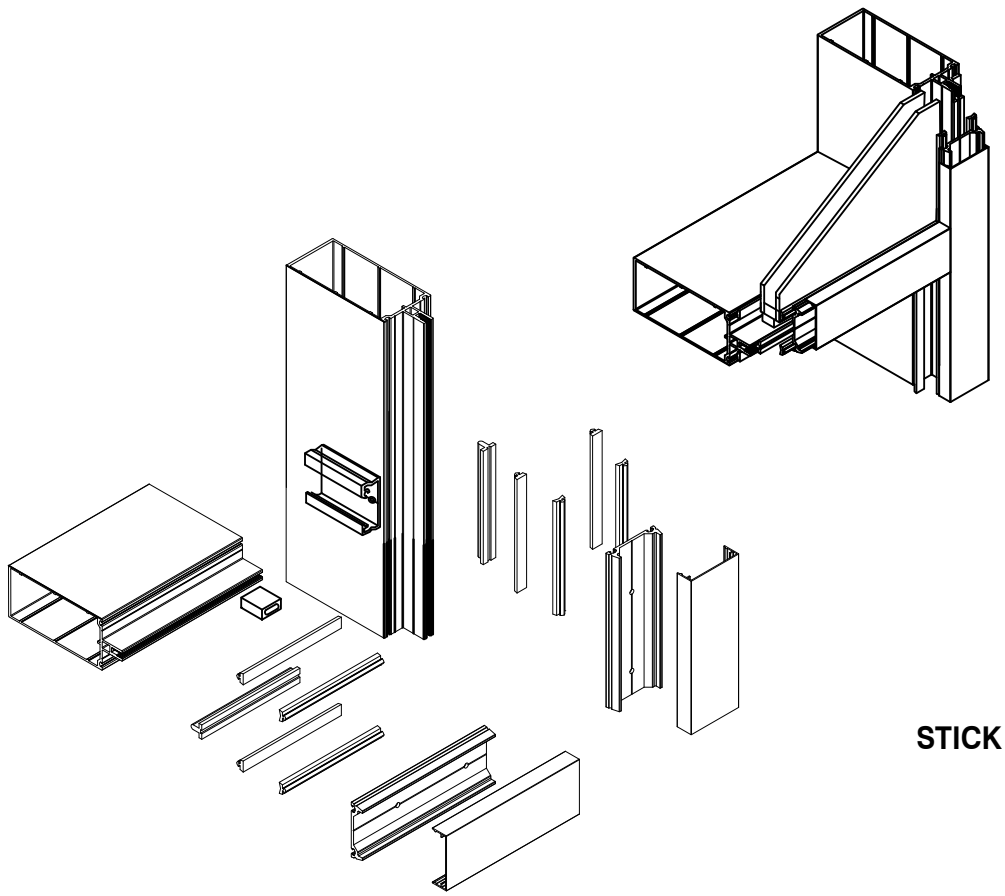
METRO ALUMINUM Products Ltd.

2500 SERIES

CURTAIN WALL & WINDOW SYSTEM
2 1/2" (63.5 mm) - FRAME

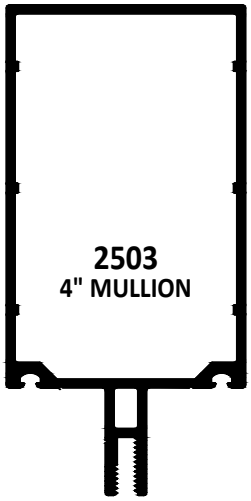
D 21

PICTORIAL (3D) PRESENTATION

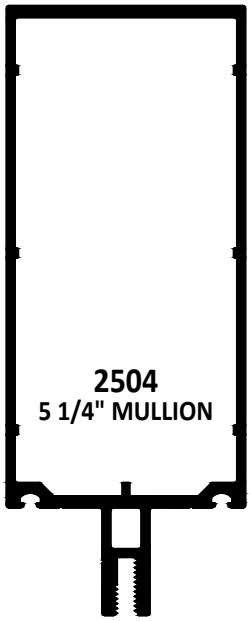


STICK SYSTEM FRAMING

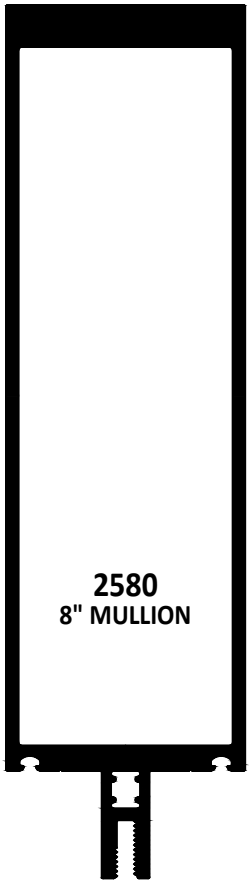
BACK SECTIONS



2503
4" MULLION



2504
5 1/4" MULLION

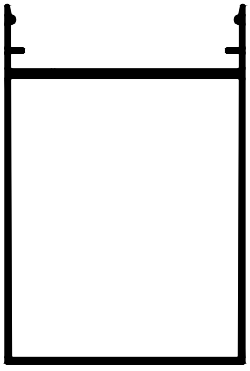


2580
8" MULLION

2505
PRESSURE PLATE

2507
1 1/4" CAP

2505F
FIBRE GLASS PRESSURE PLATE



2508
3 3/4" CAP

2506
3/4" CAP

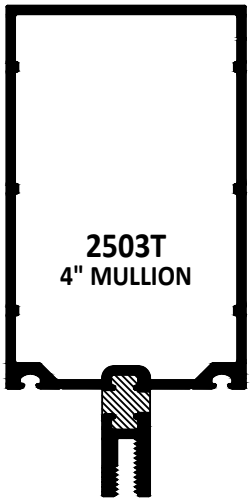
METRO ALUMINUM Products Ltd.

2500T SERIES

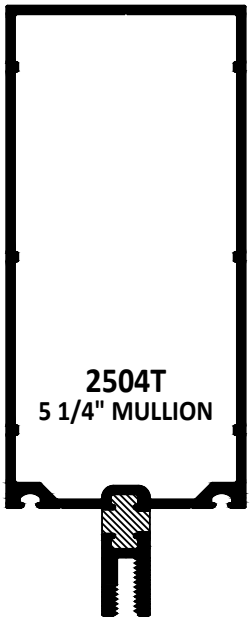
THERMALLY BROKEN
CURTAIN WALL & WINDOW SYSTEM
2 1/2" (63.5 mm) - FRAME

D
22A

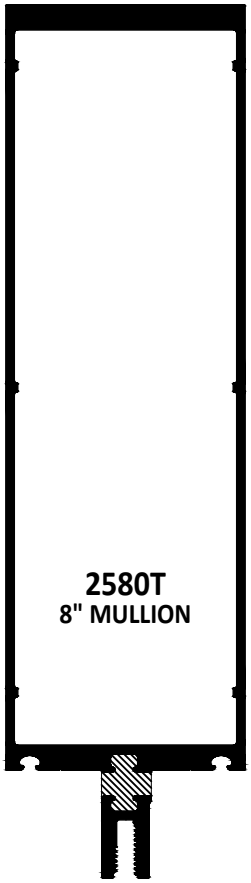
BACK SECTIONS



2503T
4" MULLION



2504T
5 1/4" MULLION

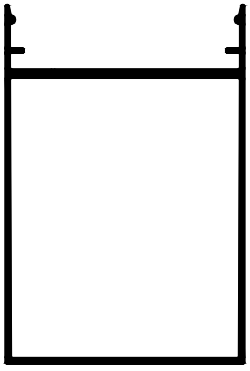


2580T
8" MULLION

2505
PRESSURE PLATE

2507
1 1/4" CAP

2505F
FIBRE GLASS PRESSURE PLATE



2508
3 3/4" CAP

2506
3/4" CAP

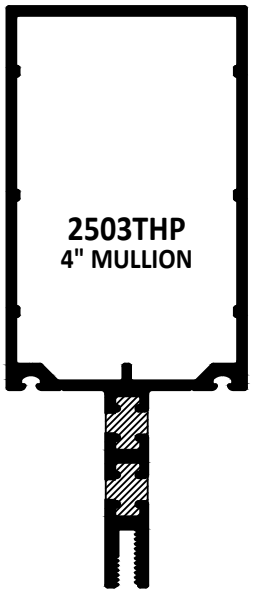
METRO ALUMINUM Products Ltd.

2500THP SERIES

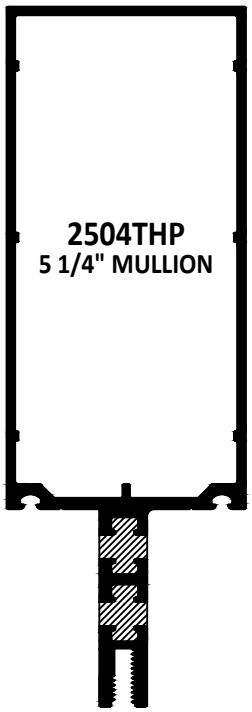
TRIPLE GLAZED - THERMALLY BROKEN
CURTAIN WALL & WINDOW SYSTEM
2 1/2" (63.5 mm) - FRAME

D
22B

BACK SECTIONS



2503THP
4" MULLION

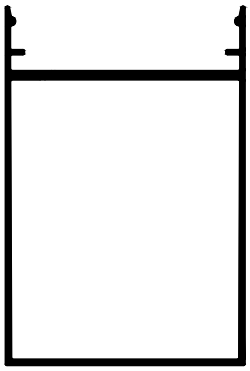


2504THP
5 1/4" MULLION

2505
PRESSURE PLATE

2507
1 1/4" CAP

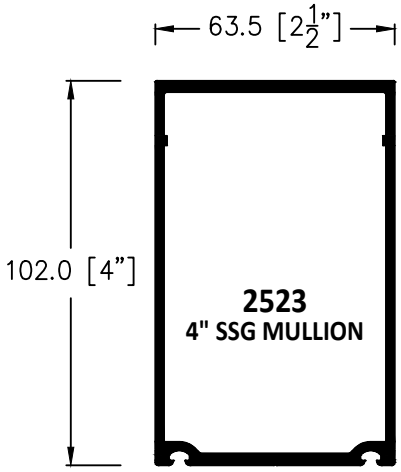
2505F
FIBRE GLASS PRESSURE PLATE

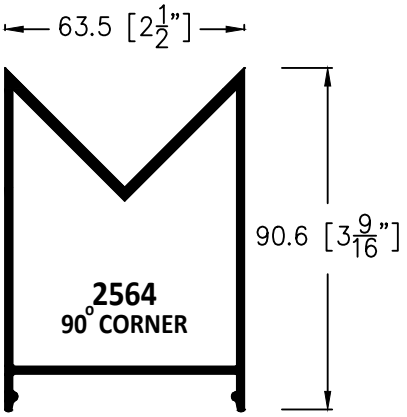


2508
3 3/4" CAP

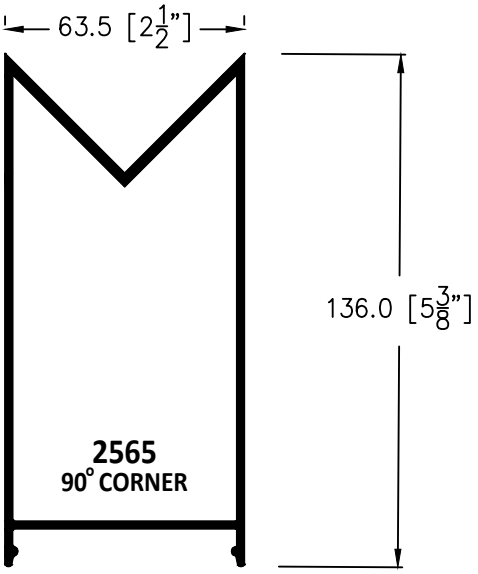
2506
3/4" CAP

SSG COMPONENTS

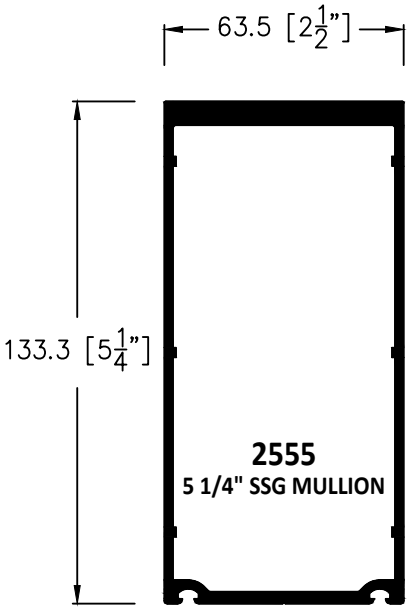


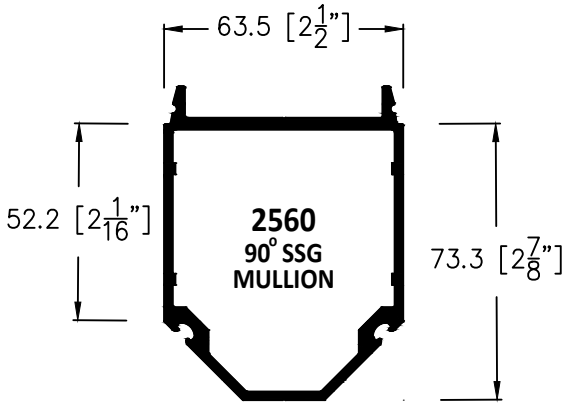


EXTENSION CAP FOR 4" BACK



EXTENSION CAP FOR 5 1/4" BACK





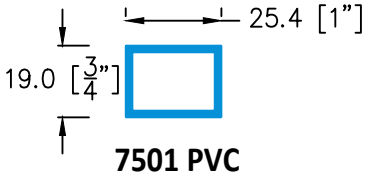
MISC. COMPONENTS

2410
THERMAL BREAK

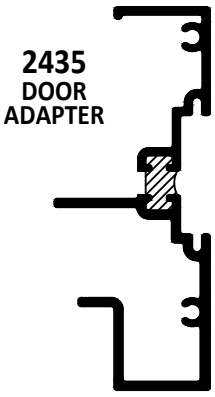
2515
CORNER BLOCK

2460
SPONGE GASKET
(INTERIOR)

2450
DENSE GASKET
(EXTERIOR)



7501 PVC
ANTI-ROTATION

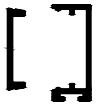


2435
DOOR
ADAPTER

2520
SPIGOT

2409
SINGLE GLASS
ADAPTOR

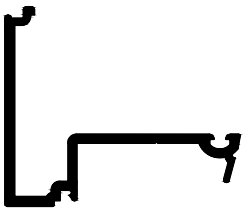
2430
BACK-PAN
ADAPTOR



2417/2418
SURFACE APPLIED
DOOR STOP

20120T
DOOR STOP
FOR 2" DOORS

2012T
DOOR STOP
FOR 1 3/4" DOORS



2517
FLUSH DOOR
ADAPTOR

5102
1" X 2" PERIMETER ANGLE

2518
FLUSH DOOR
ADAPTOR CAP

5103
1" X 3" PERIMETER ANGLE

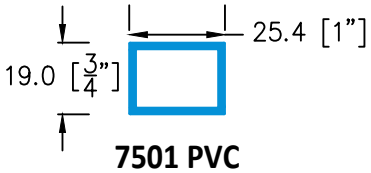
MISC. COMPONENTS

2410
THERMAL BREAK

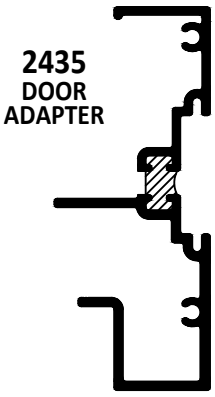
2515-3
CORNER BLOCK

2460
SPONGE GASKET
(INTERIOR)

2450
DENSE GASKET
(EXTERIOR)

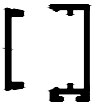


7501 PVC
ANTI-ROTATION



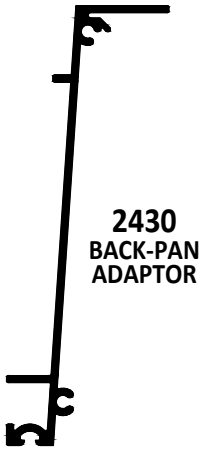
2435
DOOR
ADAPTER

2520
SPIGOT



2417/2418
SURFACE APPLIED
DOOR STOP

20120T
DOOR STOP
FOR 2" DOORS



2430
BACK-PAN
ADAPTOR

2012T
DOOR STOP
FOR 1 3/4" DOORS

5102
1" X 2" PERIMETER ANGLE

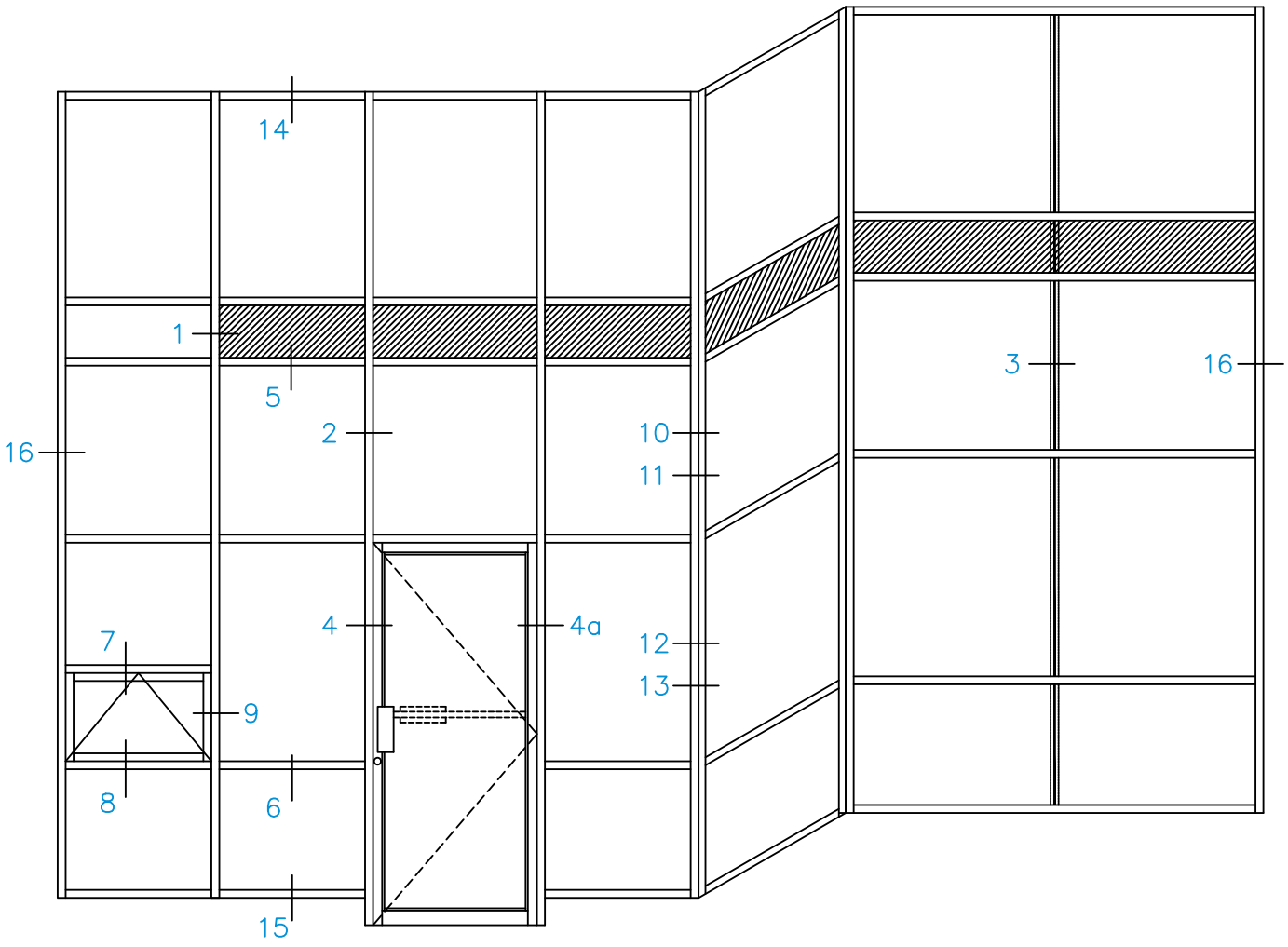
5103
1" X 3" PERIMETER ANGLE

METRO ALUMINUM Products Ltd.

2500 SERIES

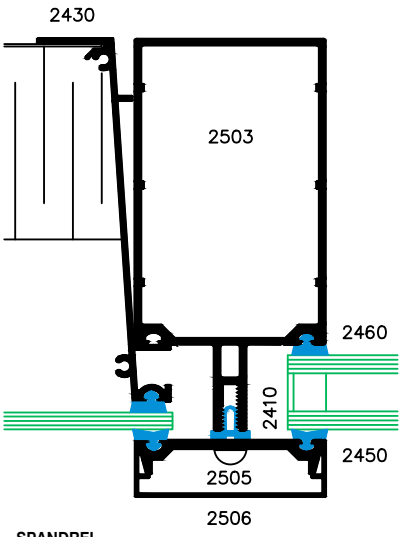
CURTAIN WALL & WINDOW SYSTEM
2 1/2" (63.5 mm) - FRAME

D
24



ELEVATION

TYPICAL DETAILS



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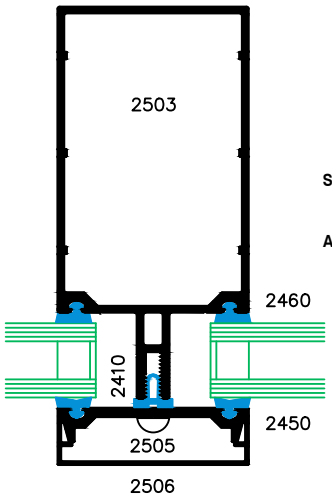

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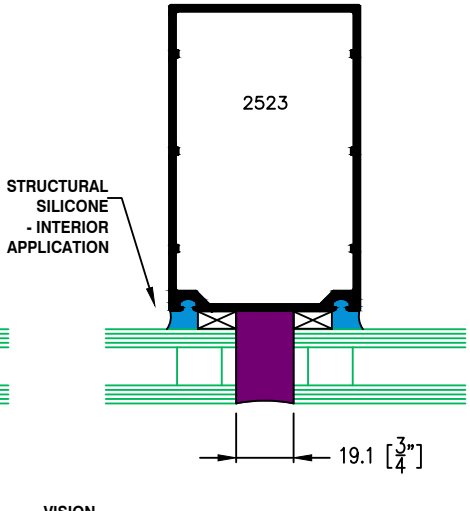

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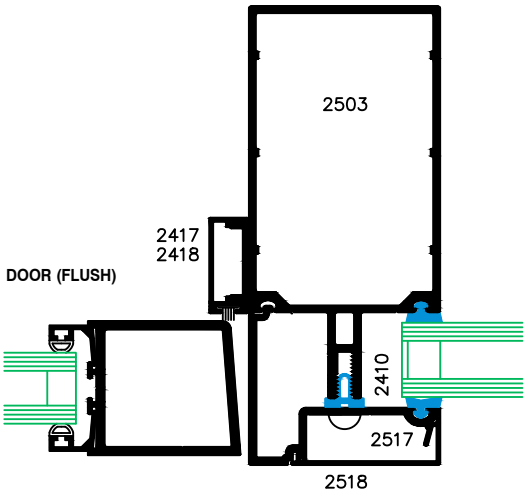

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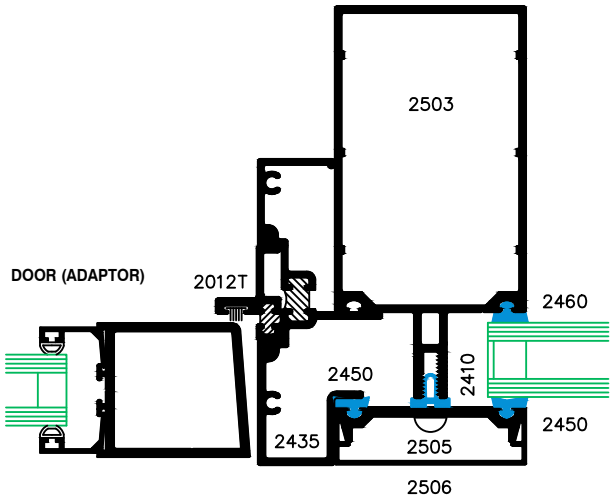

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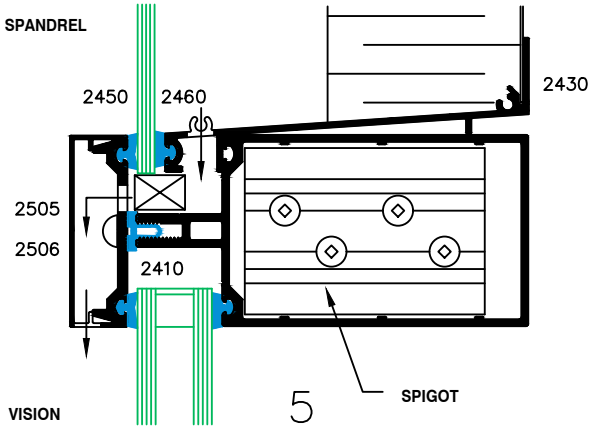

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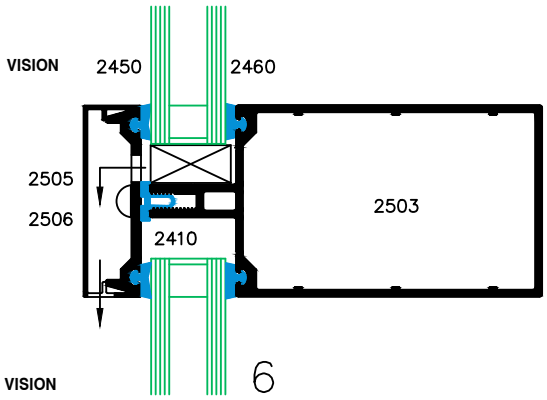


6

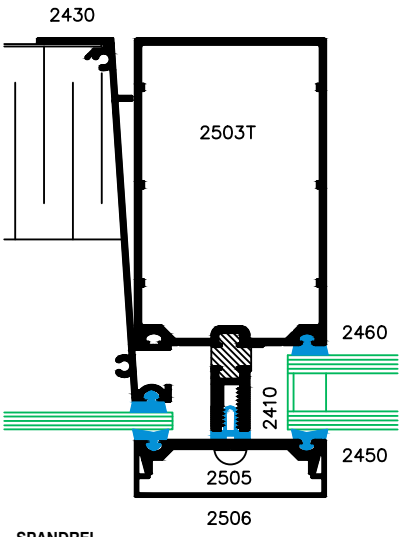
METRO ALUMINUM Products Ltd.

2500T SERIES

THERMALLY BROKEN
CURTAIN WALL & WINDOW SYSTEM
2 1/2" (63.5 mm) - FRAME

D 25A

TYPICAL DETAILS



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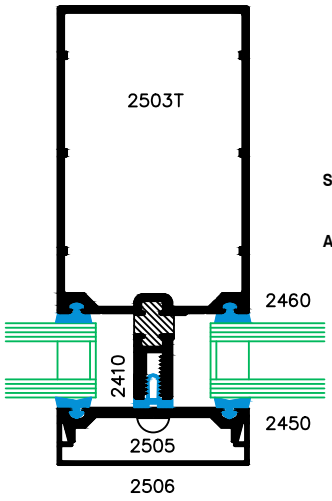

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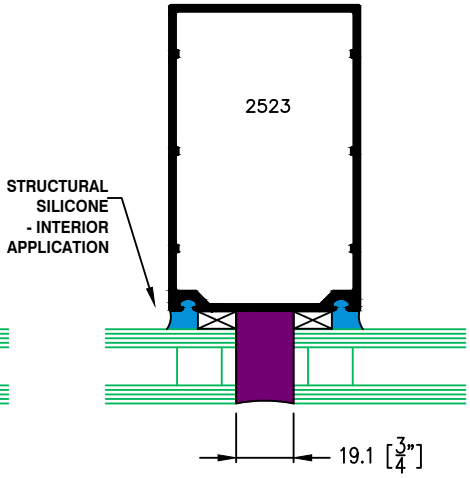

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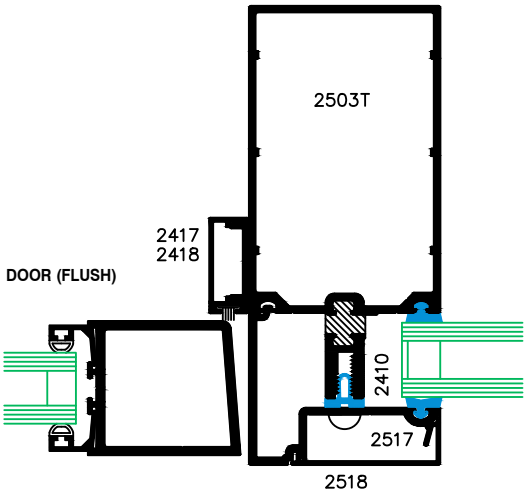

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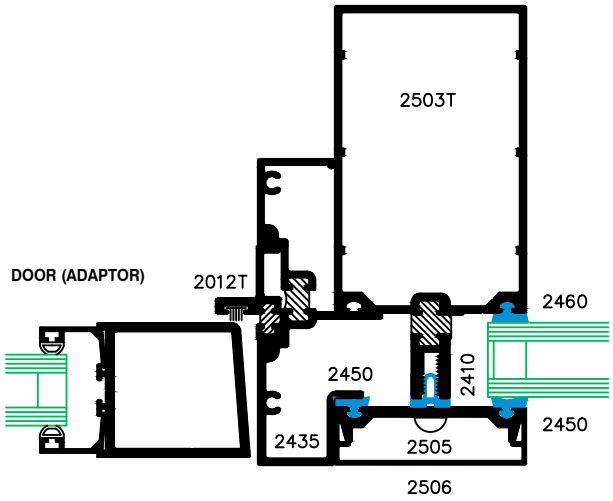

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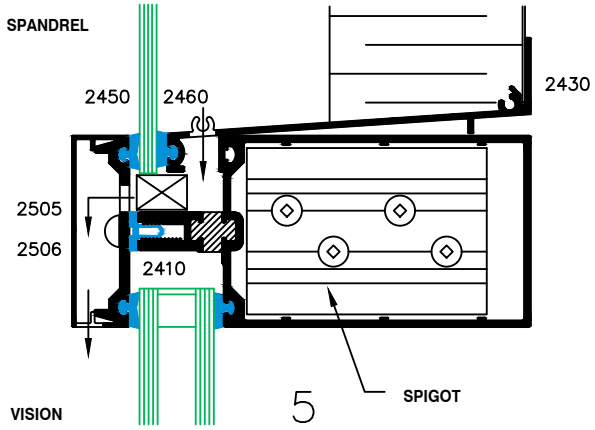

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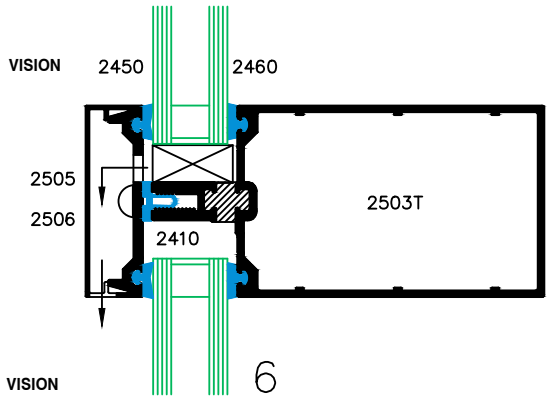


6

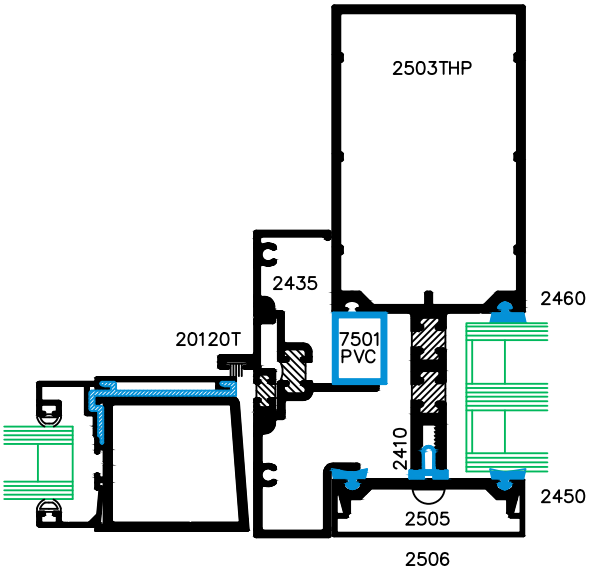
METRO ALUMINUM Products Ltd.

2500THP SERIES

TRIPLE GLAZED - THERMALLY BROKEN
CURTAIN WALL & WINDOW SYSTEM
NARROW - 2 1/2" (63.5 mm) - FRAME

D
25B

TYPICAL DETAILS



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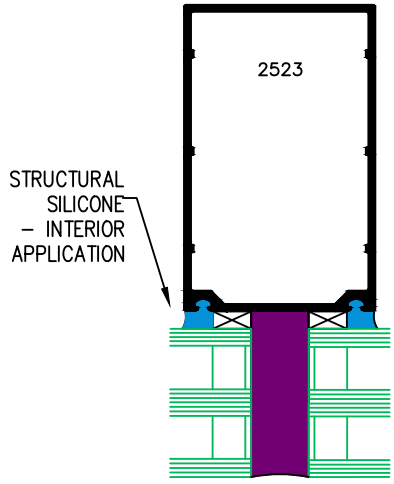

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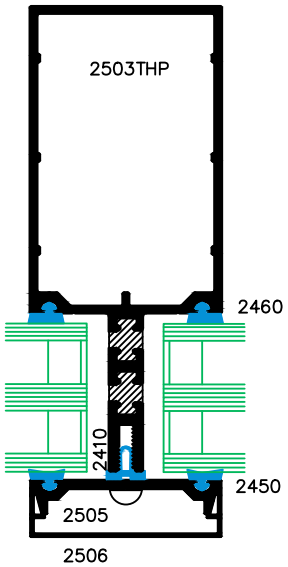

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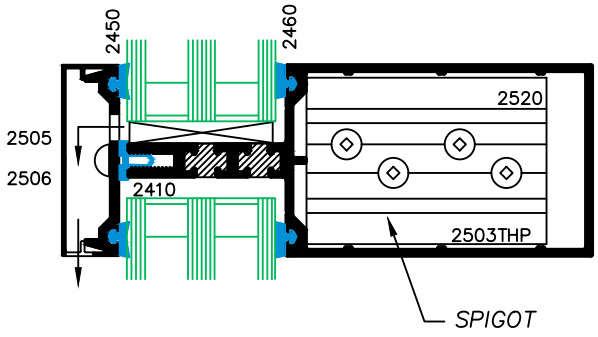

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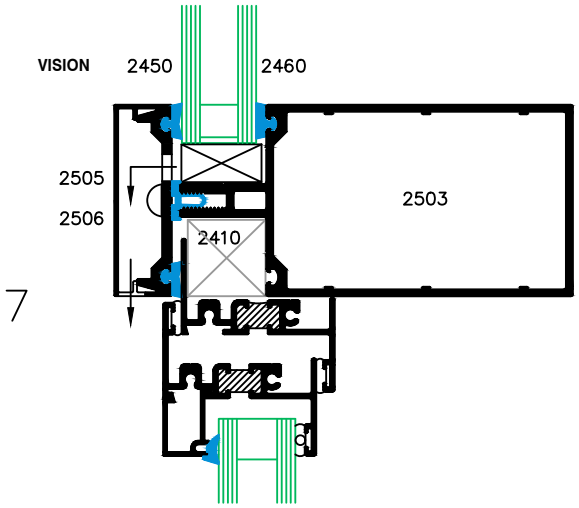
TYPICAL DETAILS



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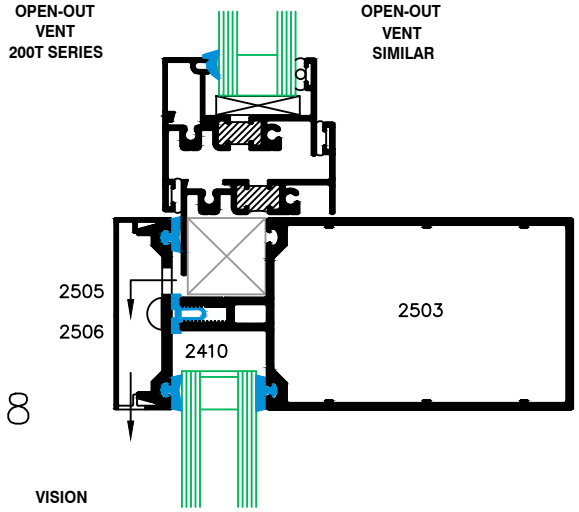

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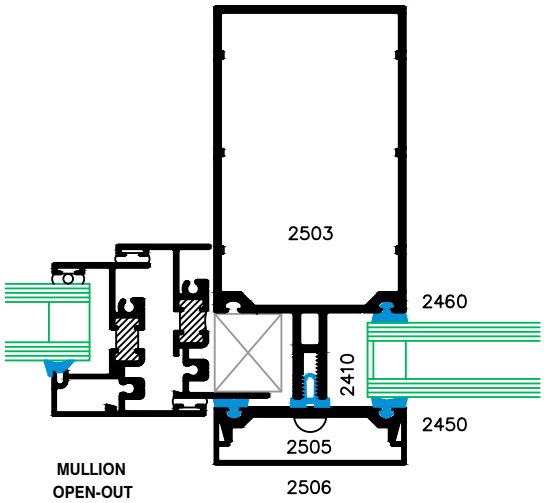


9

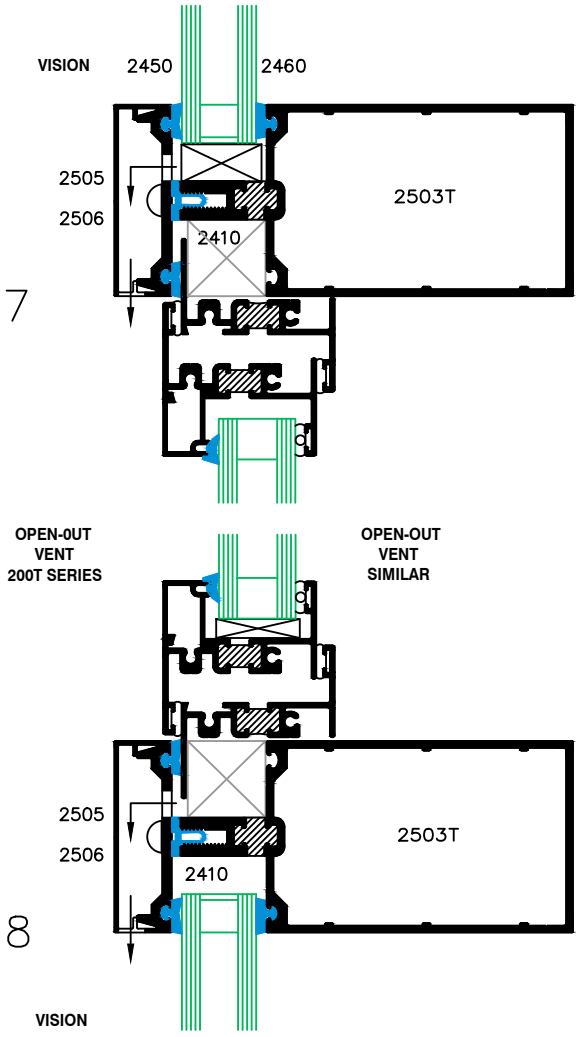
METRO ALUMINUM Products Ltd.

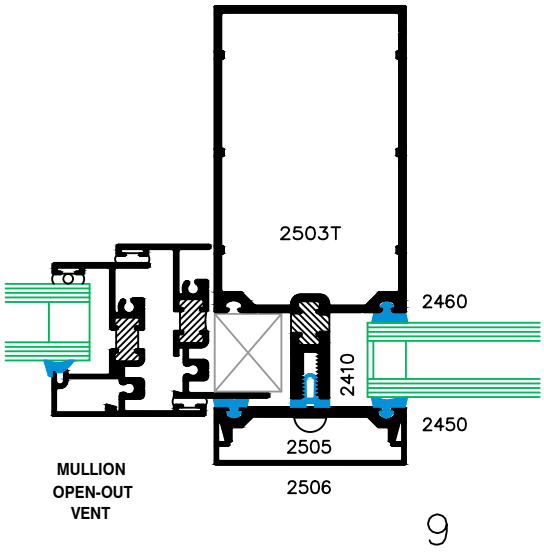
2500T SERIES

THERMALLY BROKEN
CURTAIN WALL & WINDOW SYSTEM
2 1/2" (63.5 mm) - FRAME

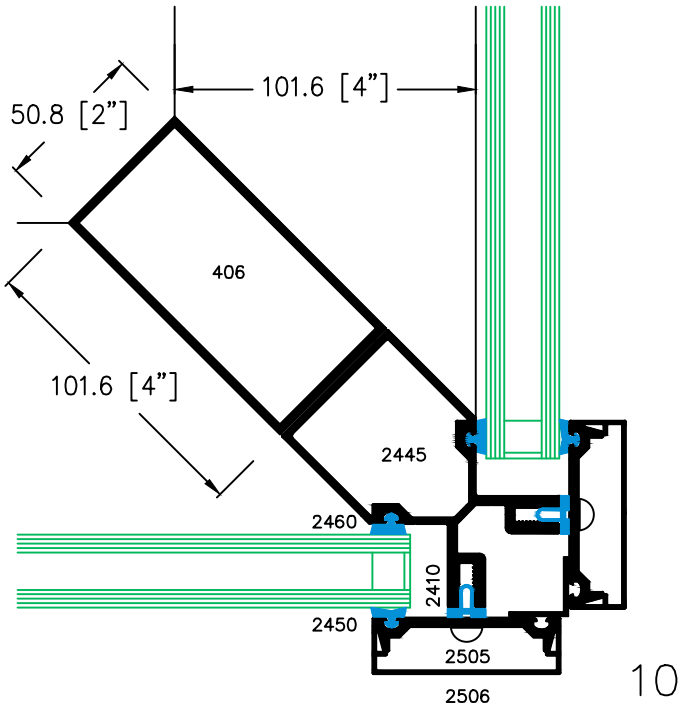
D
26A

TYPICAL DETAILS



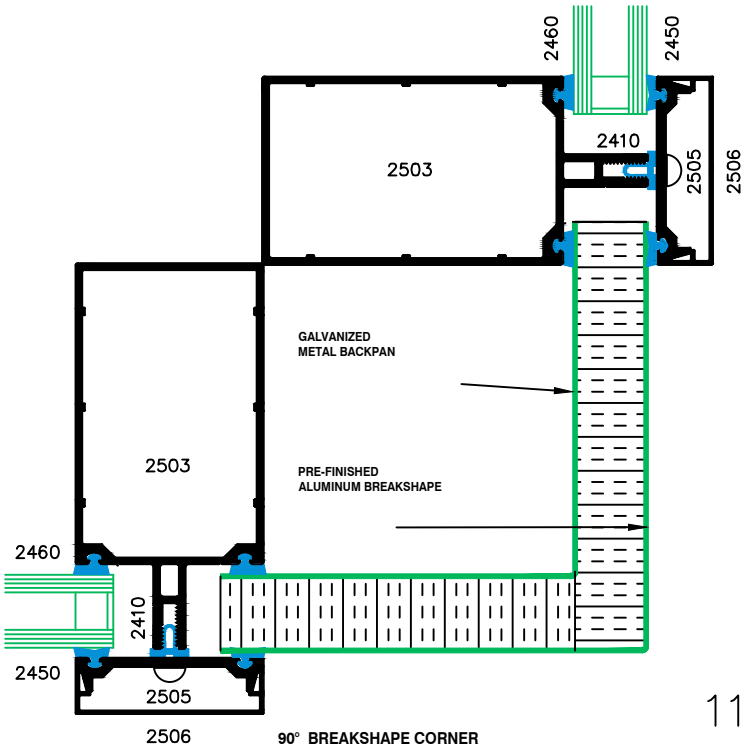


TYPICAL CAPTURED CORNER DETAILS



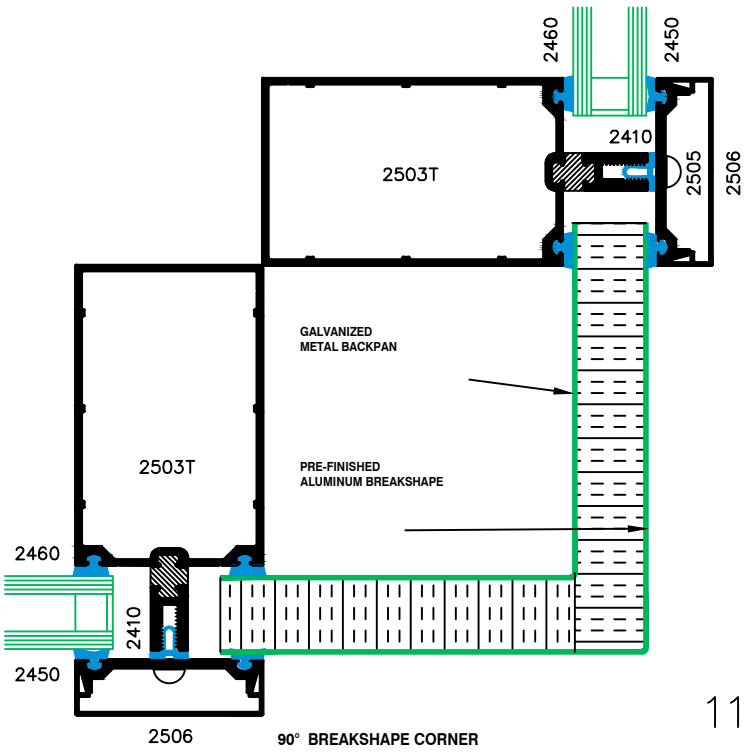
10

90° CAPTURED CORNER



11

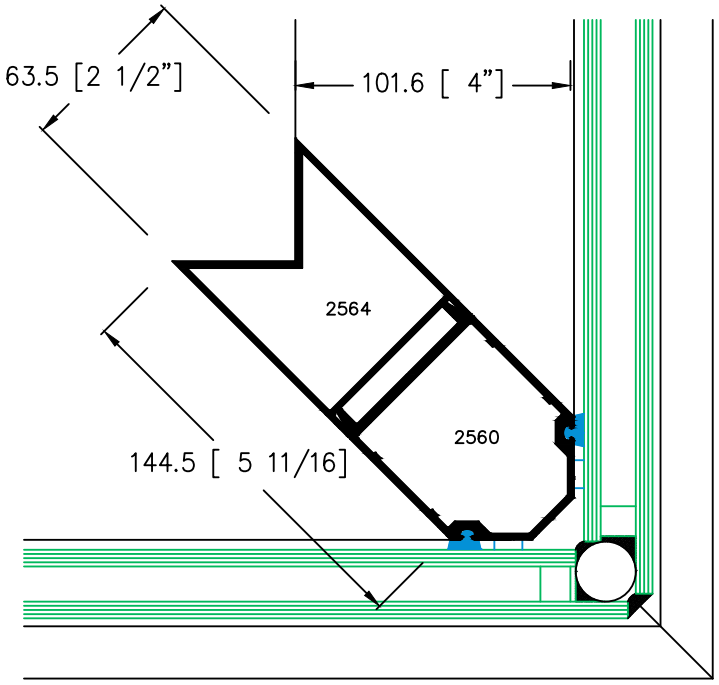
90° BREAKSHAPE CORNER



11

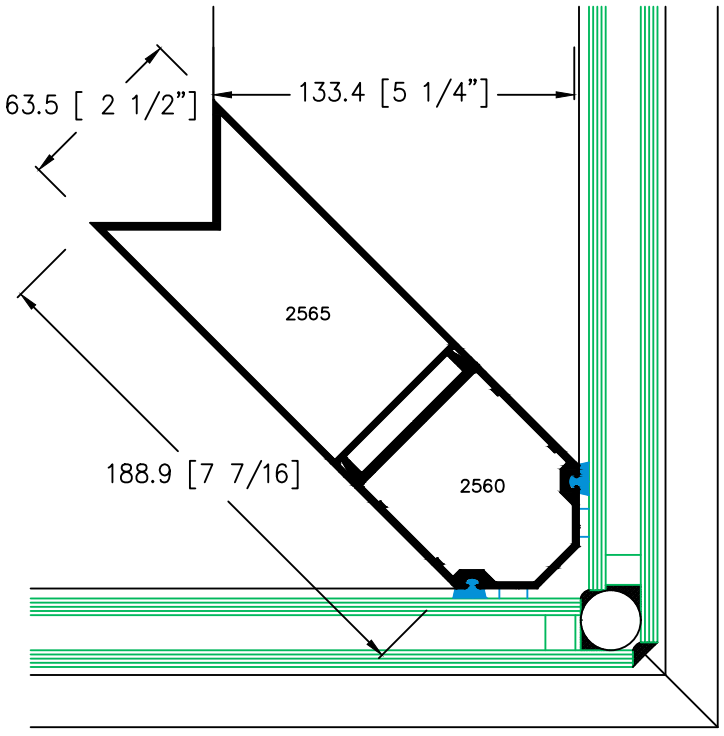
90° BREAKSHAPE CORNER

TYPICAL BUTT-JOINT CORNER DETAILS



90° BUTT-JOINT CORNER
AT 4" BACK MEMBER

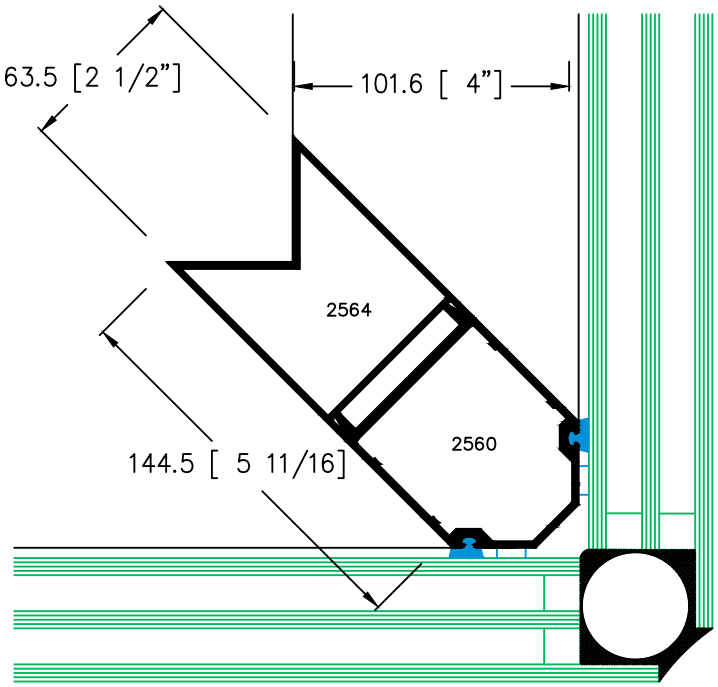
12



90° BUTT-JOINT CORNER
AT 5 1/4" BACK MEMBER

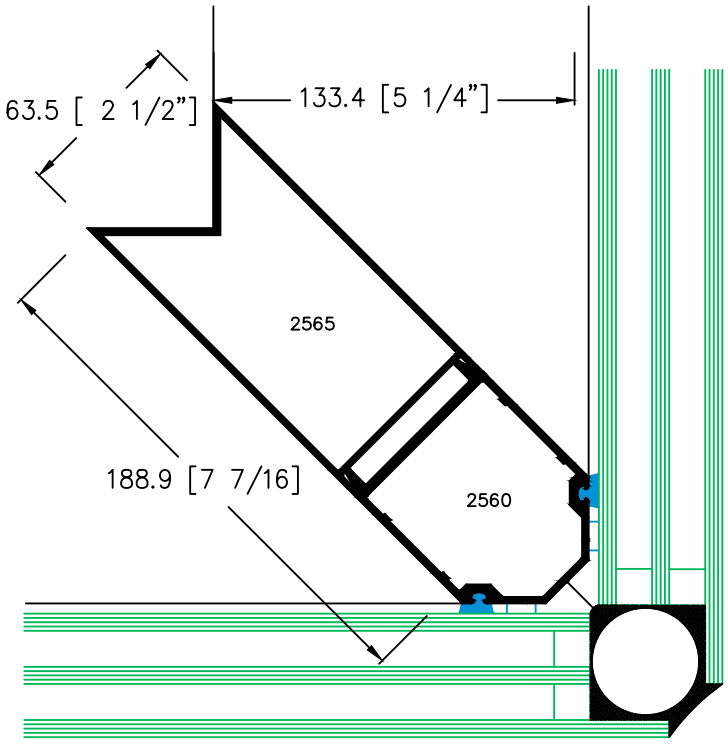
13

TYPICAL BUTT-JOINT CORNER DETAILS



90° BUTT-JOINT CORNER
AT 4" BACK MEMBER

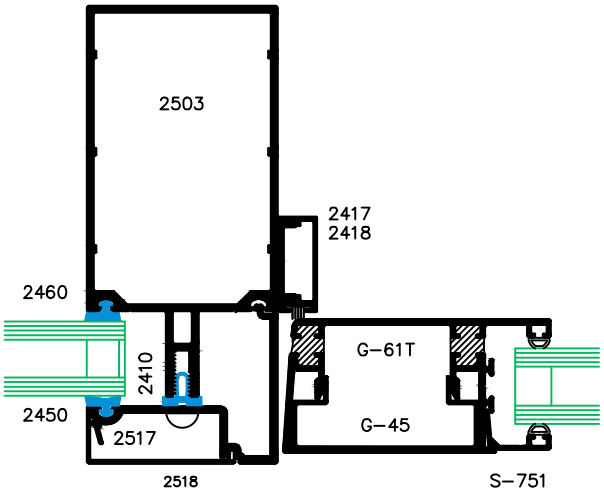
13



90° BUTT-JOINT CORNER
AT 5 1/4" BACK MEMBER

14

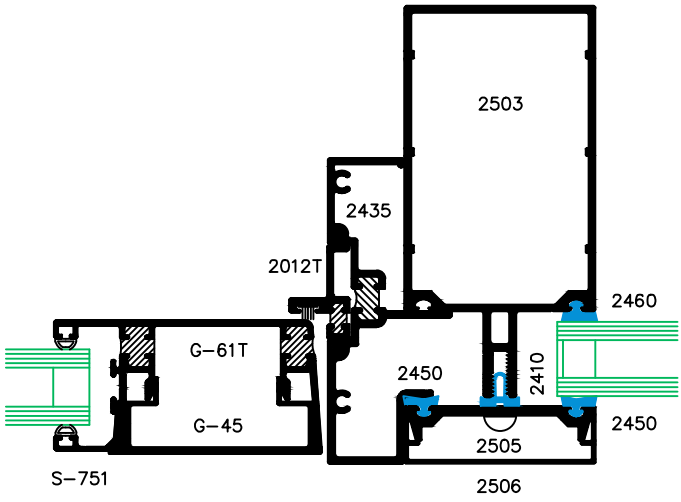
ALTERNATE DOOR DETAILS



GLACIER DOOR

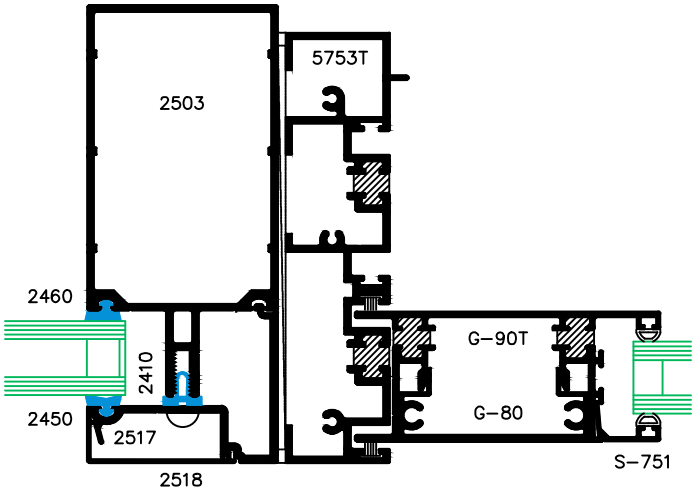
15

SWING DOORS



GLACIER DOOR

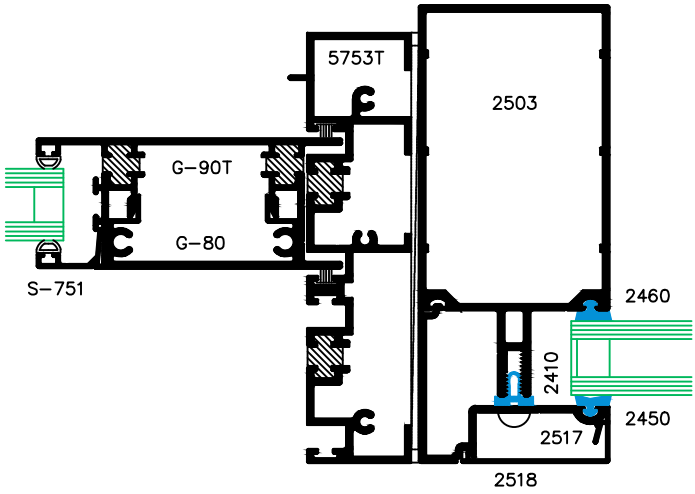
15a



1100T JAMB AT SLIDER

16

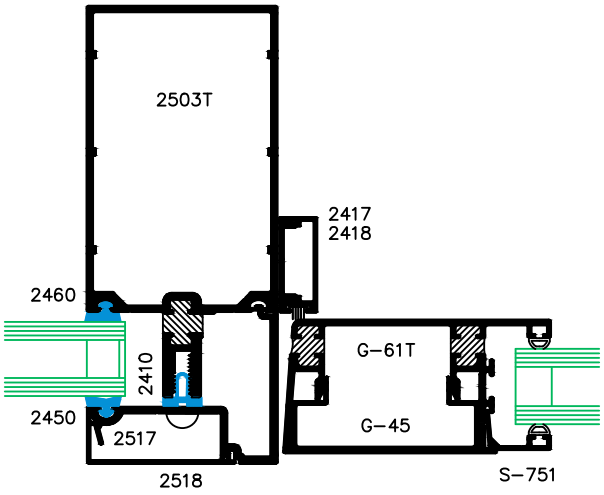
SLIDING DOORS



1100T JAMB AT FIXED PANEL

16a

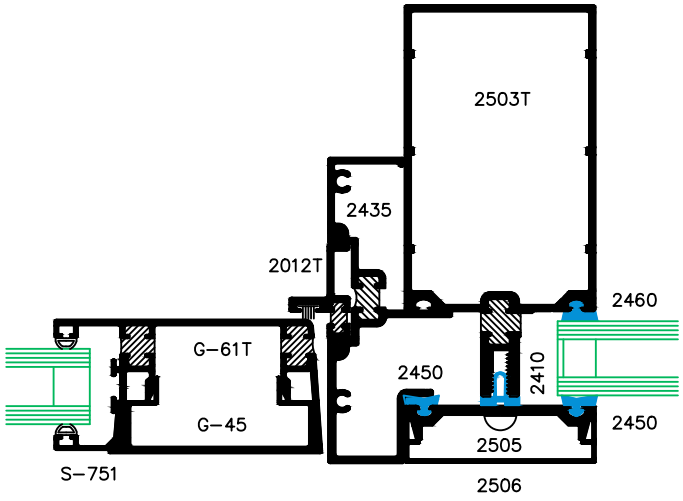
ALTERNATE DOOR DETAILS



GLACIER DOOR

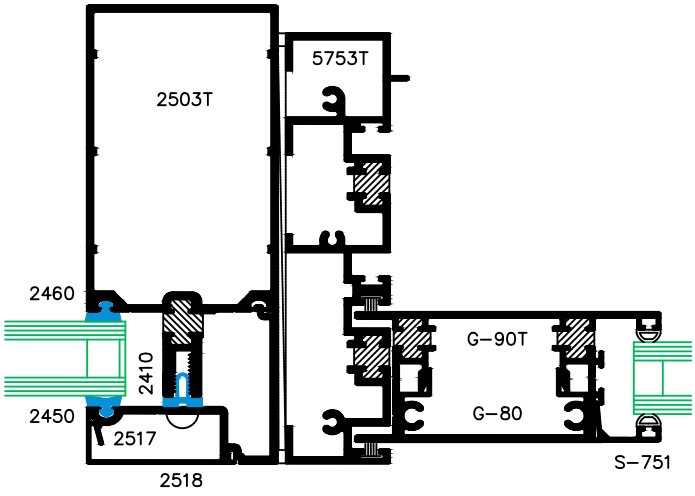
15

SWING DOORS



GLACIER DOOR

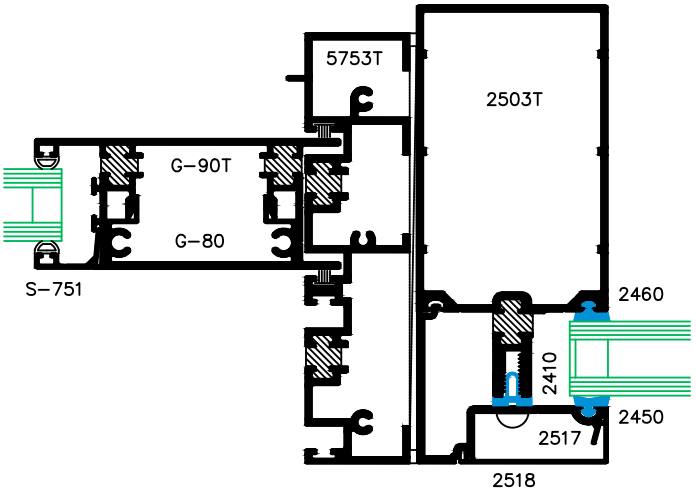
15a



1100T JAMB AT SLIDER

16

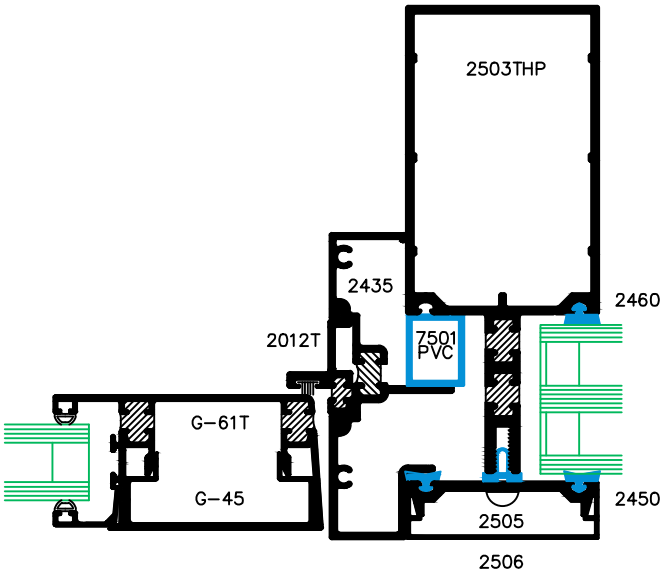
SLIDING DOORS



1100T JAMB AT FIXED PANEL

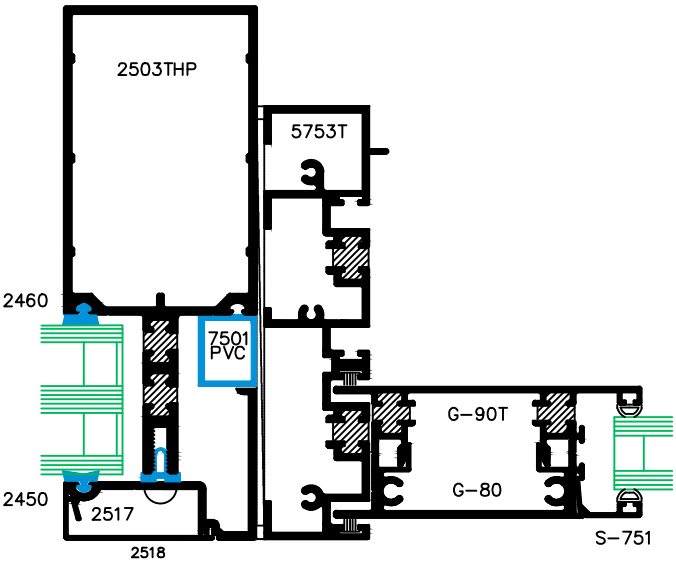
16a

ALTERNATE DOOR DETAILS



GLACIER DOOR

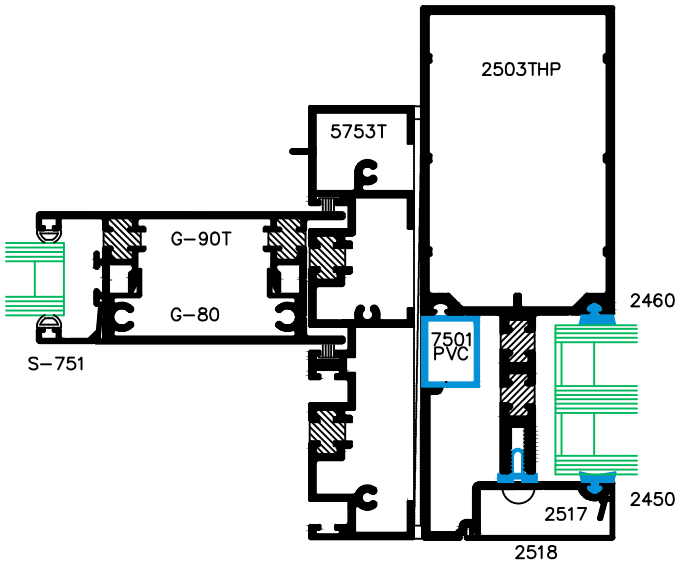
15a



1100T JAMB AT SLIDER

16

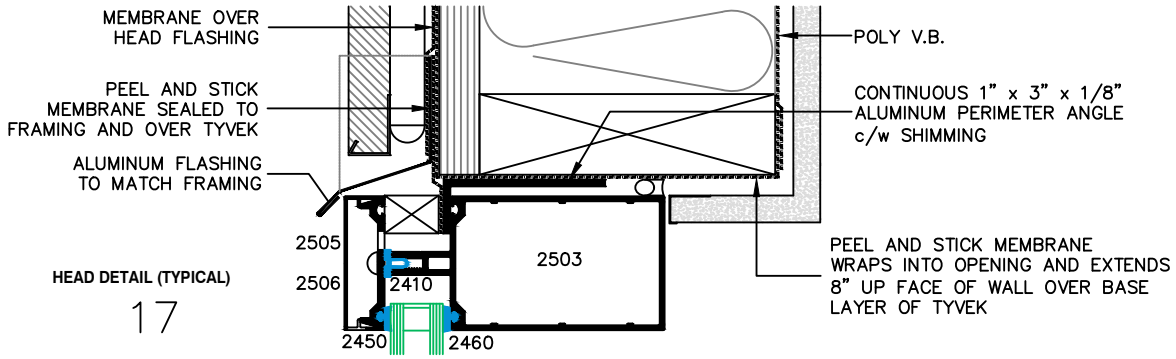
SLIDING DOORS



1100T JAMB AT FIXED PANEL

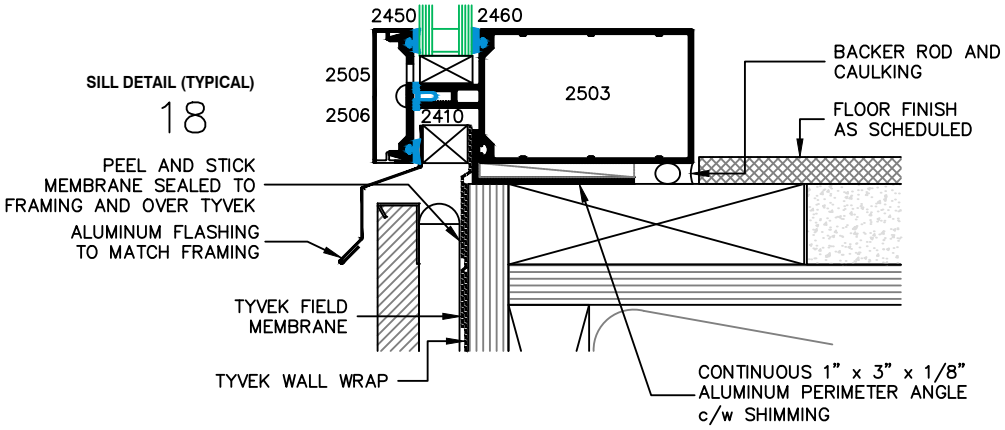
16a

INTERFACE DETAILS (SUGGESTED ONLY)



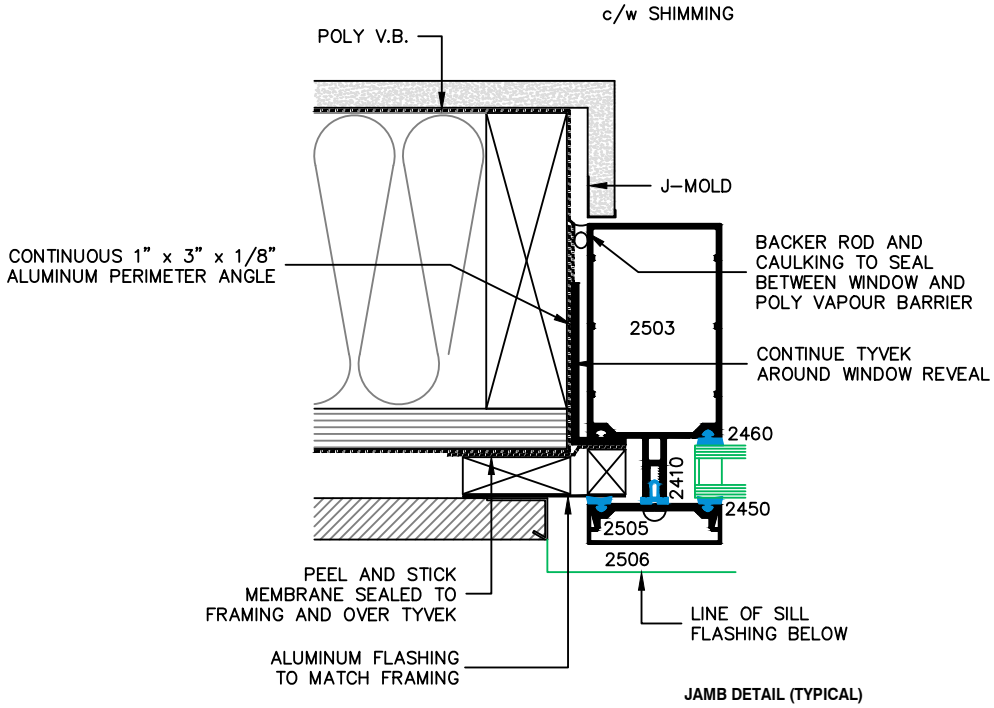
HEAD DETAIL (TYPICAL)

17



SILL DETAIL (TYPICAL)

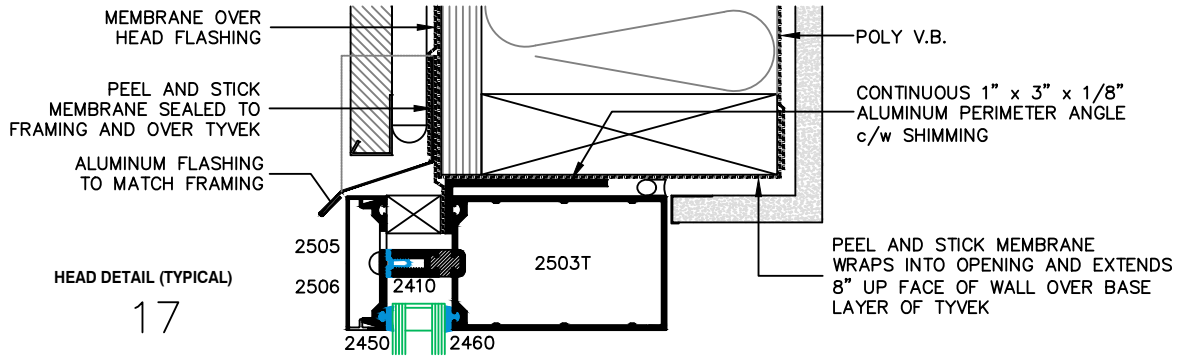
18



JAMB DETAIL (TYPICAL)

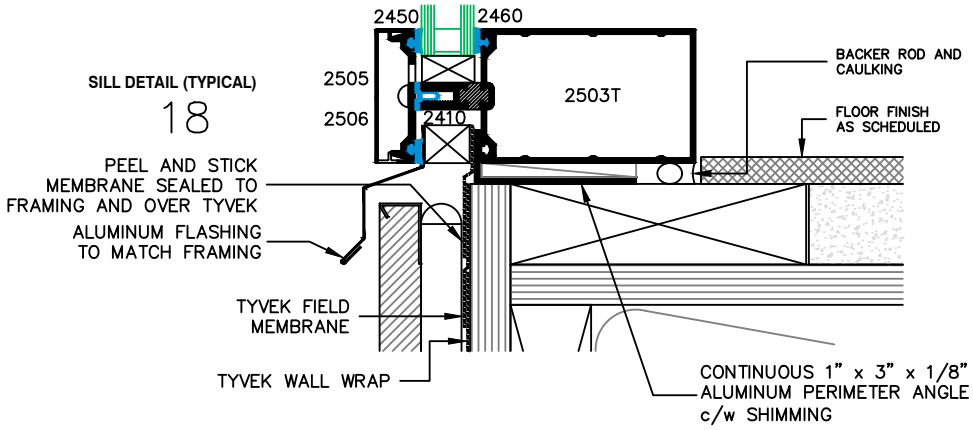
19

INTERFACE DETAILS (SUGGESTED ONLY)



HEAD DETAIL (TYPICAL)

17



SILL DETAIL (TYPICAL)

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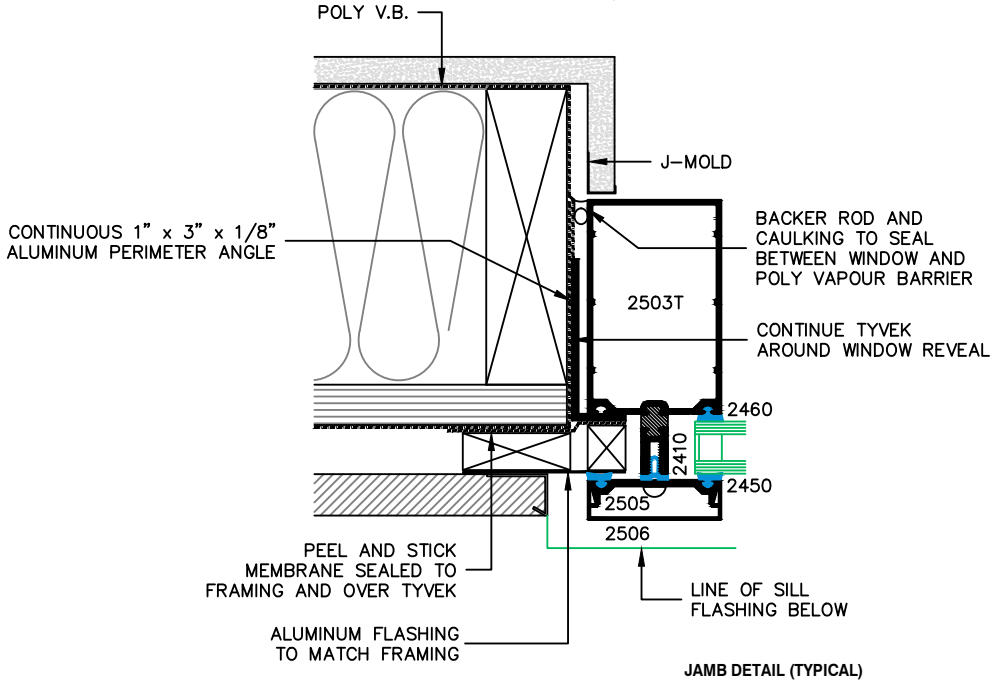
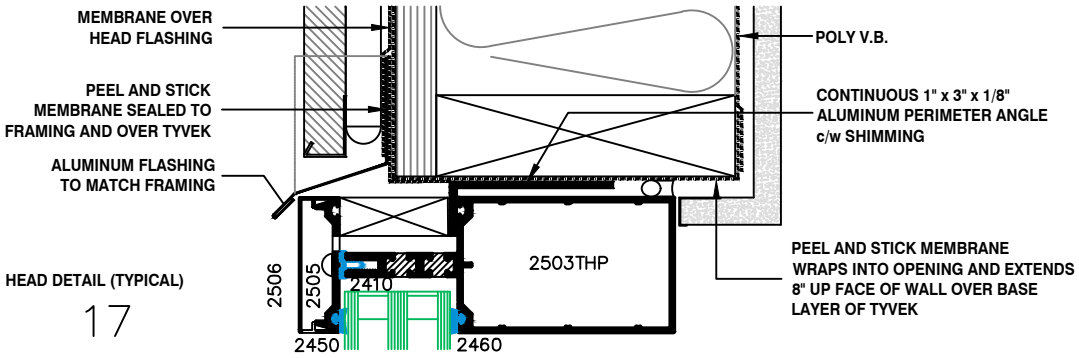


JAMB DETAIL (TYPICAL)

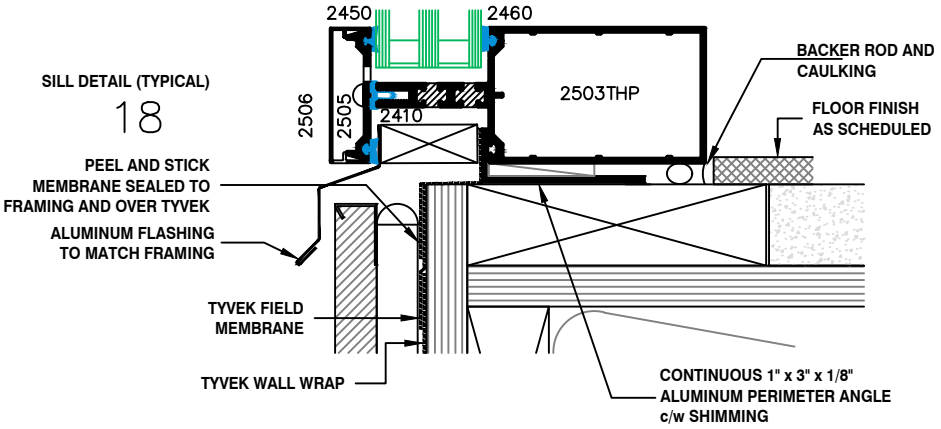
19

INTERFACE DETAILS
(SUGGESTED ONLY)



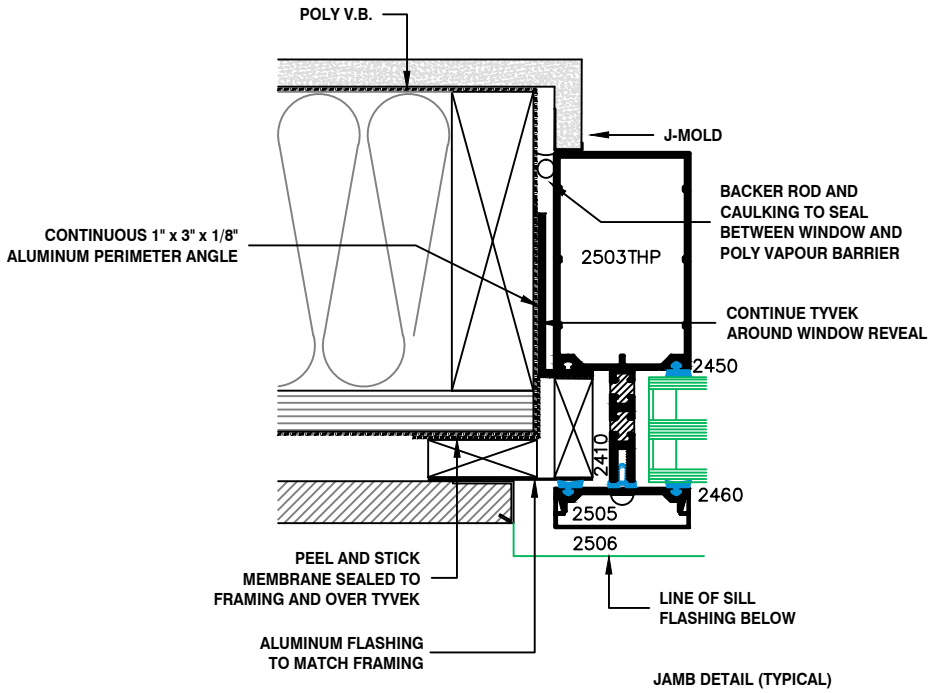
HEAD DETAIL (TYPICAL)

17



SILL DETAIL (TYPICAL)

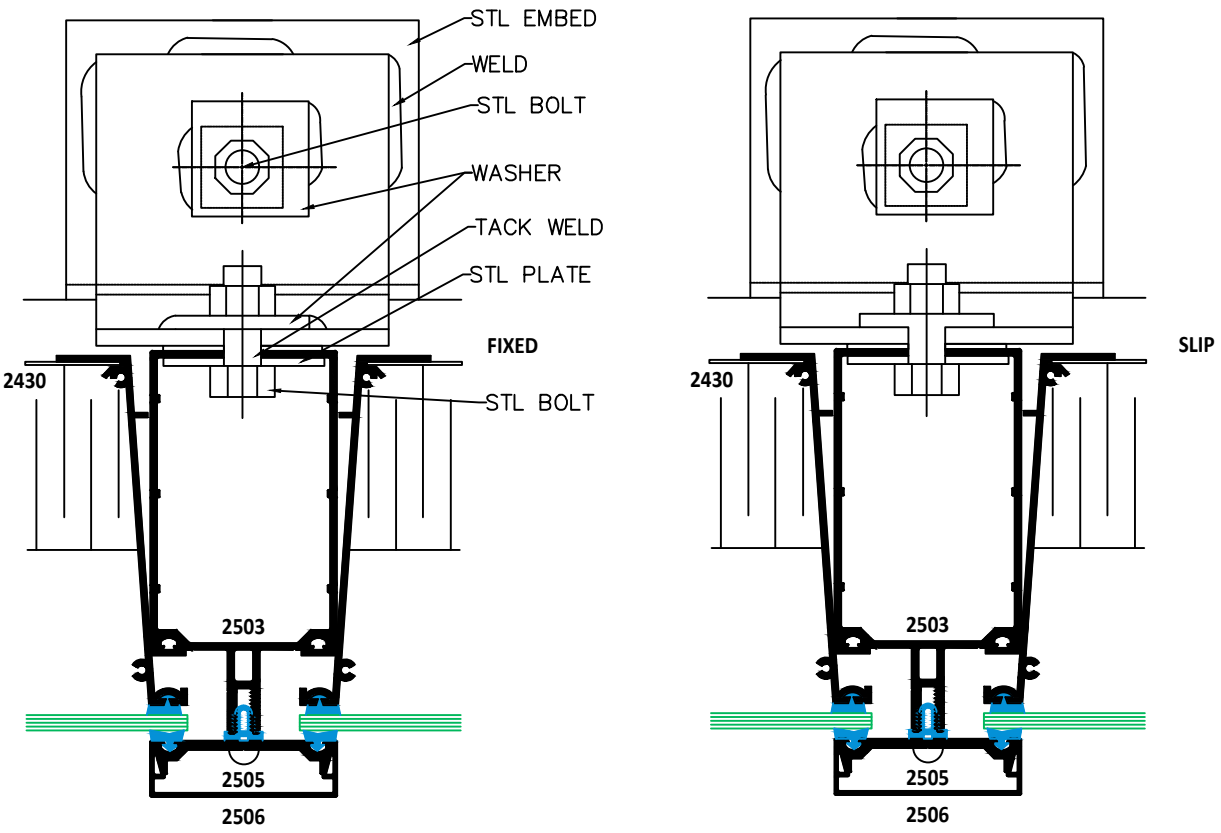
18



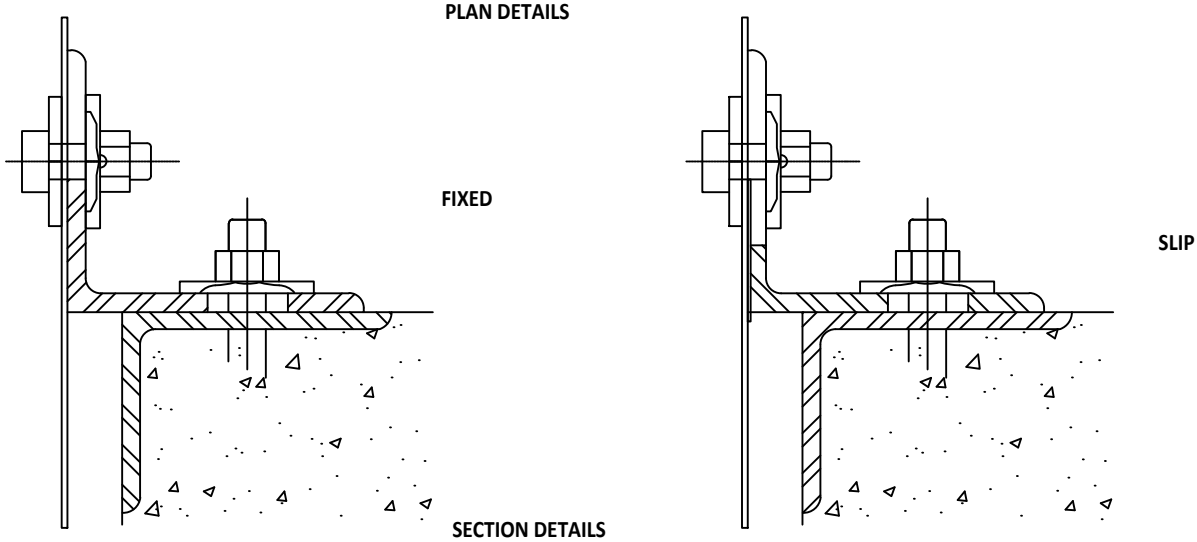
JAMB DETAIL (TYPICAL)

19

TYPICAL ANCHORING DETAILS

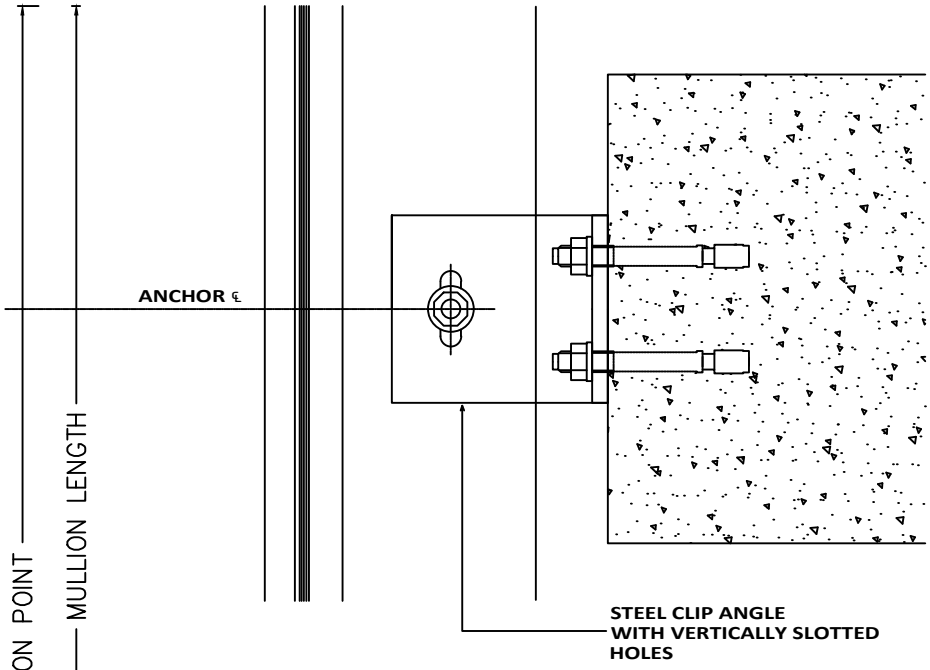


PLAN DETAILS

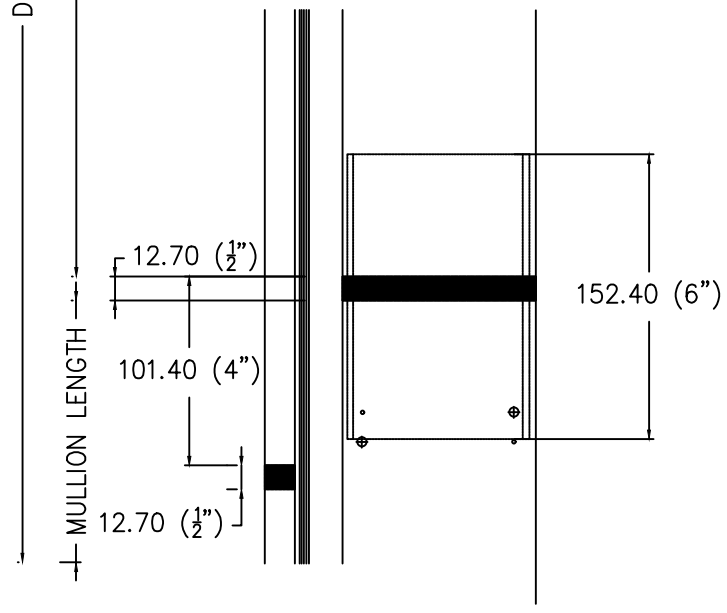


SECTION DETAILS

EXPANSION & SPLICE DETAILS



EXPANSION DETAIL



SPLICE DETAIL

Part 1 - GENERAL

Scope - The fixed window framing system shall be _____Series as manufactured by METRO ALUMINUM Products Ltd. Supply and install aluminum framing, as described on the architectural drawings and as specified herein.

Work Not Included - See: Specifier's lists of excluded items; Items furnished but not installed and/or Items installed but not furnished.

Related Work Specified Elsewhere - See: Specifier's lists and related Sections.

Design & Performance Requirements - Framing shall fully comply with applicable standard specifications as typically referenced to the following performance requirements criteria: Air Tightness, Water Tightness, Wind (and other applicable) Load Resistance, Temperature Index and Energy Performance – an others as described in CAN/CSA-A440-M90 - Windows - (Specifier's selection)

Submittals - Shop Drawings & Samples - Submit all documentation and samples for review by Consultant at one time, prior to fabrication of curtain wall products.

Quality Assurance - Provide all necessary information to show that all involved products meet or exceed the requirements of these specifications.

Delivery, Storage and Handling - Deliver, store, handle, protect and schedule materials and products so as to avoid any damage. Follow recommendations of AAMA CW-10 "Care and Handling of Architectural Aluminum from Shop to Site" and others as applicable.

Part 2 - PRODUCTS

Materials - All materials to meet the applicable minimum design and specifications requirements. Any defects impairing strength, durability or appearance are not acceptable. Extruded aluminum shall be AA 6063 T6 alloy and temper - Fy = 110 MPa (16 KSI) minimum. Sufficient strength and size assembly and anchoring shall be made of corrosion-resistant and compatible material such as cadmium or zinc plated carbon steel or stainless steel. Separate incompatible materials and prevent galvanic action (electrolytic corrosion). Structurally adequate anchoring metal brackets shall be anticorrosive painted. Conventional wet-dry, inside glazing method shall be applicable. Gasketing to utilize: standard exterior glazing butyl tape completed with hard extruded shim and interior dense gasket extruded from Neoprene, EPDM or other equal material, as required. Gasket profile shall be designed and sized to uniformly fit tight and properly seal glass-metal interfacing. Acceptable gasket compression range to be 0.7 to 1.7 kN/m (4 – 10 lbs/in). Glass setting to be compatible with glass unit seals and/or other parts involved as required.

System Description - Framing System shall be 250, 350, 350T, 425T, 450, 450T, 650T - non-thermally broken/uninsulated (thermally broken/insulated - T), for single glass (sealed insulating glass units) METRO Series - Specifier selection - as manufactured by METRO ALUMINUM Products Ltd. Reference dimensions of extruded profiles shall be (Specifier's selection):
250 – 2.5" (63.5 mm) – Single & Double Stop – NTB
350 – 3.5" (88.9 mm) – Single & Double Stop – NTB
350T – 3.5" (88.9 mm) – Double Stop – TB
425T Tophat – 4.5" (114.3 mm) – Double Stop – TB
450 Tophat – 4.5" (114.3 mm) – Double Stop – NTB
450T Tophat – 4.5" (114.3 mm) – Double Stop – TB
650T Tophat – 6.25" (158.8 mm) – Double Stop – TB.
Where applicable, thermal break shall be polyurethane poured-in resin type.
Glass perimeter retention, as for wet-dry glazing method, shall be achieved by exterior glazing tape and interior glazing stop profile c/w inorganic rubber gasket. Glass hard bite to be 12.7 mm (0.5") minimum.
Whenever substitute/alternative products are considered, supporting data to be submitted ten (10) days prior to bid date to allow for valid comparison. Approval of alternates to be confirmed in advance of bid closing by addendum only.

Fabrication - Extruded profiles shall be accurately fabricated and assembled and sealed to provide air/water tight fit hairline joints only. Fastening shall allow for permanent true and square set of frame elements. Assembly shall utilize concealed screws only. Properly sealed frame assembly interfacing joints shall result in uninterrupted continuity of air barrier and compartmentization. Reference glazing system type to be one of the following (Specifier's selection):
Prime Seal – Exterior glazing shimmed tape and interior extruded rubber gasket,
Vented Cavity – As the above, plus heel bead with 4" returns at inner light, and weep holes as required,
Rain-Screen – As the above, plus heel bead at full perimeter at inner light, and weep holes as required.
Sill and head flashing shall be designed and fabricated to suit site conditions as required. Frame assemblies shall be free of warp. No exposed fasteners are permitted.

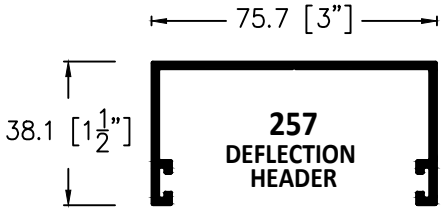
Finish - All exposed surfaces shall be finished as specified. The finish, as per AAM designation, shall be (Specifier's selection):
Standard clear anodizing to AA - M12C22A31
Standard perma bronze to AA - M12C22A44
Standard black anodizing to AA - M10C21A44
Duracron acrylic enamel to AA - M12C4XR1X
Custom paint qualities and colors - Specifier's selection.

Part 3 - EXECUTION

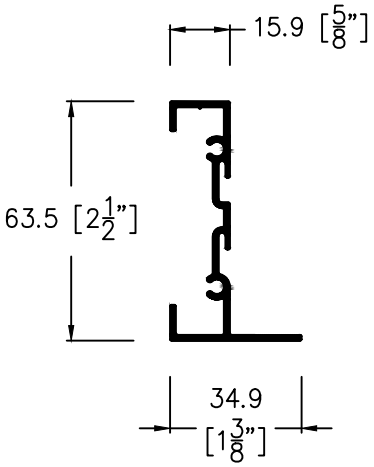
Installation – Anchoring shall suit perimeter conditions of rough openings and seals as required. Prefabricated/preglazed framing to be installed at prepared openings, at correct locations as shown on drawings, set level, plumb, square and aligned with other work in accordance with manufacturer's instructions, approved shop and erection drawings. Perimeter joints to be sealed/caulked as specified and detailed to ensure weathertight assembly.

Protection and Cleaning - Work to be protected from damage during and after installation. Consult with manufacturer and installer to determine appropriate protective measures. The General Contractor shall be responsible for protection during construction and for final cleaning. After installation, aluminum work and glass to be cleaned according to instructions/manuals provided by product manufacturers and glaziers. Use appropriates cleaning materials and methods. Do not scratch or damage glass or finishes.

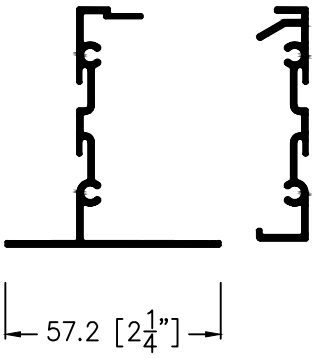
COMPONENTS



257
DEFLECTION HEADER

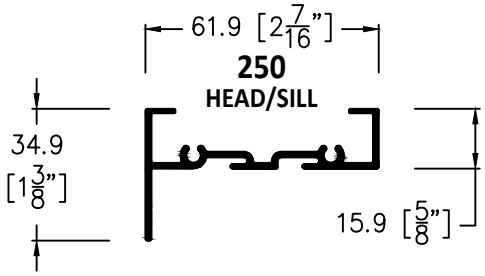


258
JAMB



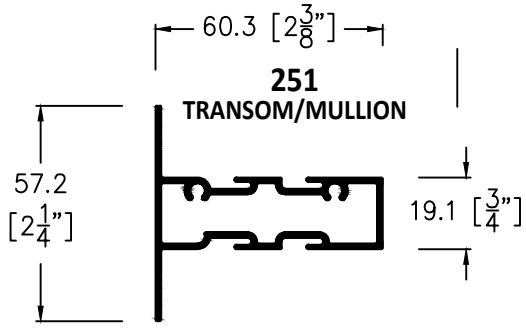
252
SPLIT MULLION (M)

253
SPLIT MULLION (F)



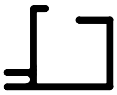
250
HEAD/SILL

5134
FACE GASKET

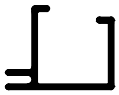


251
TRANSOM/MULLION

254
SINGLE GLAZING STOP



254D
DOUBLE GLAZING STOP

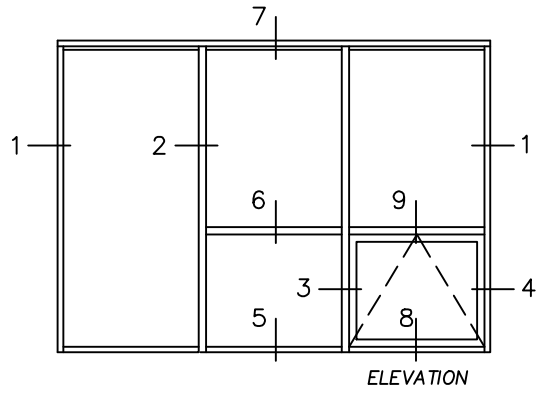


METRO ALUMINUM Products Ltd.

250 SERIES

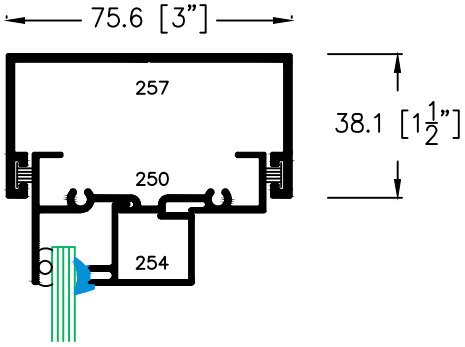
FIXED WINDOW SYSTEM
2 1/2" (63.5 mm)

E 03



ELEVATION

DETAILS



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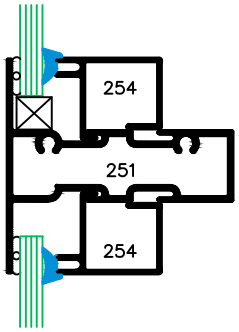

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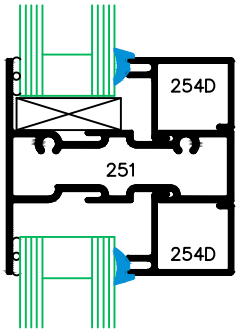

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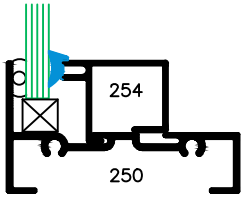

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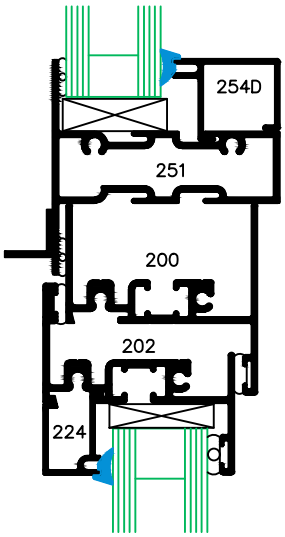
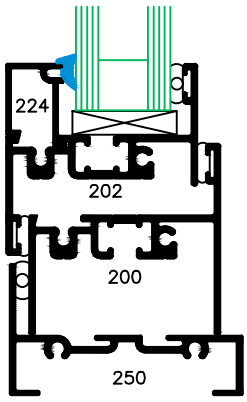


9

OPEN-OUT
VENT
200 SERIES



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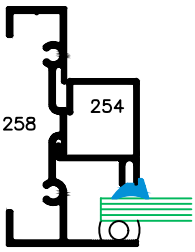

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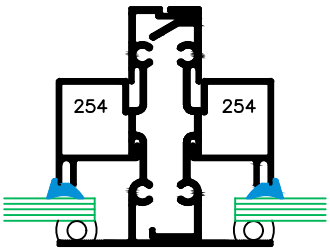

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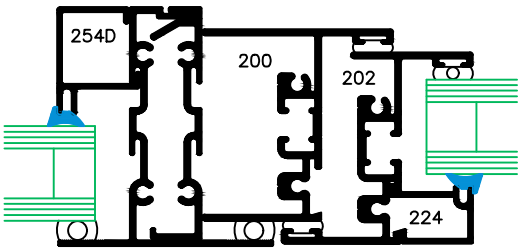

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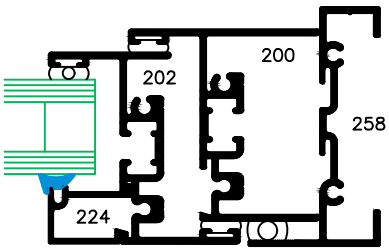


4

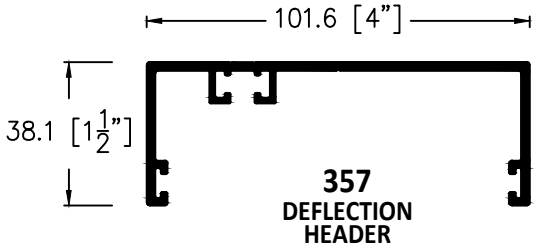
METRO ALUMINUM Products Ltd.

350 SERIES

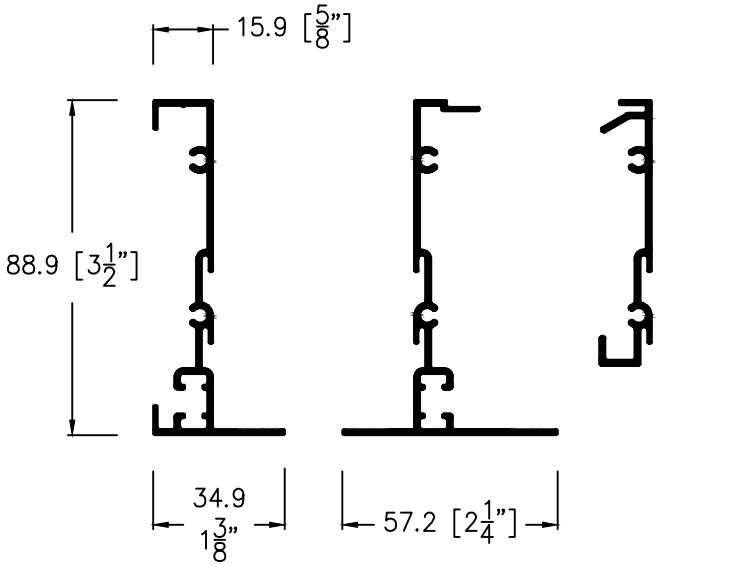
FIXED WINDOW SYSTEM
3 1/2" (88.9 mm)

E 05

COMPONENTS



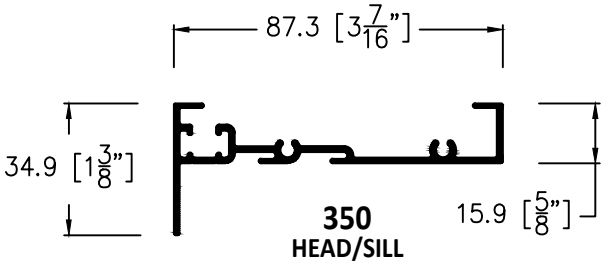
357
DEFLECTION HEADER



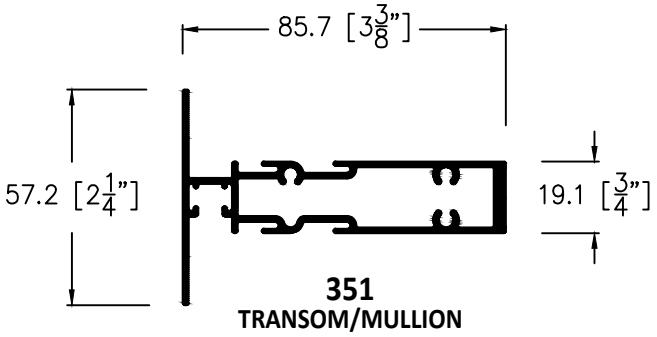
358
JAMB

352
SPLIT MULLION (M)

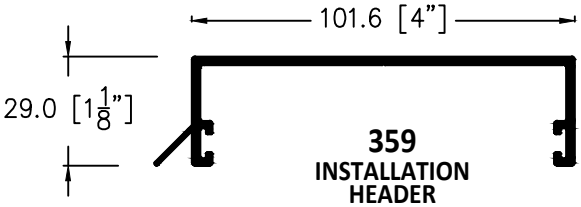
353
SPLIT MULLION (F)



350
HEAD/SILL



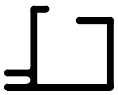
351
TRANSOM/MULLION



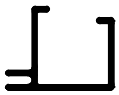
359
INSTALLATION HEADER

354
GLAZING STOP (OPTIONAL)

254
SINGLE GLAZING STOP



254D
DOUBLE GLAZING STOP



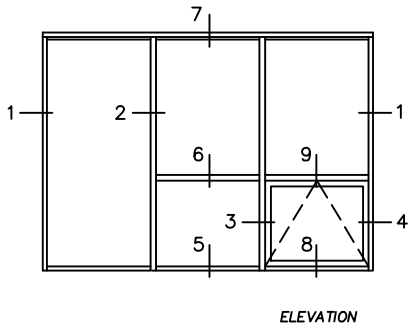
5134
FACE GASKET

METRO ALUMINUM Products Ltd.

350 SERIES
FIXED WINDOW SYSTEM
3 1/2" (88.9 mm)

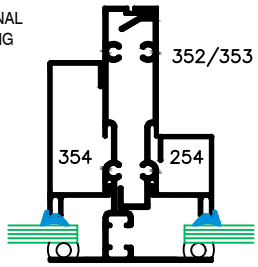
E 06

DETAILS

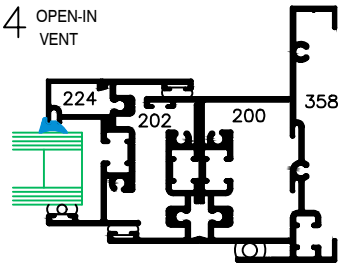


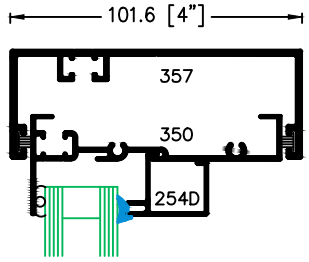
ELEVATION

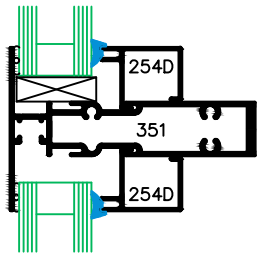
2 OPTIONAL GLAZING

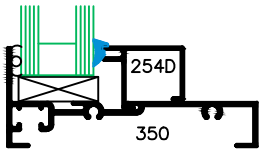


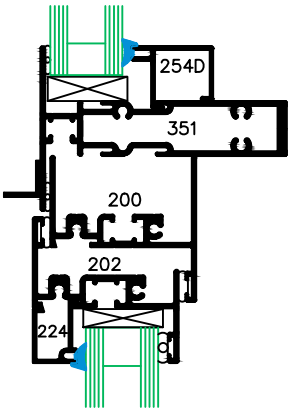
4 OPEN-IN VENT



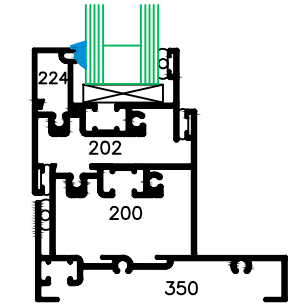


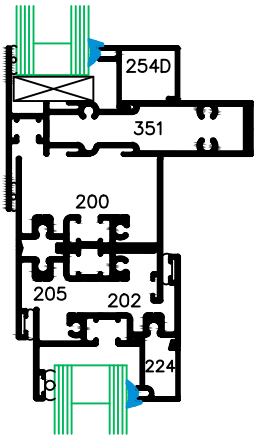




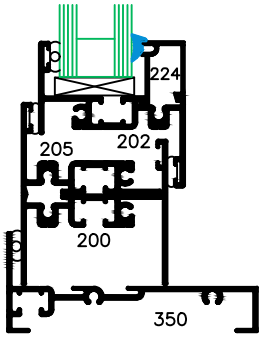


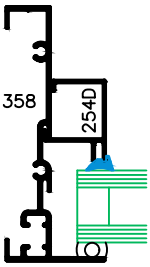
OPEN-OUT VENT 200 SERIES



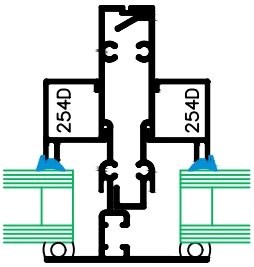


OPEN-IN VENT 200 SERIES





1



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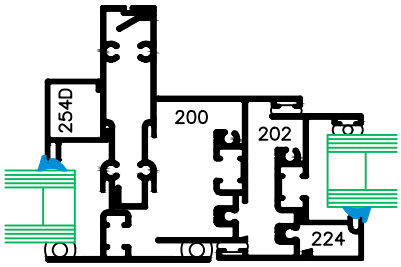

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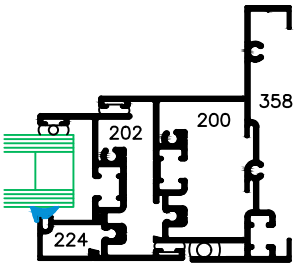


4

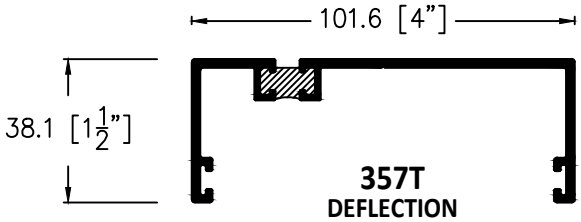
METRO ALUMINUM Products Ltd.

350T SERIES

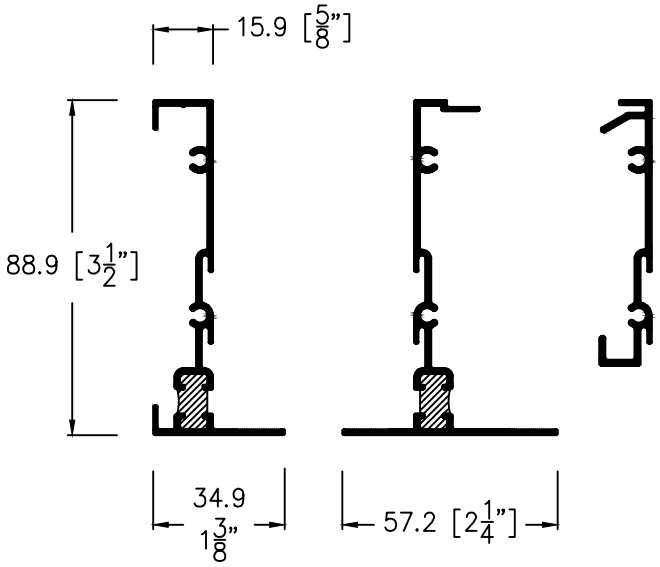
T/B FIXED WINDOW SYSTEM
3 1/2" (88.9 mm)

E 08

COMPONENTS



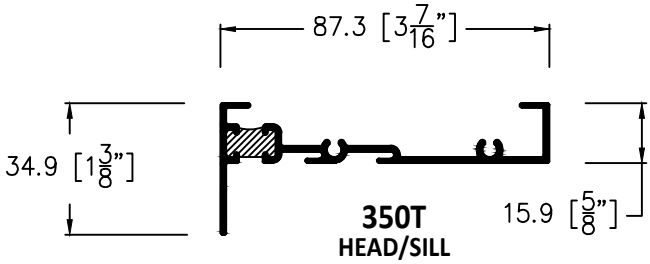
357T
DEFLECTION HEADER



358T
JAMB

352T
SPLIT MULLION (M)

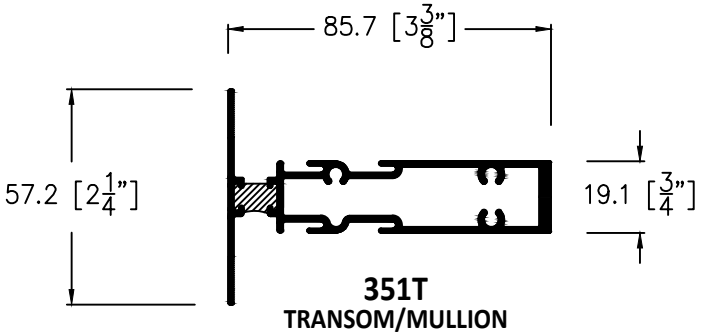
353
SPLIT MULLION (F)



350T
HEAD/SILL

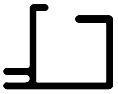
354
GLAZING STOP OPTIONAL

5134
FACE GASKET

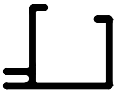


351T
TRANSOM/MULLION

254
SINGLE GLAZING STOP



254D
DOUBLE GLAZING STOP



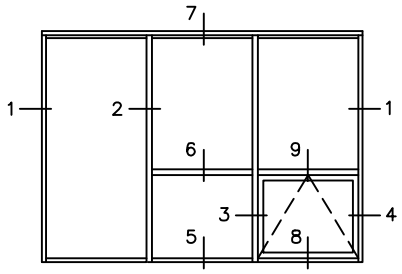
METRO ALUMINUM Products Ltd.

350T SERIES

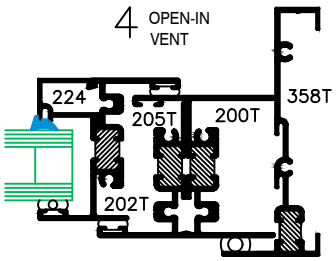
T/B FIXED WINDOW SYSTEM
3 1/2" (88.9 mm)

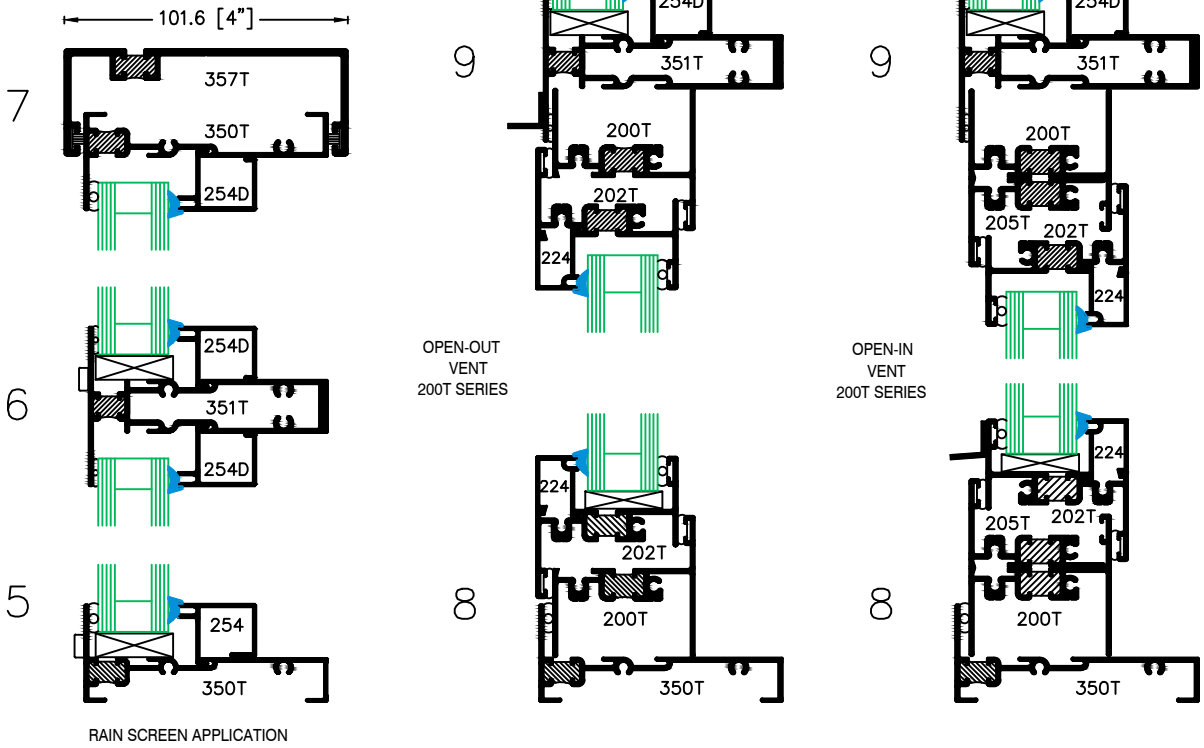
E 09

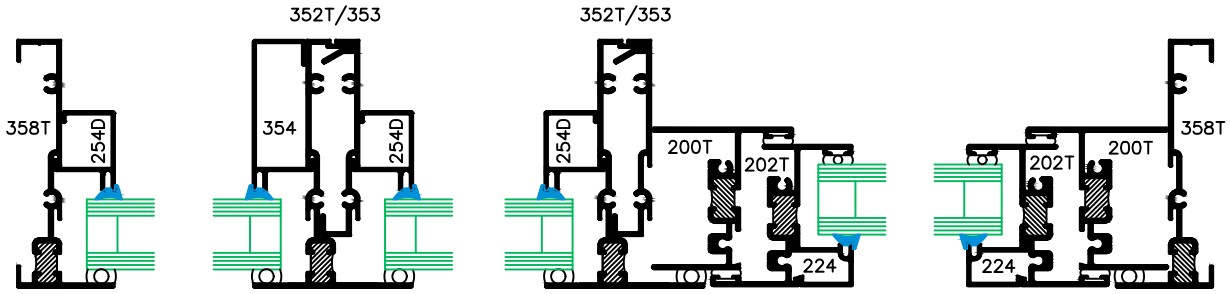
DETAILS



ELEVATION

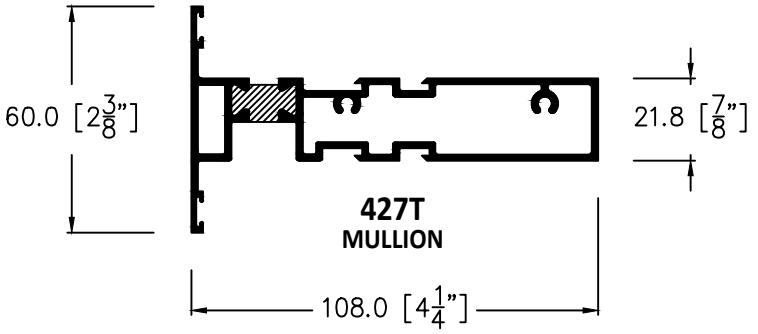




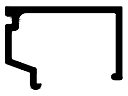


1 2 OPTIONAL STOPS 3 4

COMPONENTS



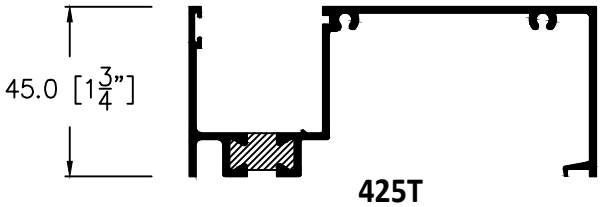
427T
MULLION



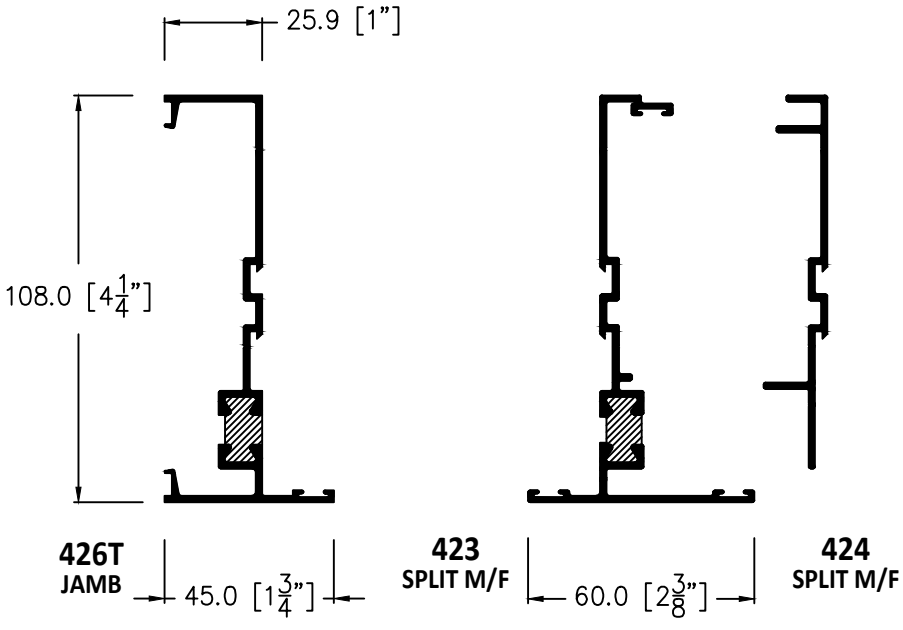
428
GLAZING STOP

5199
GASKET

5134
FACE GASKET



425T
POCKET HEAD/SILL

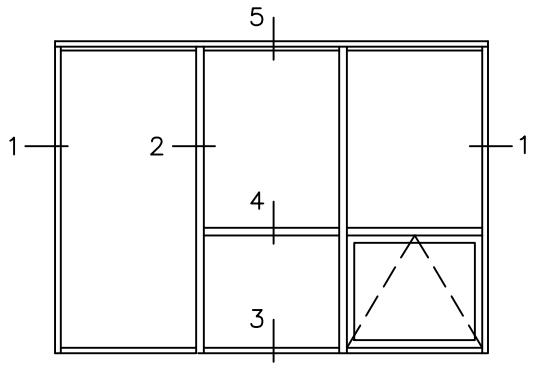


426T
JAMB

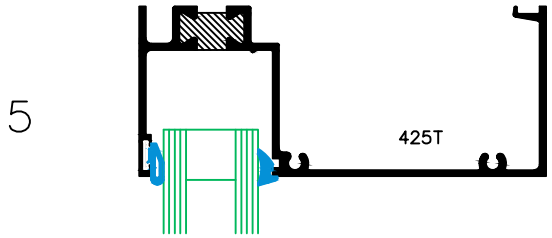
423
SPLIT M/F

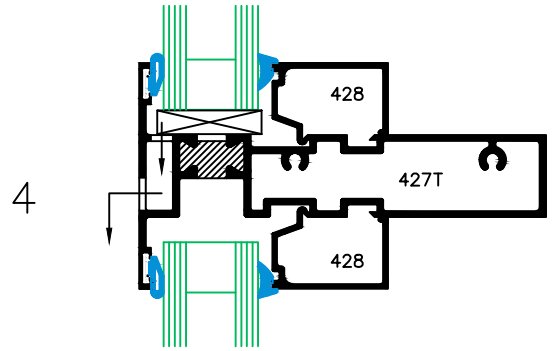
424
SPLIT M/F

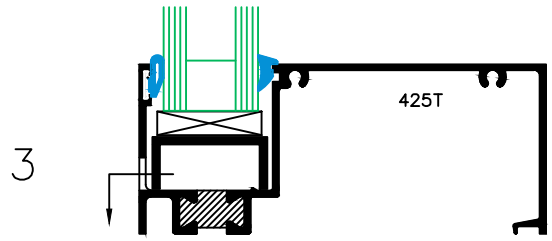
DETAILS

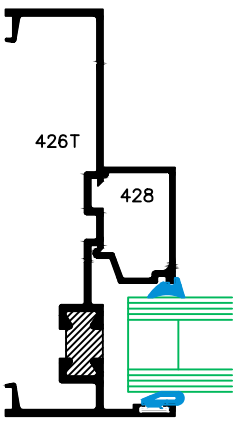


ELEVATION









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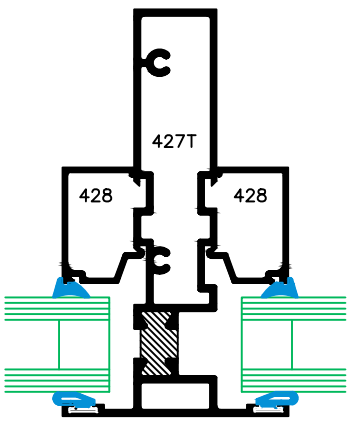
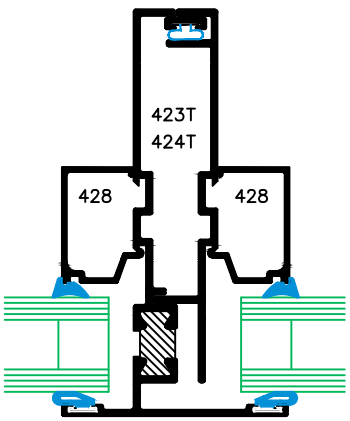


2



2

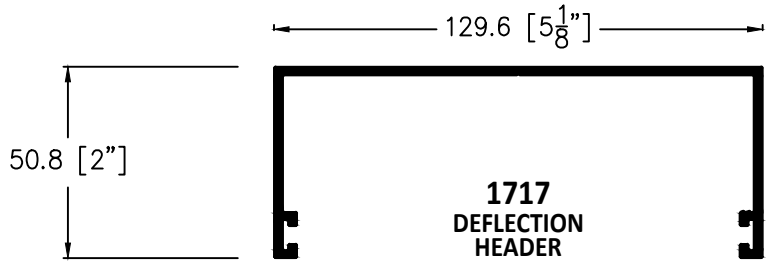
METRO ALUMINUM Products Ltd.

450 SERIES

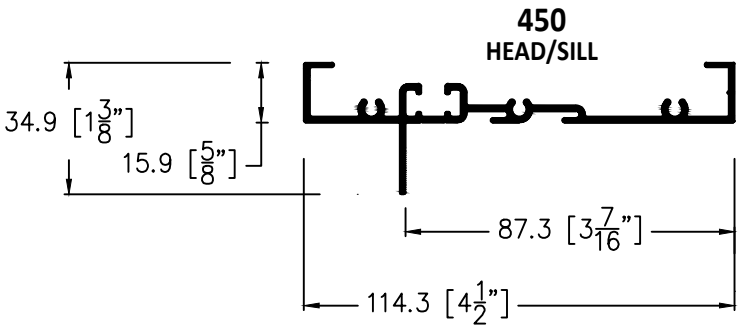
FIXED WINDOW SYSTEM WITH TOPHAT EXTENSION 4 1/4" (108 mm)

E 13

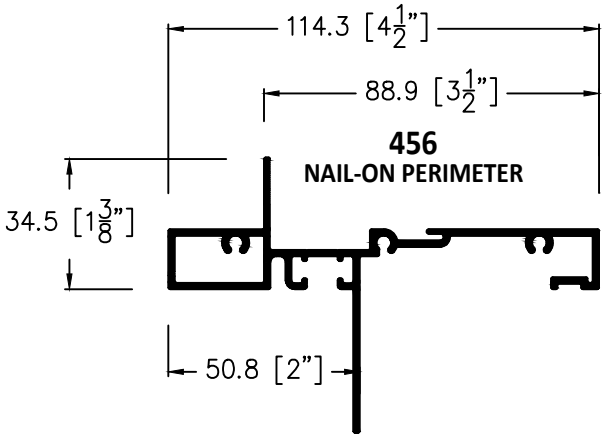
COMPONENTS



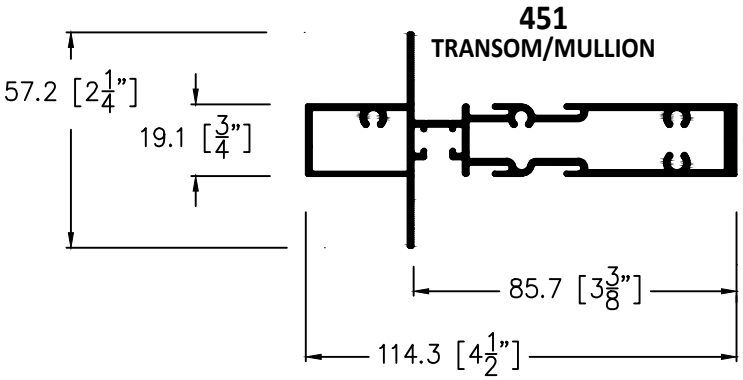
1717
DEFLECTION HEADER



450
HEAD/SILL

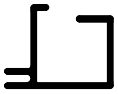


456
NAIL-ON PERIMETER

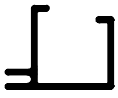


451
TRANSOM/MULLION

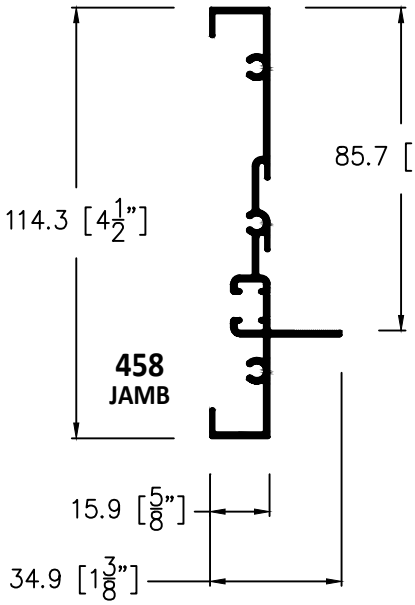
354
GLAZING STOP OPTIONAL



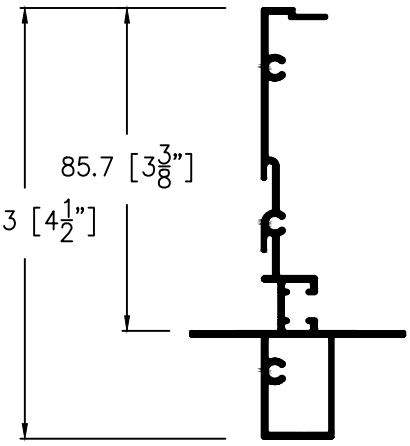
254
SINGLE GLAZING STOP



254D
DOUBLE GLAZING STOP



458
JAMB



452
SPLIT MULLION (M)

353
SPLIT MULLION (F)

5134
FACE GASKET

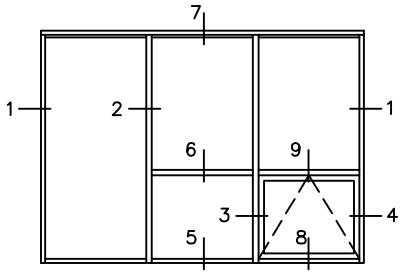
METRO ALUMINUM Products Ltd.

450 SERIES

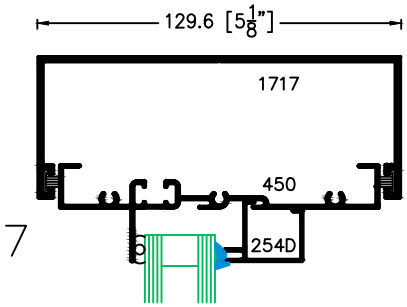
FIXED WINDOW SYSTEM WITH TOPHAT EXTENSION 4 1/4" (108 mm)

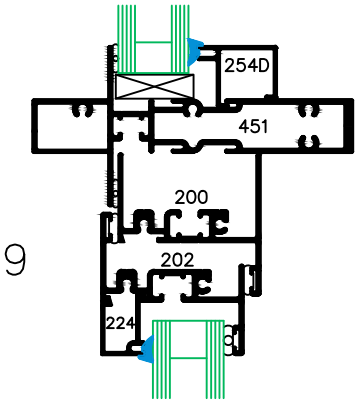
E 14

DETAILS

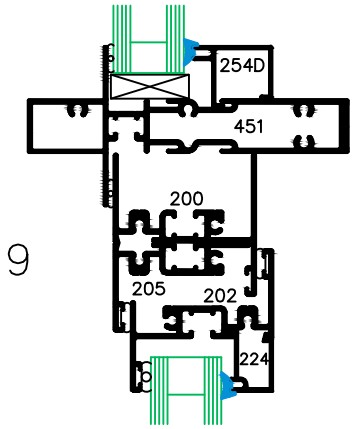


ELEVATION

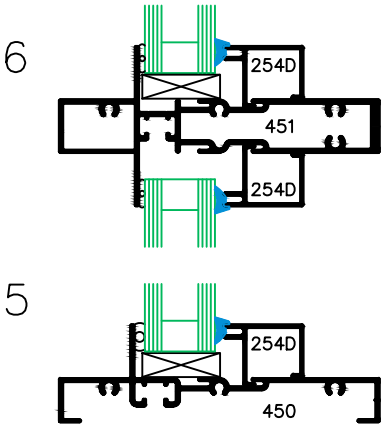


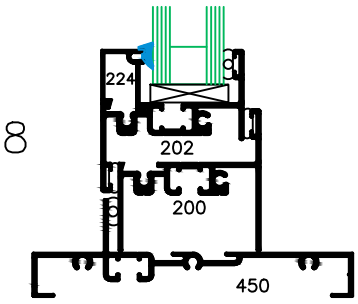


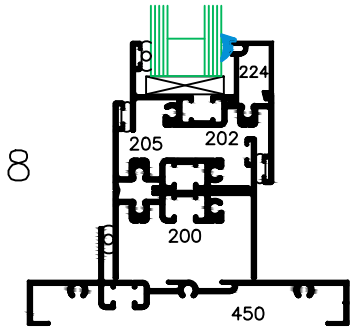
OPEN-OUT VENT 200 SERIES

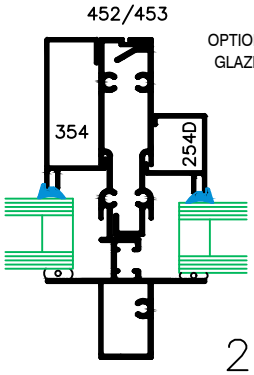


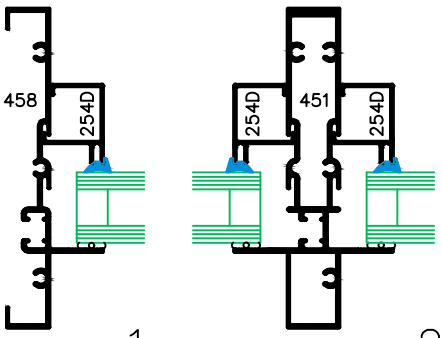
OPEN-IN VENT 200 SERIES

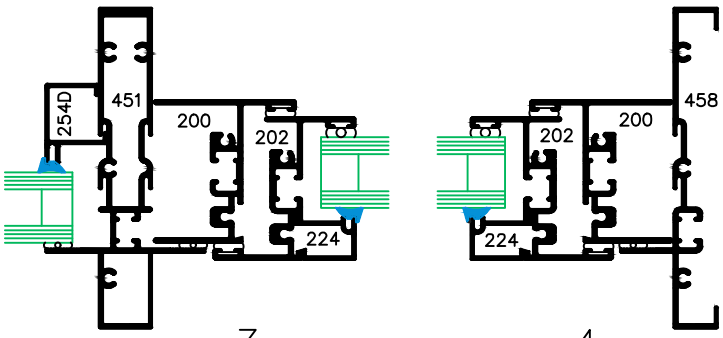












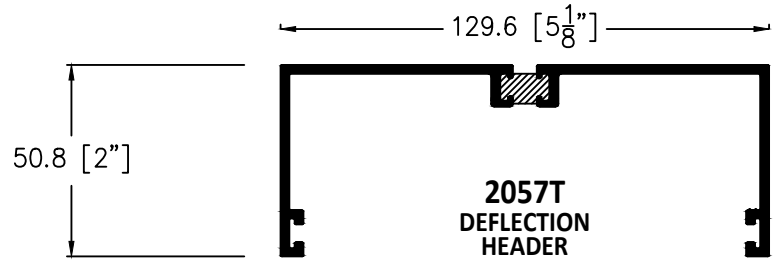
METRO ALUMINUM Products Ltd.

450T SERIES

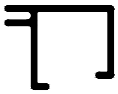
T/B FIXED WINDOW SYSTEM WITH TOPHAT EXTENSION 4 1/2"(114.3 mm)

E 16

COMPONENTS

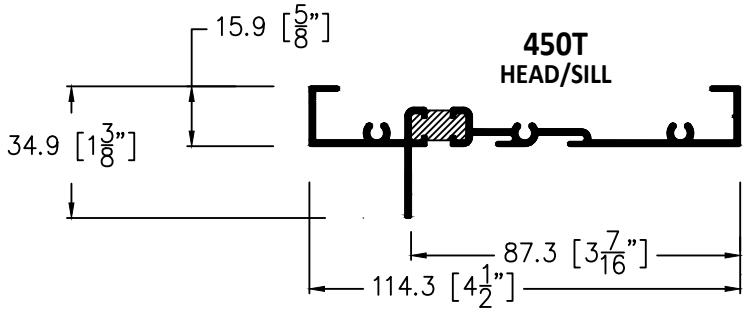


2057T
DEFLECTION HEADER

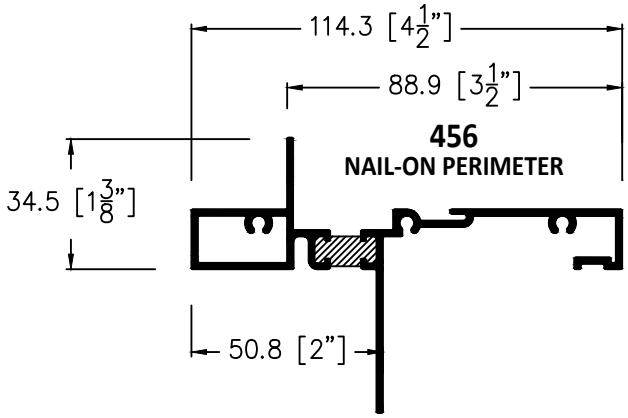


254D
DOUBLE GLAZING STOP

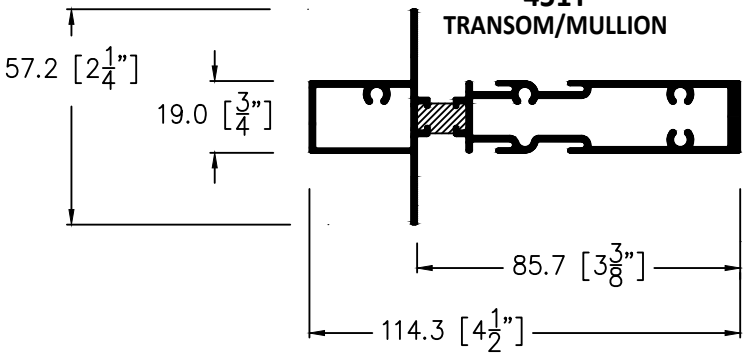
354
OPTIONAL DOUBLE GLAZING STOP



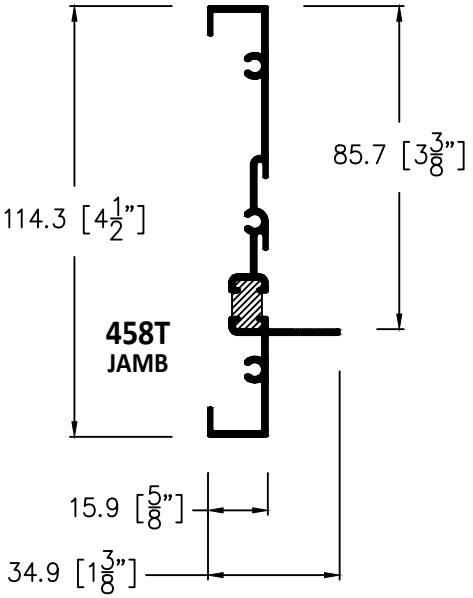
450T
HEAD/SILL



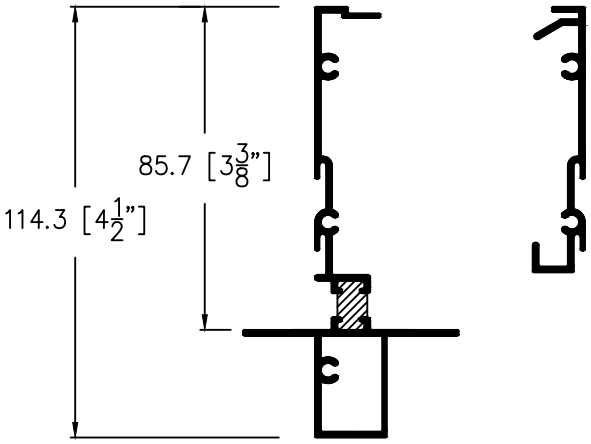
456
NAIL-ON PERIMETER



451T
TRANSOM/MULLION



458T
JAMB



452T
SPLIT MULLION (M)

353
SPLIT MULLION (F)

5134
FACE GASKET

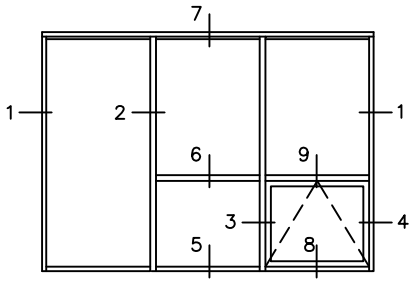
METRO ALUMINUM Products Ltd.

450T SERIES

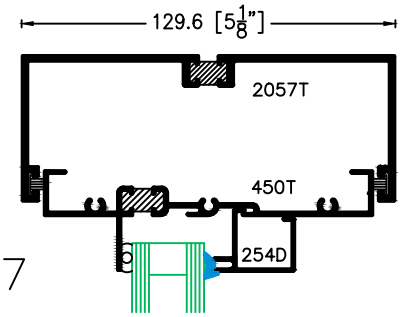
T/B FIXED WINDOW SYSTEM WITH TOPHAT EXTENSION 4 1/2"(114.3 mm)

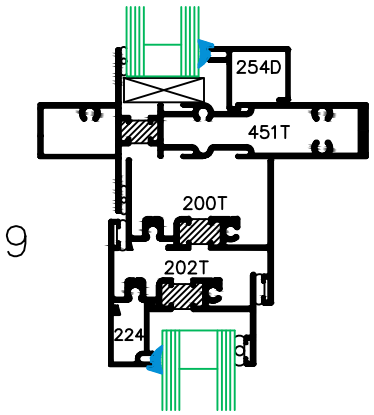
E 17

DETAILS

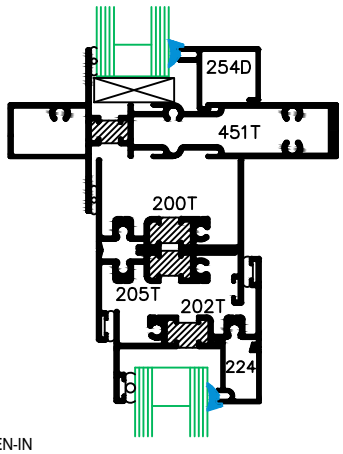


ELEVATION

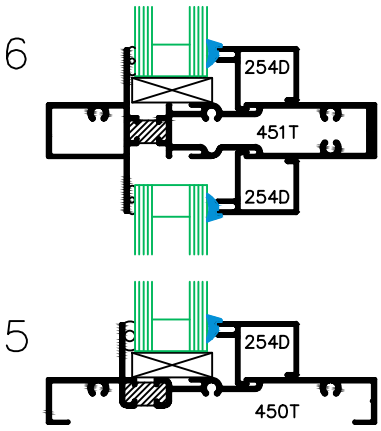


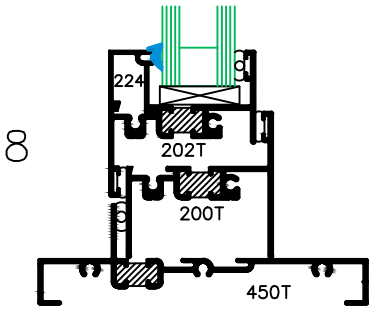


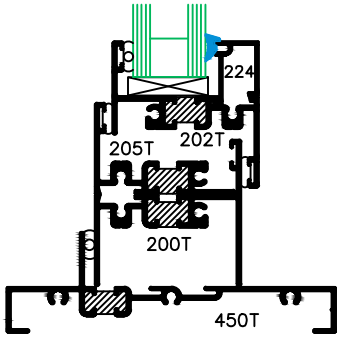
OPEN-OUT VENT 200T SERIES

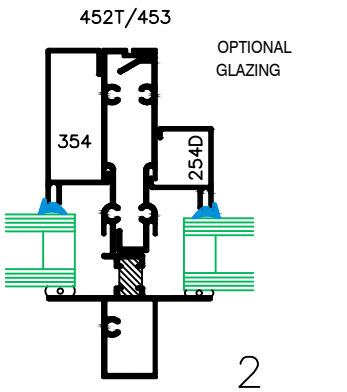


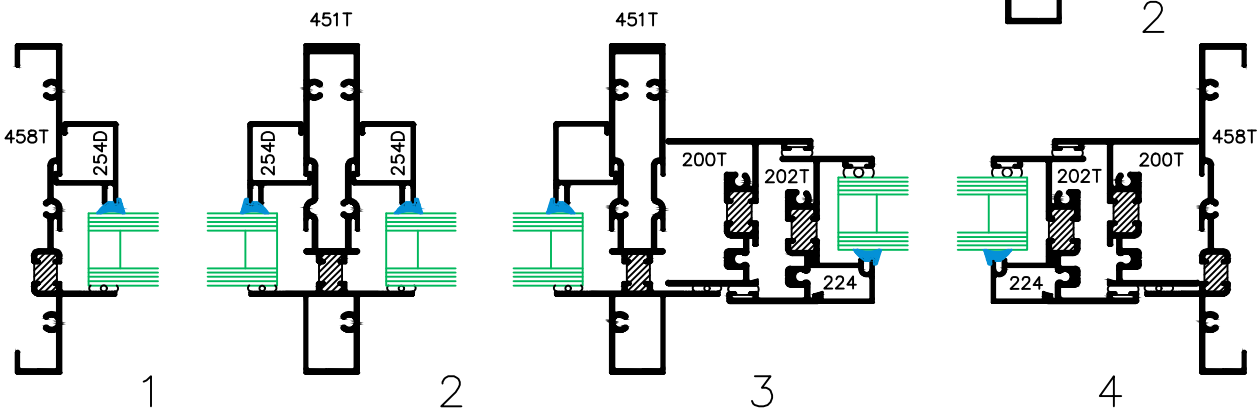
OPEN-IN VENT 200T SERIES











METRO ALUMINUM Products Ltd.

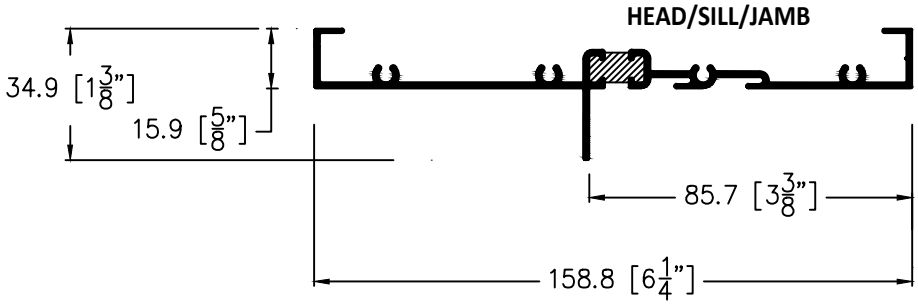
460T SERIES

T/B FIXED WINDOW SYSTEM WITH TOPHAT EXTENSION 6 1/4"(158.8 mm)

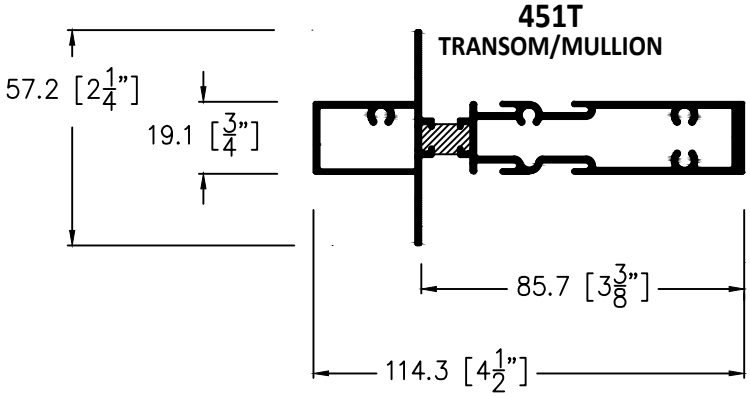
E 18

COMPONENTS

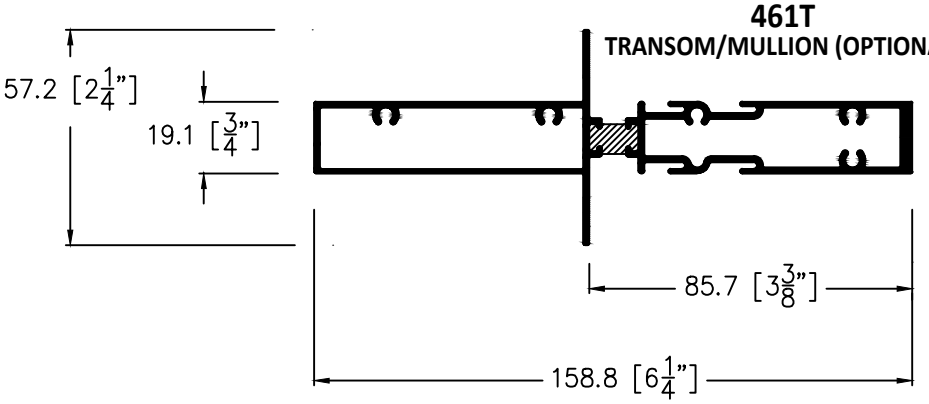
460T
HEAD/SILL/JAMB



451T
TRANSOM/MULLION

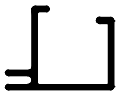


461T
TRANSOM/MULLION (OPTIONAL)



354
GLAZING STOP (OPTIONAL)

254D
GLAZING STOP



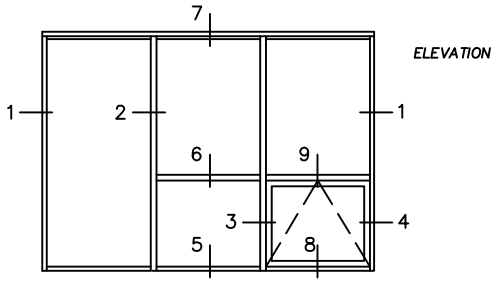
5134
FACE GASKET

METRO ALUMINUM Products Ltd.

460T SERIES

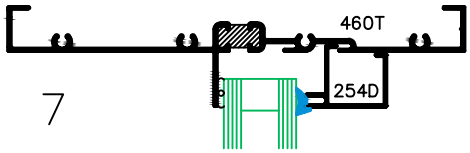
T/B FIXED WINDOW SYSTEM WITH TOPHAT EXTENSION 6 1/4"(158.8 mm)

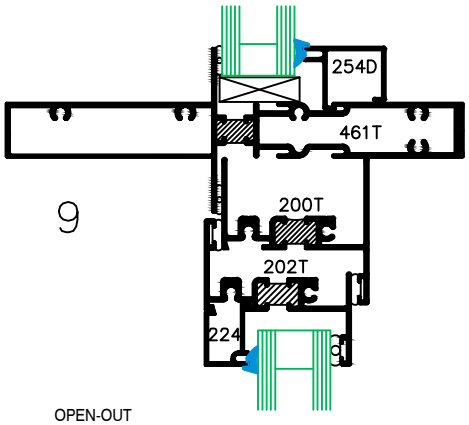
E 19

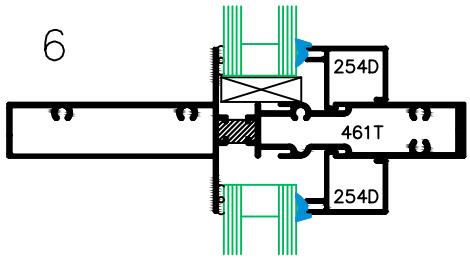


ELEVATION

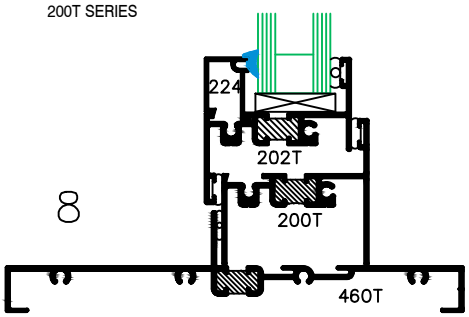
DETAILS



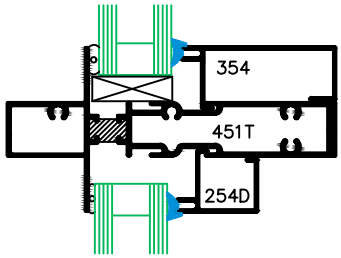


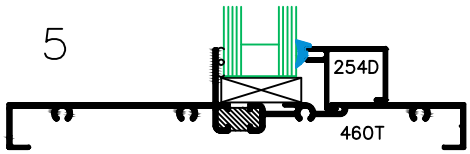


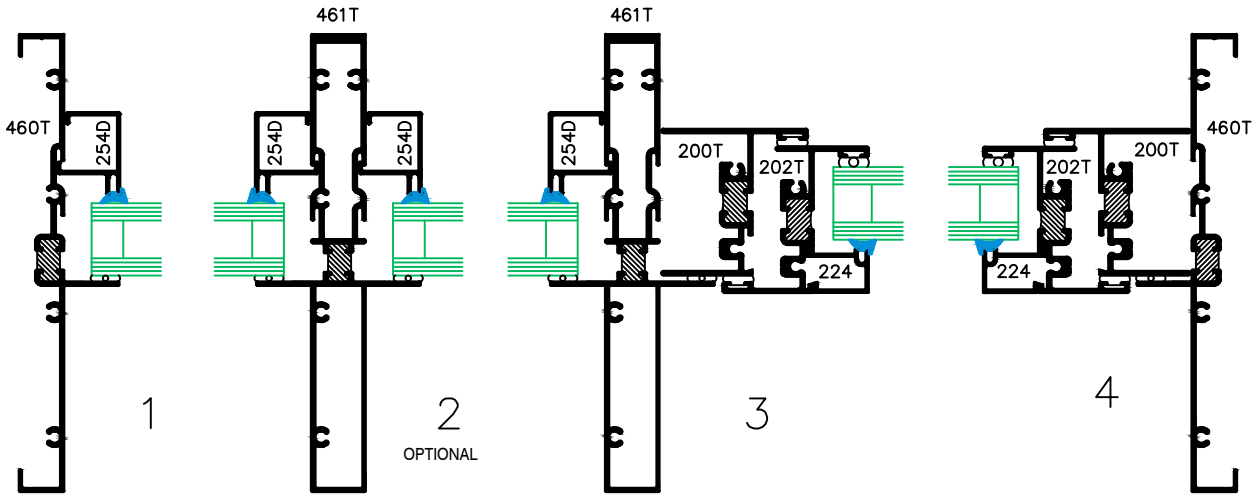
OPEN-OUT VENT 200T SERIES



OPTIONAL GLAZING







METRO ALUMINUM Products Ltd.

OPERABLE WINDOW

F

01 - General Specifications
02 - 200 Series
05 - 200T Series
21 - Vent Hardware

Part 1 - GENERAL

Scope - The vent window system shall be _____ series as manufactured by METRO ALUMINUM Products Ltd. Supply and install aluminum framing, as described on the architectural drawings and as specified herein.

Work Not Included - See: Specifier's lists of excluded items; Items furnished but not installed and/or Items installed but not furnished.

Related Work Specified Elsewhere - See: Specifier's lists and related Sections.

Design & Performance Requirements – Window fixed and operable assemblies shall fully comply with the applicable standard specifications as described in Section 10 – Test requirements of CAN/CSA-A440-M90 – Windows. (Specifier's selection).

Submittals - Shop Drawings & Samples - Submit all documentation and samples for review by Consultant at one time, prior to fabrication of curtain wall products.

Quality Assurance - Provide all necessary information to show that all involved products meet or exceed the requirements of these specifications.

Delivery, Storage and Handling - Deliver, store, handle, protect and schedule materials and products so as to avoid any damage. Follow recommendations of AAMA CW-10 "Care and Handling of Architectural Aluminum from Shop to Site" and others as applicable.

Part 2 - PRODUCTS

Materials - All materials to meet the applicable minimum design and specifications requirements. Any defects impairing strength, durability or appearance are not acceptable. Extruded aluminum shall be AA 6063 T6 alloy and temper - Fy = 110 MPa (16 KSI) minimum. Sufficient strength and size assembly and anchoring shall be made of corrosion-resistant and compatible material such as cadmium or zinc plated carbon steel or stainless steel. Separate incompatible materials and prevent galvanic action (electrolytic corrosion). Structurally adequate anchoring metal brackets shall be anticorrosive painted. Conventional wet-dry/dry-wet/dry-dry, inside/outside glazing method shall be applicable (Specifier's selection). Gasketing to utilize: standard glazing butyl tape completed with hard extruded shim and interior dense gasket extruded from Neoprene, EPDM or other equal material, as required. Gasket profile shall be designed and sized to uniformly fit tight and properly seal glass-metal interfacing. Acceptable gasket compression range to be 0.7 to 1.7 kN/m (4 – 10 lbs/in). Glass setting to be compatible with glass unit seals and/or other parts involved as required.

System Description - Framing System shall be 200, 200T - non-thermally broken/uninsulated (thermally broken/insulated - T), for single glass (sealed insulating glass units) METRO Series - Specifier selection - as manufactured by METRO ALUMINUM Products Ltd. and compatible with 250, 350 and 450 Series window systems, and 2400/2500 curtain wall systems.

Where applicable, thermal break shall be polyurethane poured-in resin type.
Glass perimeter retention, for specified glazing methods, shall be achieved by glazing shimmed tape/inorganic rubber gasket and glazing stop profile c/w inorganic rubber gasket. Glass hard bite to be 12.7 mm (0.5") minimum. Whenever substitute/alternative products are considered, supporting data to be submitted ten (10) days prior to bid date to allow for valid comparison. Approval of alternates to be confirmed in advance of bid closing by addendum only.

Hardware – Operable vents should be manufactured as Top-Hung-Open-Out (THOO), Side-Hung-Open-Out (SHOO), Top-Hung-Open-in (THOI), Side-Hung-Open-In (SHOI) – Specifier's selection. Friction arms, aluminum hinges, cam handles, understay arms, or others as required and/or applicable – Specifier's selection.

Fabrication - Extruded profiles for fixed frame and operable vent shall be accurately fabricated and assembled and sealed to provide air/water tight fit hairline joints only. Fastening shall allow for permanent true and square set of frame elements. Assembly shall utilize concealed screws only. Properly sealed frame assembly interfacing mitre and butt joints shall result in uninterrupted continuity of air barrier and compartmentization. Frame assemblies shall be free of warp. No exposed fasteners are permitted. Selected operable vent hardware to be compatible with window framing. Sill and head flashing shall be designed and fabricated to suit site conditions as required.
Finish - All exposed surfaces shall be finished as specified. The finish, as per AAM designation, shall be (Specifier's selection):
Standard clear anodizing to AA - M12C22A31
Standard perma bronze to AA - M12C22A44
Standard black anodizing to AA - M10C21A44
Duracron acrylic enamel to AA - M12C4XR1X
Custom paint qualities and colors - Specifier's selection.

Part 3 - EXECUTION

Installation – Anchoring shall suit perimeter conditions of rough openings and seals as required. Prefabricated/preglazed framing to be installed at prepared openings, at correct locations as shown on drawings, set level, plumb, square and aligned with other work in accordance with manufacturer's instructions, approved shop and erection drawings. Perimeter joints to be sealed/caulked as specified and detailed to ensure weathertight assembly.

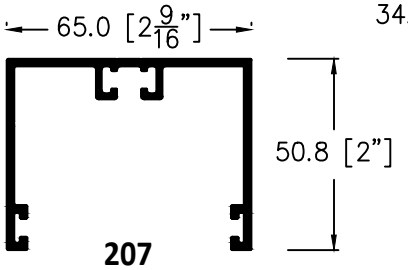
Protection and Cleaning - Work to be protected from damage during and after installation. Consult with manufacturer and installer to determine appropriate protective measures. The General Contractor shall be responsible for protection during construction and for final cleaning. After installation, aluminum work and glass to be cleaned according to instructions/manuals provided by product manufacturers and glaziers. Use appropriates cleaning materials and methods. Do not scratch or damage glass or finishes.

METRO ALUMINUM Products Ltd.

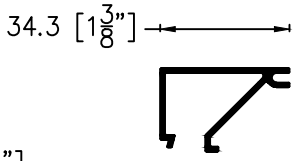
200 SERIES
VENT WINDOW SYSTEM
2" (50.8 mm)

F 02

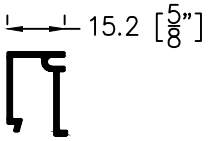
COMPONENTS



207
DEFLECTION HEADER

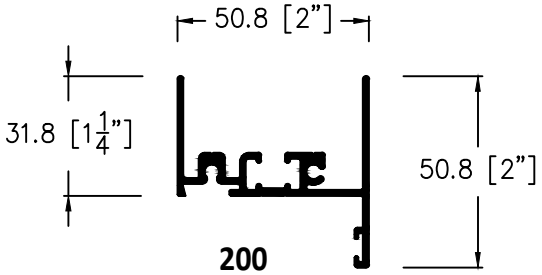


204
GLAZING STOP
(SINGLE GLASS)

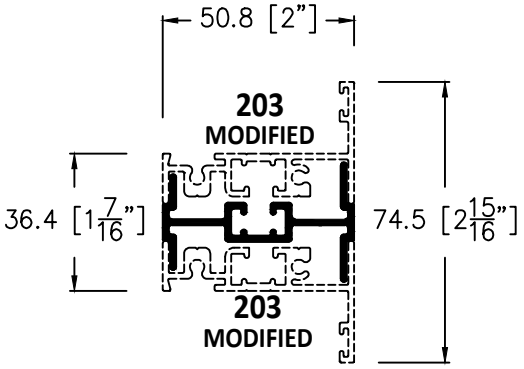


224
GLAZING STOP
(DOUBLE GLASS)

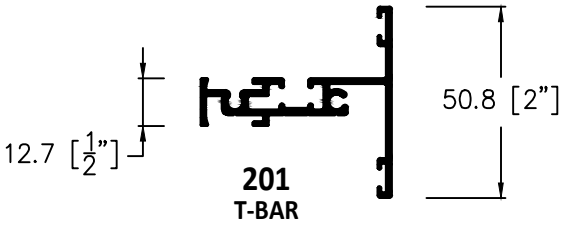
5134
FACE GASKET



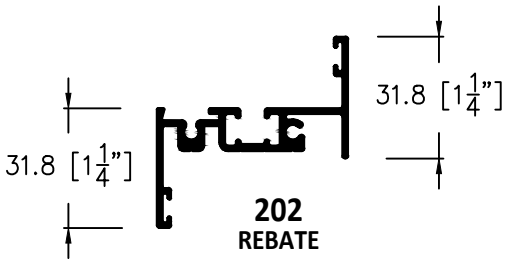
200
EQUAL-LEG FRAME



206
180° COUPLING BAR

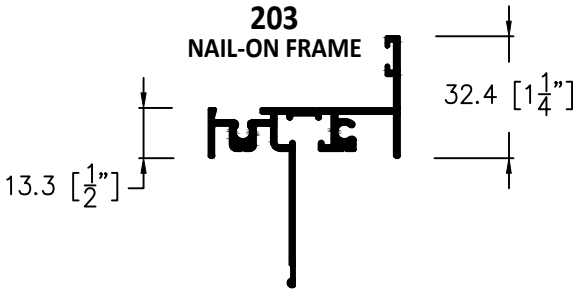


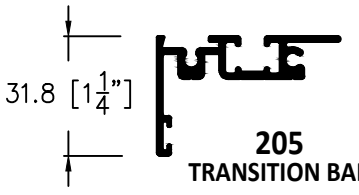
201
T-BAR



202
REBATE

203
NAIL-ON FRAME





205
TRANSITION BAR

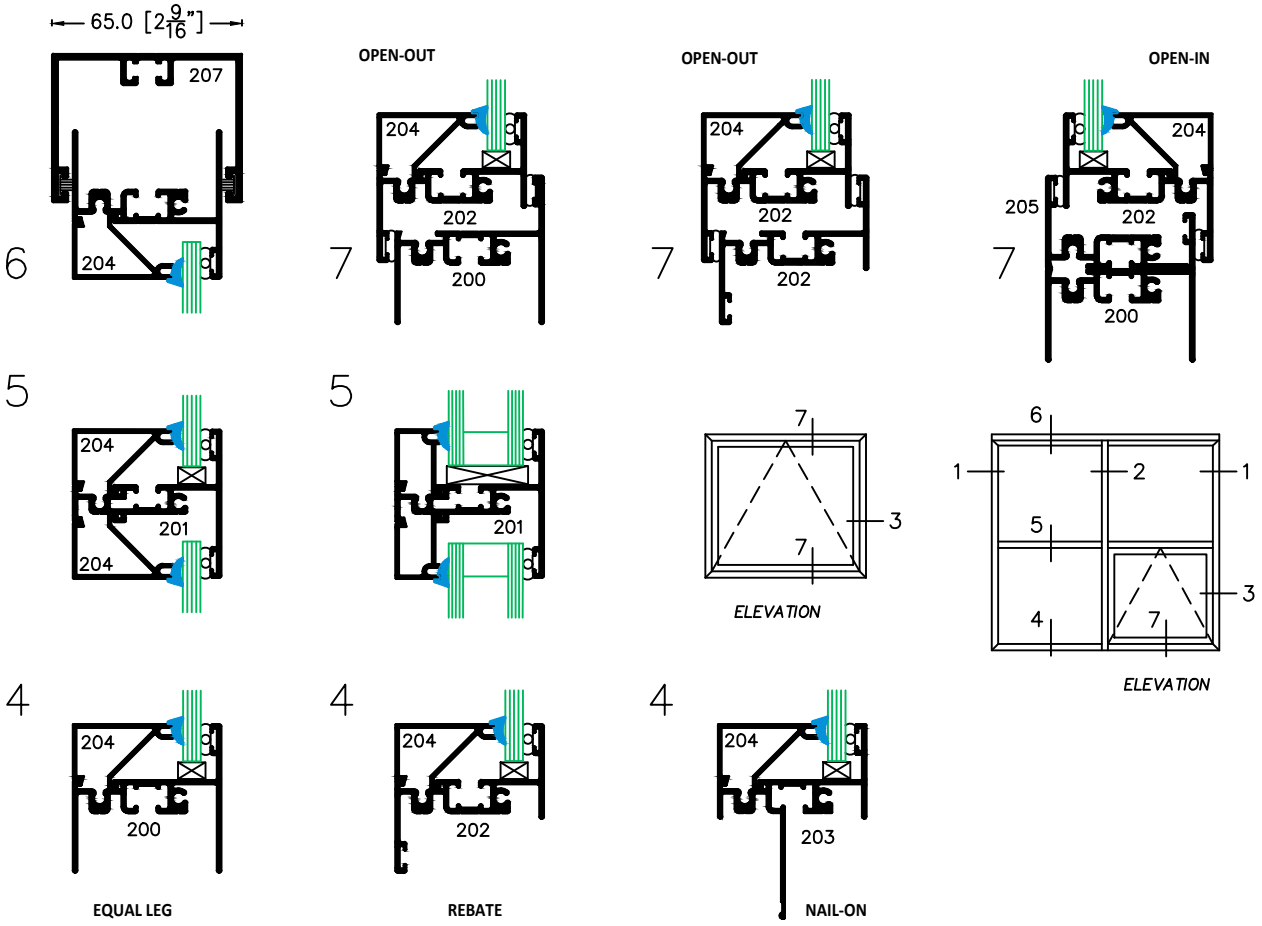
METRO ALUMINUM Products Ltd.

200 SERIES

VENT WINDOW SYSTEM
2" (50.8 mm)

F 03

DETAILS



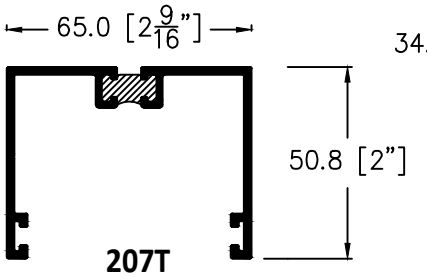
METRO ALUMINUM Products Ltd.

200T SERIES

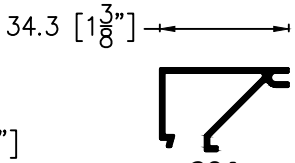
THERMALLY BROKEN VENT WINDOW SYSTEM 2" (50.8 mm)

F 05

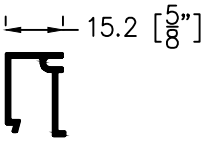
COMPONENTS



207T
DEFLECTION HEADER

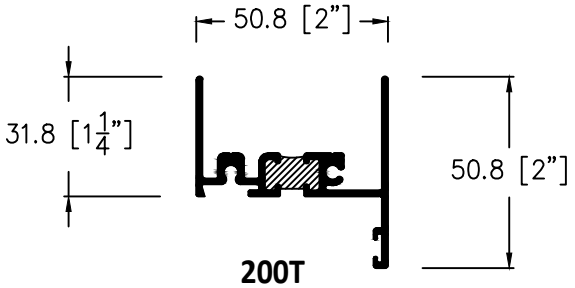


204
GLAZING STOP
(SINGLE GLASS)

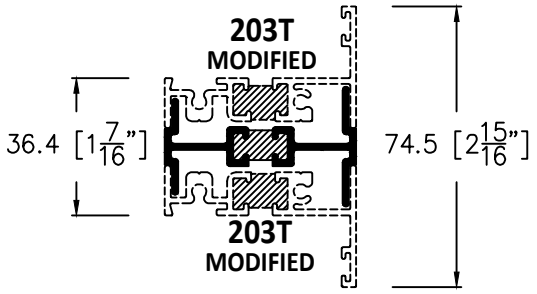


224
GLAZING STOP
(DOUBLE GLASS)

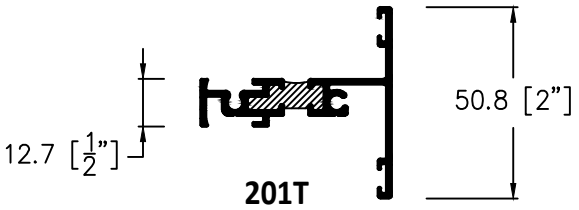
5134
FACE GASKET



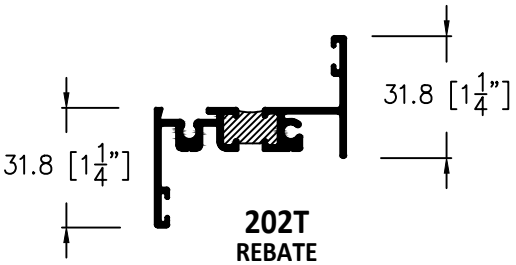
200T
EQUAL-LEG FRAME



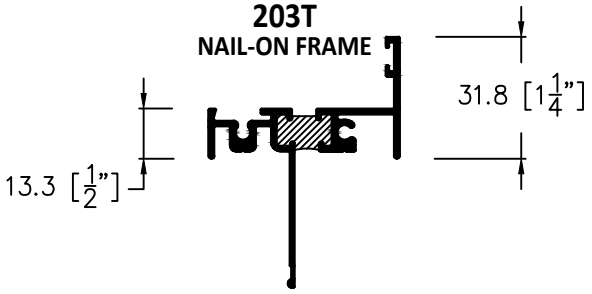
206T
180° COUPLING BAR

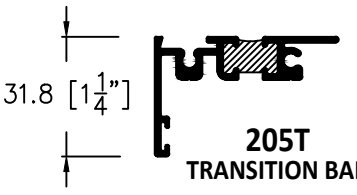


201T
T-BAR



202T
REBATE





205T
TRANSITION BAR

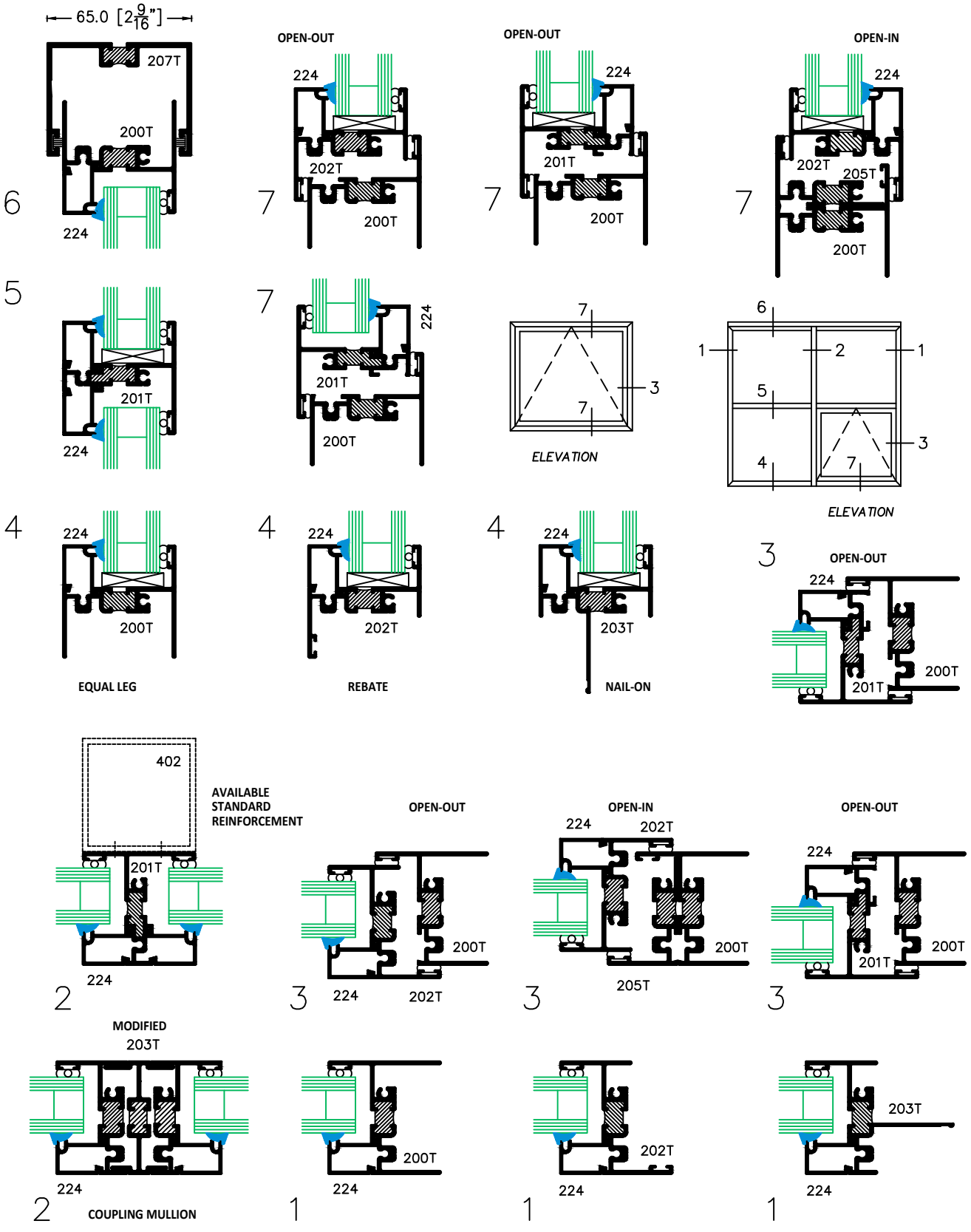
METRO ALUMINUM Products Ltd.

200T SERIES

THERMALLY BROKEN VENT WINDOW SYSTEM 2" (50.8 mm)

F 06

DETAILS



Part 1 - GENERAL

Scope - The skylight framing system shall be _____ Series as manufactured by METRO ALUMINUM Products Ltd. Supply and install aluminum framing, as described on the architectural drawings and as specified herein.

Work Not Included - See: Specifier's lists of excluded items; Items furnished but not installed and/or Items installed but not furnished.

Related Work Specified Elsewhere - See: Specifier's lists and related Sections.

Design & Performance Requirements - Framing to fully comply with the applicable standard specifications as typically referenced to the following performance requirements criteria: Air Tightness, Water Tightness, Wind and Snow (and other applicable) Load Resistance, Temperature Index and Energy Performance. (Specifier's selection)

Submittals - Shop Drawings & Samples - Submit all documentation and samples for review by Consultant at one time, prior to fabrication of curtain wall products.

Quality Assurance - Provide all necessary information to show that all involved products meet or exceed the requirements of these specifications.

Delivery, Storage and Handling - Deliver, store, handle, protect and schedule materials and products so as to avoid any damage. Follow recommendations of AAMA CW-10 "Care and Handling of Architectural Aluminum from Shop to Site" and others as applicable.

Part 2 - PRODUCTS

Materials - All materials to meet the applicable minimum design and specifications requirements. Any defects impairing strength, durability or appearance are not acceptable. Extruded aluminum shall be AA 6063 T6 alloy and temper - Fy = 110 MPa (16 KSI) minimum. Sufficient strength and size assembly fasteners and anchoring bolts shall be made of corrosion-resistant and compatible material such as cadmium or zinc plated carbon steel or stainless steel. Separate incompatible materials and prevent galvanic action (electrolytic corrosion). Structurally adequate anchoring metal brackets shall be anticorrosive painted. Glass-to-metal contact is not acceptable.

3000/3000T Series - Glazing shall utilize standard interior extruded PVC gaskets and exterior rolled aluminum glazing beads as required for conventional dry-dry, outside glazing method with 2-side supported glass.

3400/3400T Series - Glazing shall utilize standard gaskets, dense interior and sponge exterior, shall be extruded from Neoprene, EPDM, or other equal material as required for conventional dry-dry, outside glazing method with 4-side supported glass. Gasket profiles shall be designed and sized to uniformly fit tight and properly seal glass-metal interfacing. Acceptable gasket compression range to be 0.7 to 1.7 kN/m (4 – 10 lbs/in).

Glass setting to be compatible with glass unit seals and/or other parts involved as required.

System Description - Framing Systems (Specifier's selection)

Reference face width dimension of extruded profiles shall be 2" (50.8 mm).

3000/3000T METRO Series - as manufactured by METRO ALUMINUM Products Ltd. - Conventional T-bar uninsulated (thermally broken/insulated) with internal drainage system and continuous anchor sill shoe for single glass and sealed insulating glass units, allowing for full integration with the rainscreen part of building envelope. Glass retention, as for dry-dry glazing method, shall be achieved by exterior glazing bead (retainer) profile. Glass hard bite to be 9.5 mm (0.375") minimum.

3400/3400T METRO Series - as manufactured by METRO ALUMINUM Products Ltd. - Thermally broken/insulated, tubular with internal drainage system for sealed insulating glass units or single glass, utilizing Rainscreen Principle and allowing for full integration with the building envelope. Purlins to be equipped with condensation gutters as required. Glass retention, as for dry-dry glazing method, shall be achieved by 4-side pressure plate (retainer) profile and inorganic rubber gasket. Glass hard bite to be 12.7 mm (0.5") minimum.

Whenever substitute/alternative products are considered, supporting data to be submitted ten (10) days prior to bid date to allow for valid comparison. Approval of alternates to be confirmed in advance of bid closing by addendum only.

Fabrication - Extruded profiles shall be accurately fabricated and assembled and sealed to provide air/water tight fit hairline joints only. Fastening shall allow for permanent true and square set of frame elements. Assembly shall utilize concealed screws only. Properly sealed frame assembly joints to result in continuity of air barrier on the system's inside side. Frame assemblies shall be free of warp. Uniformly compressed glazing gaskets shall secure glass in place. No exposed fasteners are permitted.

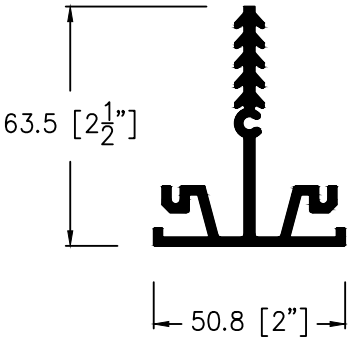
Finish - All exposed surfaces shall be finished as specified. The finish, as per AAM designation, shall be (Specifier's selection):
Standard clear anodizing to AA - M12C22A31
Standard perma bronze to AA - M12C22A44
Standard black anodizing to AA - M10C21A44
Duracron acrylic enamel to AA - M12C4XR1X
Custom paint qualities and colors - Specifier's selection.

Part 3 - EXECUTION

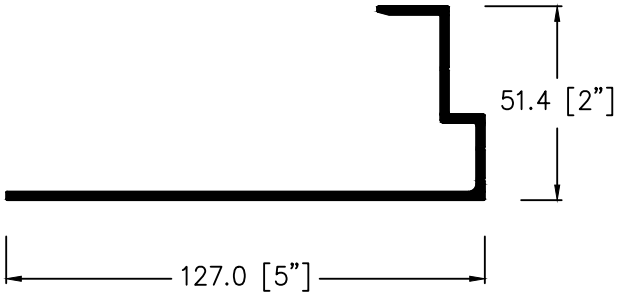
Installation – Steel embeds and anchoring brackets to be placed and ready as required. Anchoring shall suit perimeter conditions of rough openings and seals as required. Prefabricated framing to be installed at prepared structure, at correct locations as shown on drawings, set with required reference to level, plumb, square and aligned with other work in accordance with manufacturer's instructions, approved shop and erection drawings. Perimeter joints to be sealed/caulked as specified and detailed to ensure weathertight assembly.

Protection and Cleaning - Work to be protected from damage during and after installation. Consult with manufacturer and installer to determine appropriate protective measures. The General Contractor shall be responsible for protection during construction and for final cleaning. After installation, aluminum work and glass to be cleaned according to instructions/manuals provided by product manufacturers and glaziers. Use appropriates cleaning materials and methods. Do not scratch or damage glass or finishes.

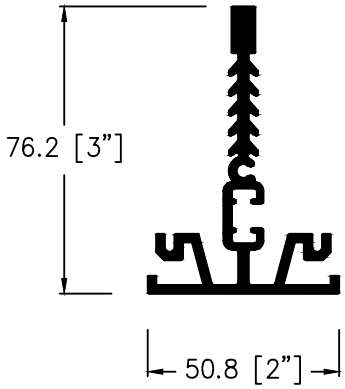
COMPONENTS



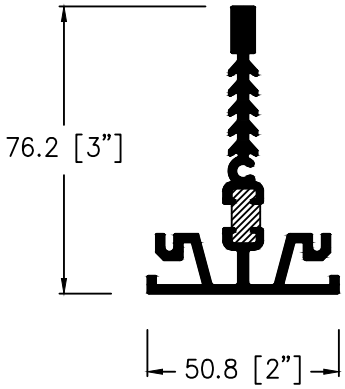
3025
2 1/2" T-BAR



3010
SILL - CONTINUOUS SHOE



3030
3" T-BAR



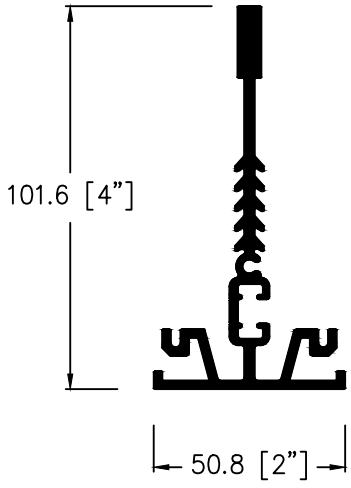
3035
3" T-BAR

4575
(1/2" X 3/4")

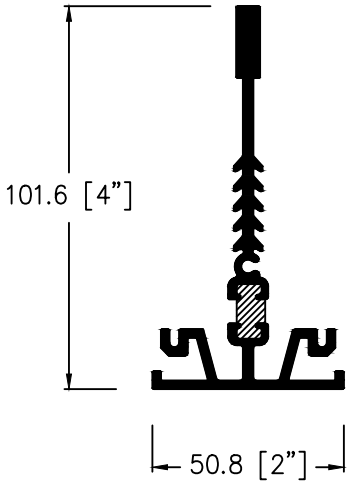
5075
(3/4" X 3/4")

3075
GLAZING BEAD

3050
INSTALLATION BRACKET

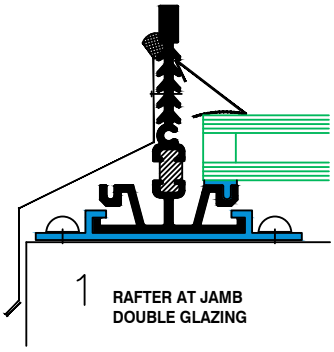


3040
4" T-BAR

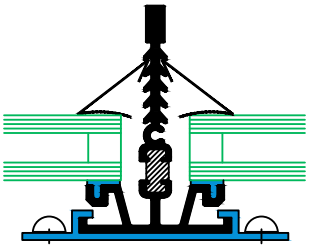


3045
4" T-BAR

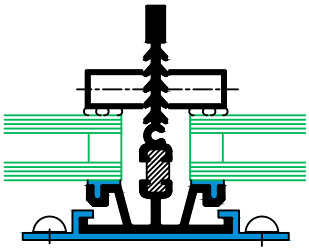
DETAILS



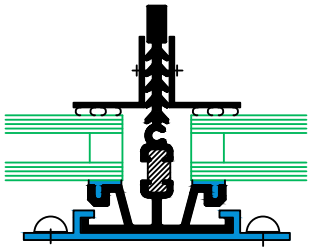
1 RAFTER AT JAMB
DOUBLE GLAZING



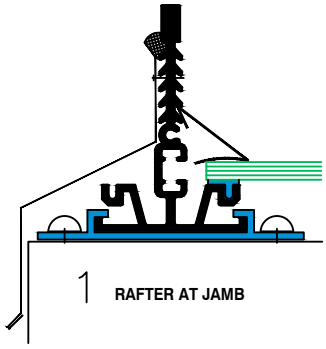
2 T/B RAFTER
DOUBLE GLAZING



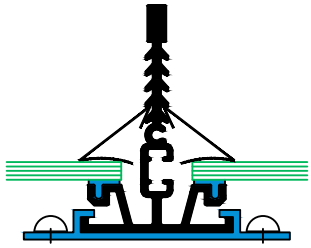
2 GLAZING WITH C-SHAPE



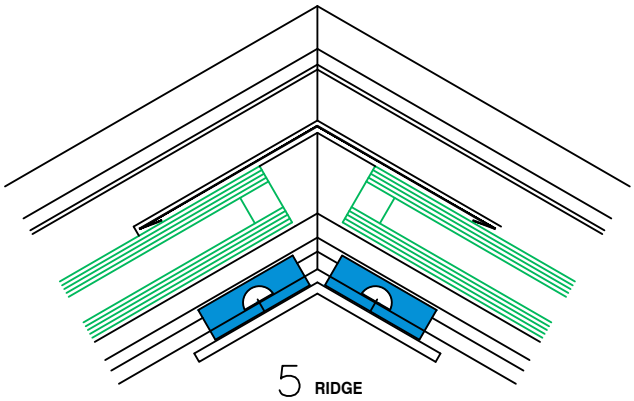
2 GLAZING WITH L-SHAPE



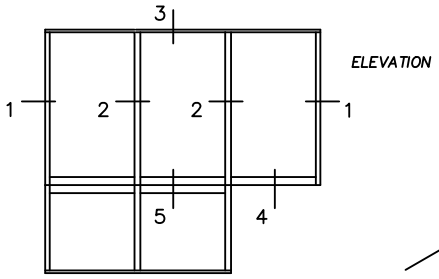
1 RAFTER AT JAMB



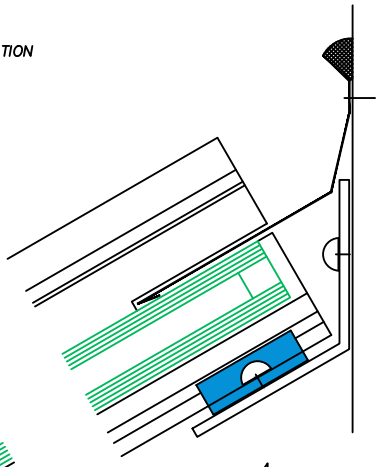
2 RAFTER
SINGLE GLAZING



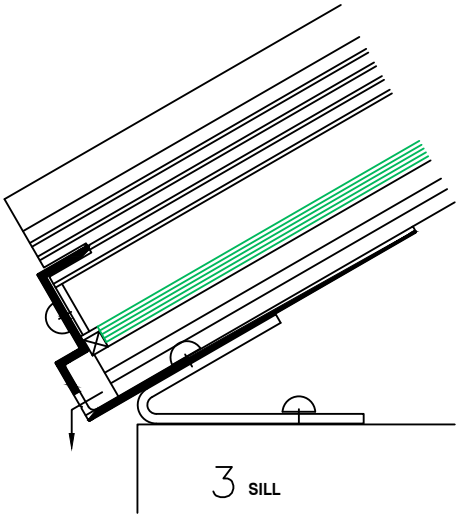
5 RIDGE



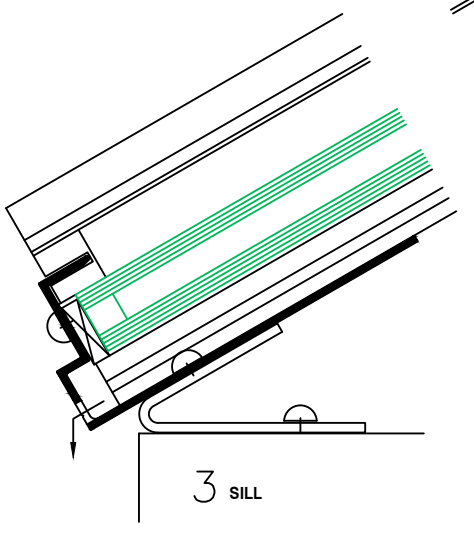
ELEVATION



4 HEAD



3 SILL



3 SILL

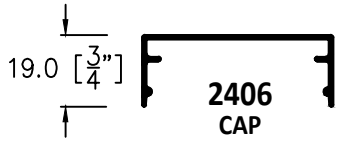
METRO ALUMINUM Products Ltd.

3400 SERIES

RAFTER-PURLIN SKYLIGHT SYSTEMS
2" (50.8 mm) BASE WIDTH

G
05

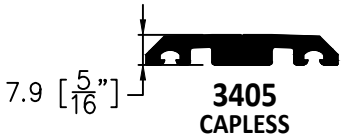
COMPONENTS



2406
CAP

2405
PRESSURE PLATE

2405F
FIBRE GLASS
PRESSURE PLATE

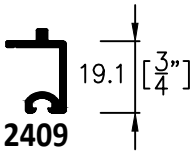


3405
CAPLESS
PRESSURE PLATE

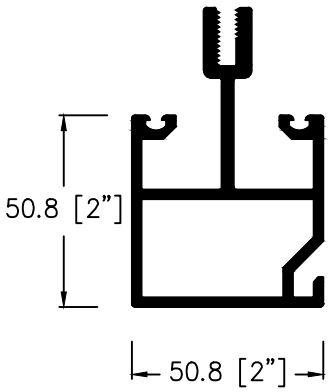
2460
SPONGE GASKET
(INTERIOR)

2410
THERMAL BREAK

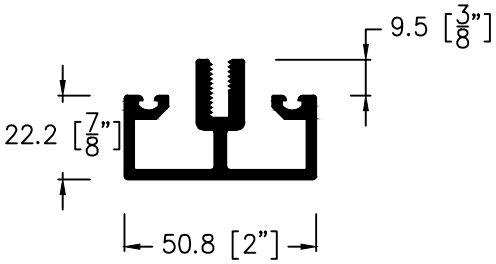
2450
DENSE GASKET
(EXTERIOR)



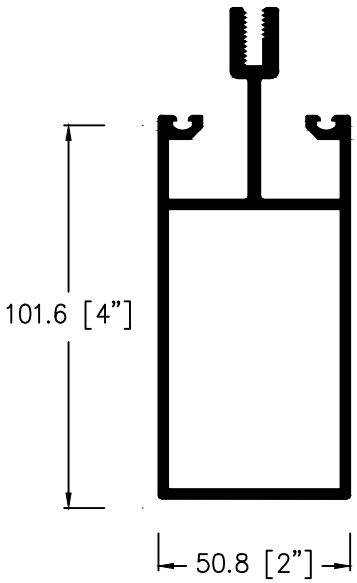
2409
SINGLE GLASS
ADAPTOR



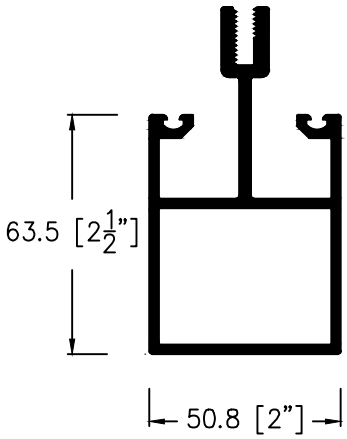
3420
2" PURLIN



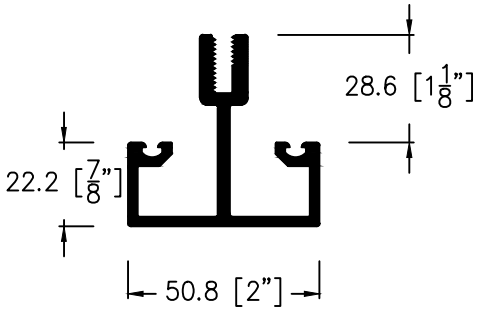
3410
SINGLE GLAZING VENEER



3440
4" RAFTER



3425
2 1/2" RAFTER



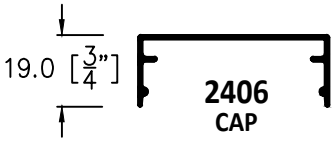
3415
DOUBLE GLAZING VENEER

3400T SERIES

T/B RAFTER-PURLIN SKYLIGHT SYSTEMS
2" (50.8 mm) BASE WIDTH

G 05A

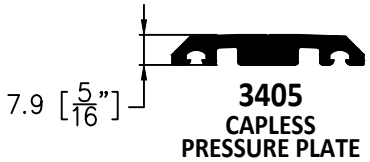
COMPONENTS



2406
CAP

2405
PRESSURE PLATE

2405F
FIBRE GLASS
PRESSURE PLATE

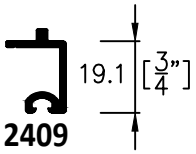


3405
CAPLESS
PRESSURE PLATE

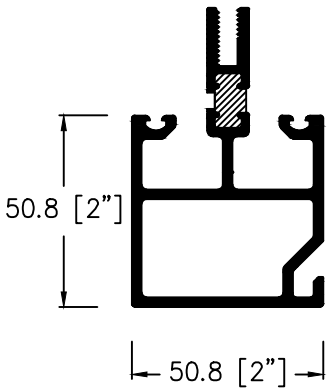
2460
SPONGE GASKET
(INTERIOR)

2410
THERMAL BREAK

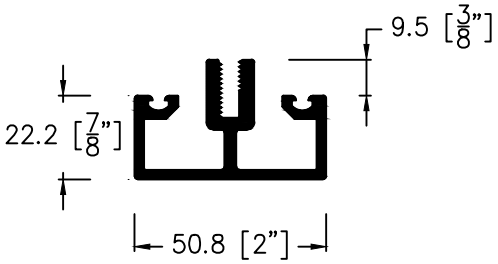
2450
DENSE GASKET
(EXTERIOR)



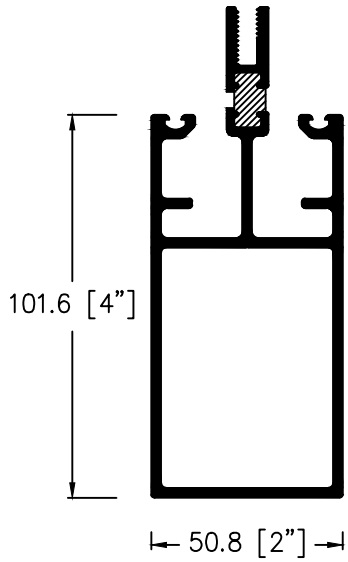
2409
SINGLE GLASS
ADAPTOR



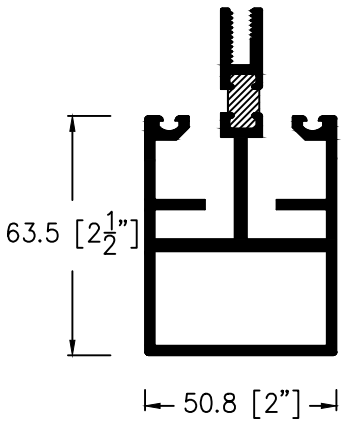
3420T
2" PURLIN



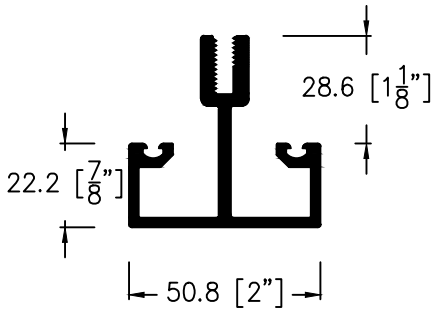
3410
SINGLE GLAZING VENEER



3440T
4" RAFTER



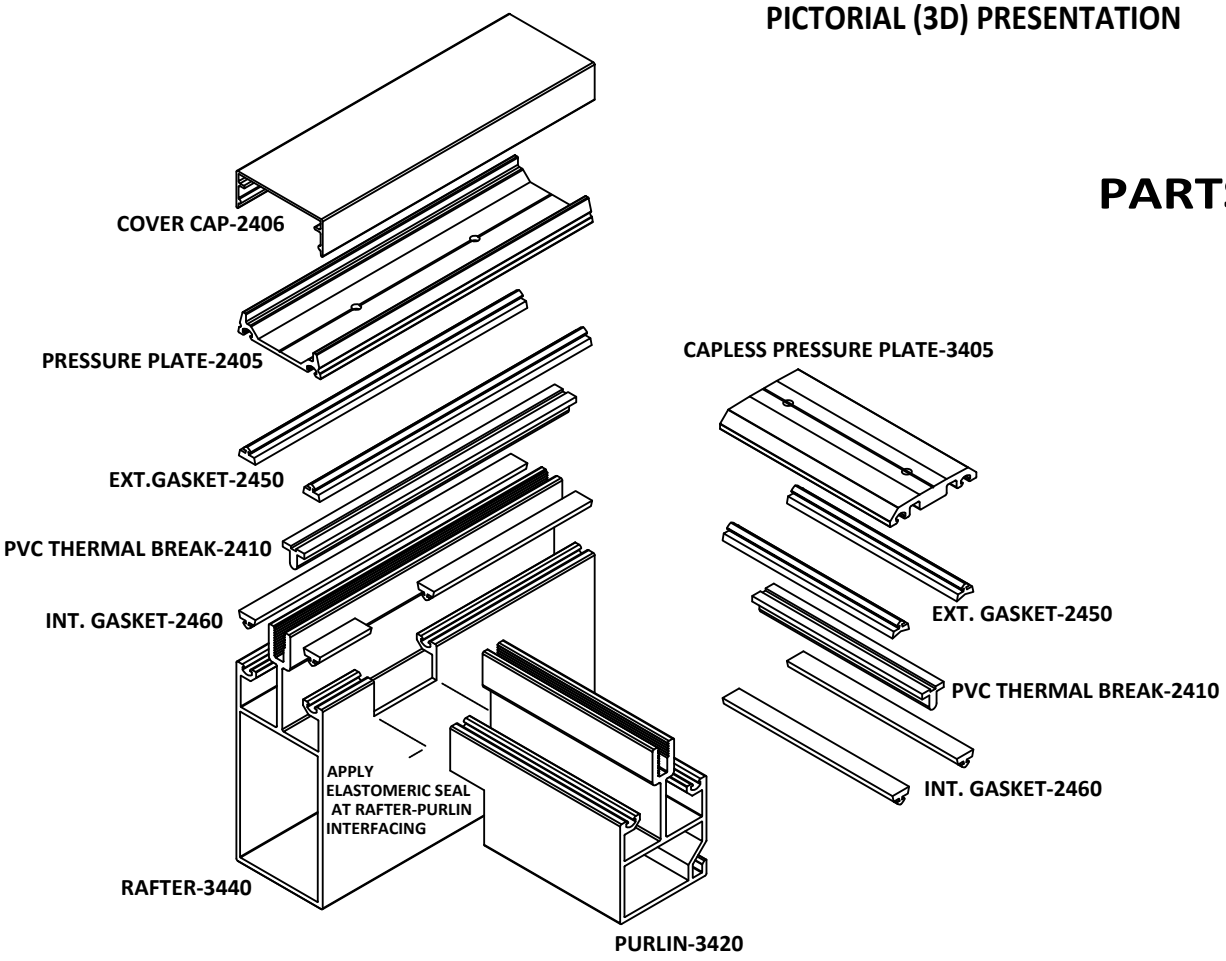
3425T
2 1/2" RAFTER



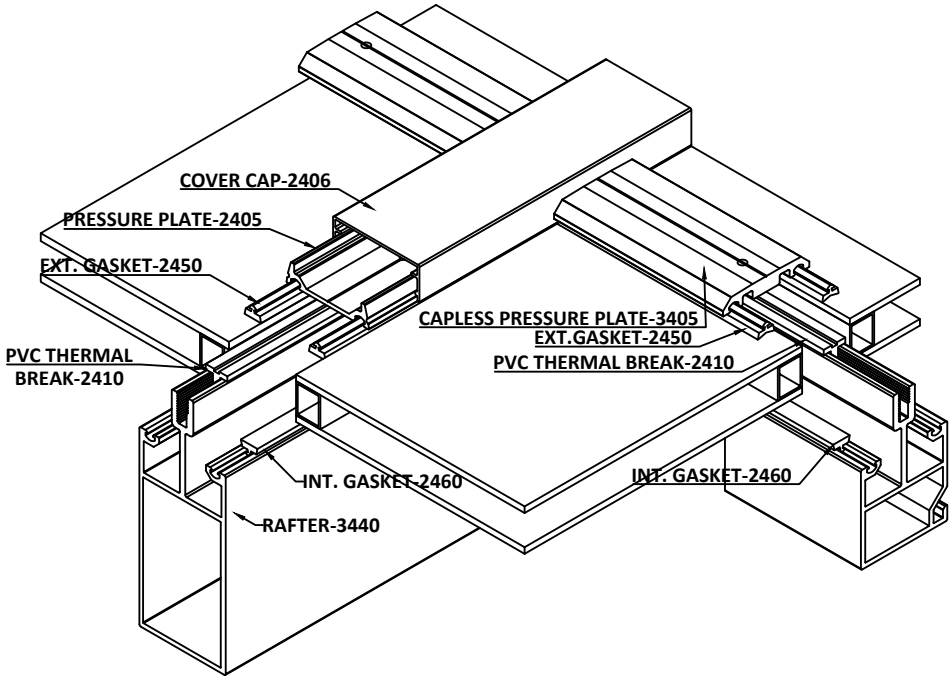
3415
DOUBLE GLAZING VENEER

PICTORIAL (3D) PRESENTATION

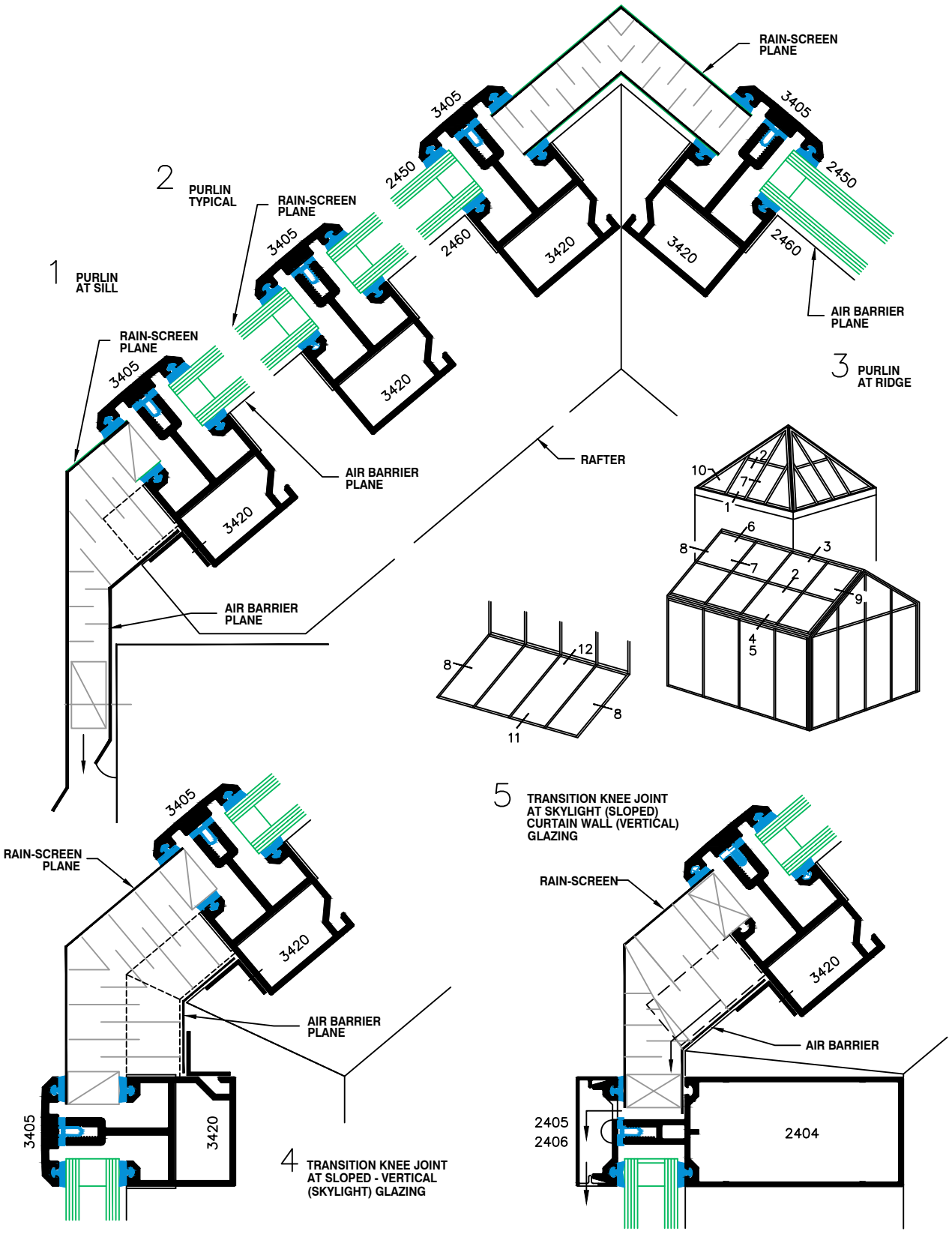
PARTS



ASSEMBLY



DETAILS


1 PURLIN AT SILL
2 PURLIN TYPICAL
3 PURLIN AT RIDGE
4 TRANSITION KNEE JOINT AT SLOPED - VERTICAL (SKYLIGHT) GLAZING
5 TRANSITION KNEE JOINT AT SKYLIGHT (SLOPED) CURTAIN WALL (VERTICAL) GLAZING
RAIN-SCREEN PLANE
AIR BARRIER PLANE
RAFTER
3405
3420
2450
2460
2404
2405
2406

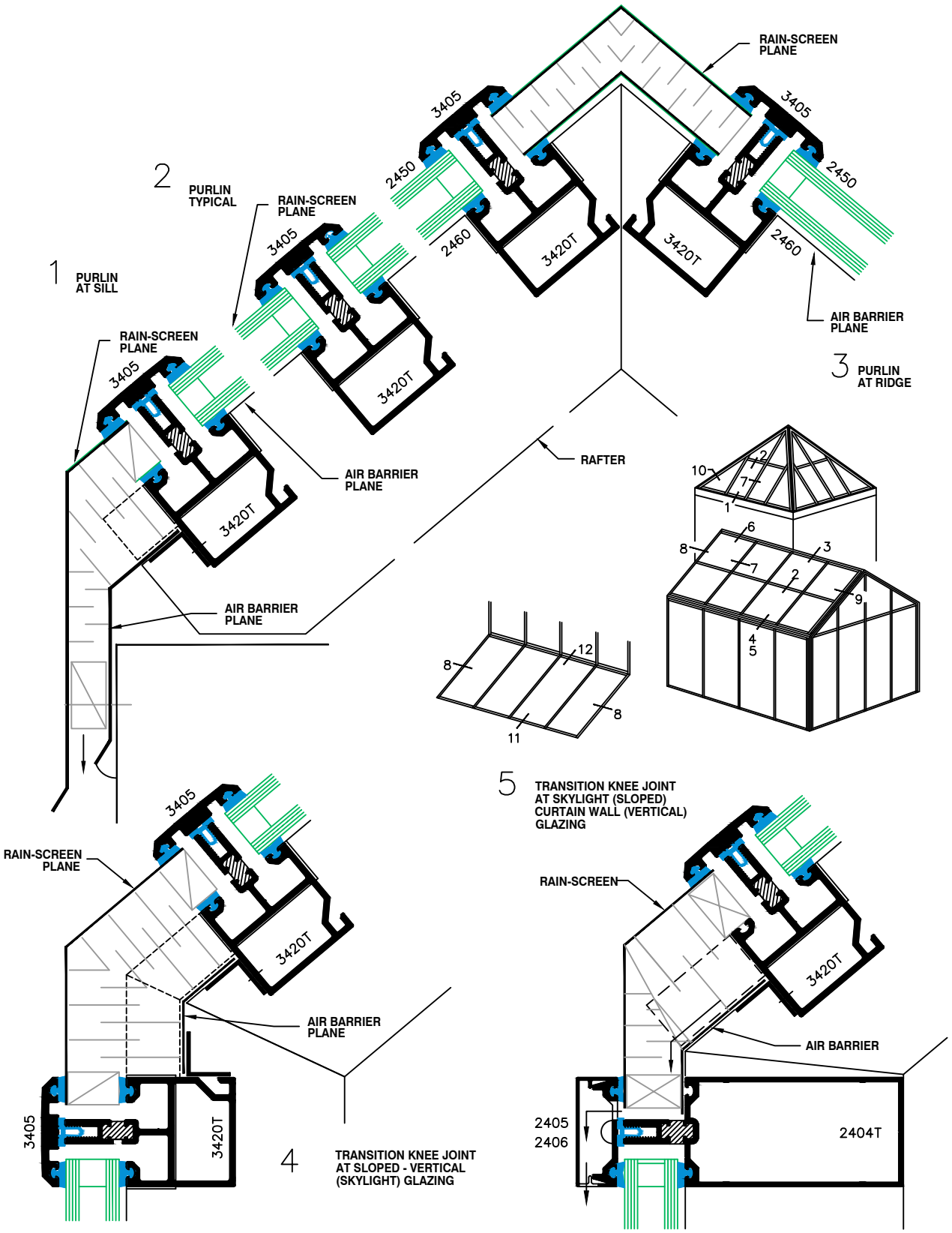
METRO ALUMINUM Products Ltd.

3400T SERIES

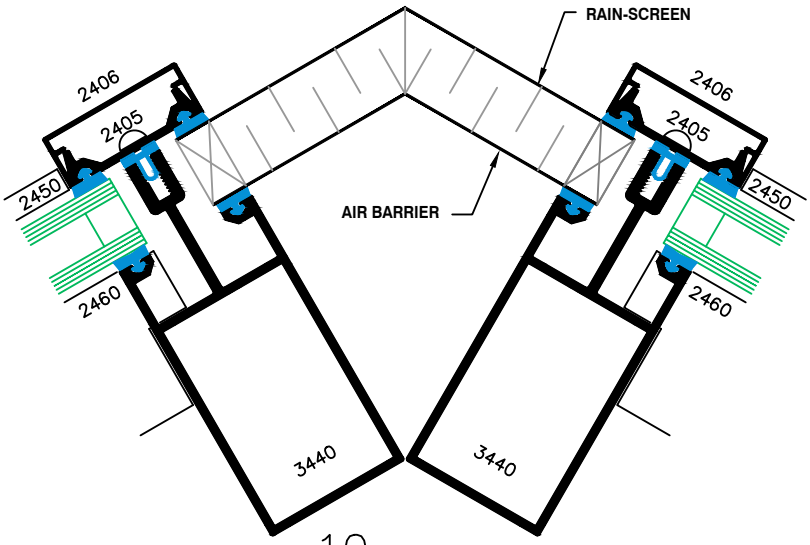
T/B RAFTER-PURLIN SKYLIGHT SYSTEMS
2" (50.8 mm) BASE WIDTH

G
07A

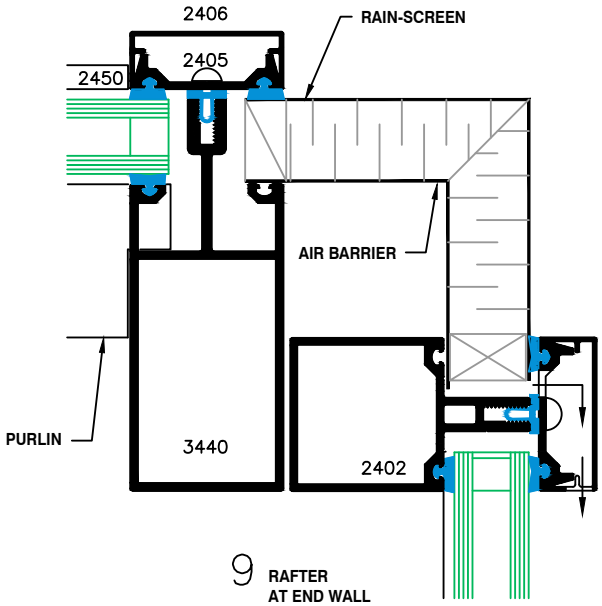
DETAILS



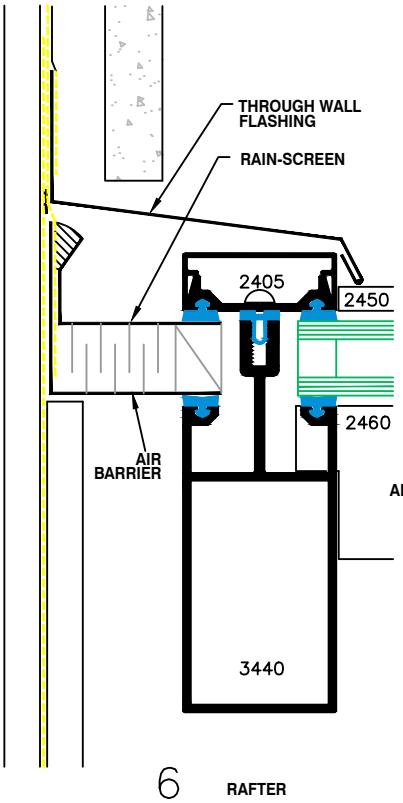
DETAILS



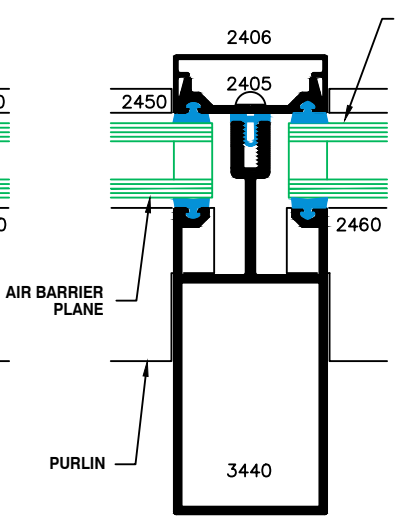
10 HIP RAFTER



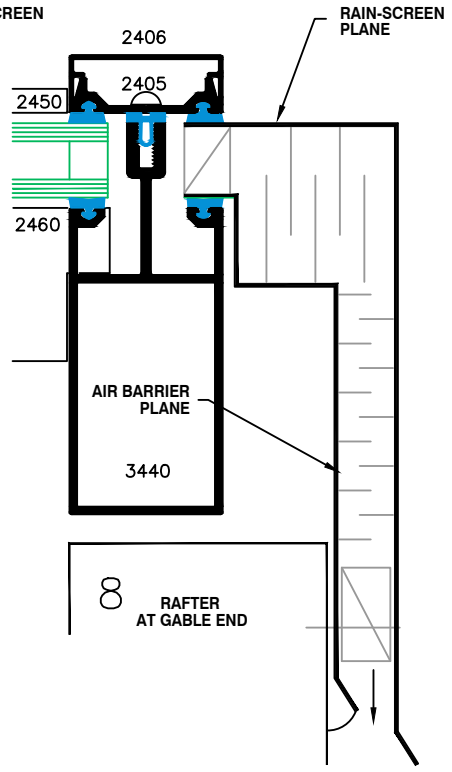
9 RAFTER AT END WALL



6 RAFTER AT CAVITY WALL



7 RAFTER TYPICAL



8 RAFTER AT GABLE END

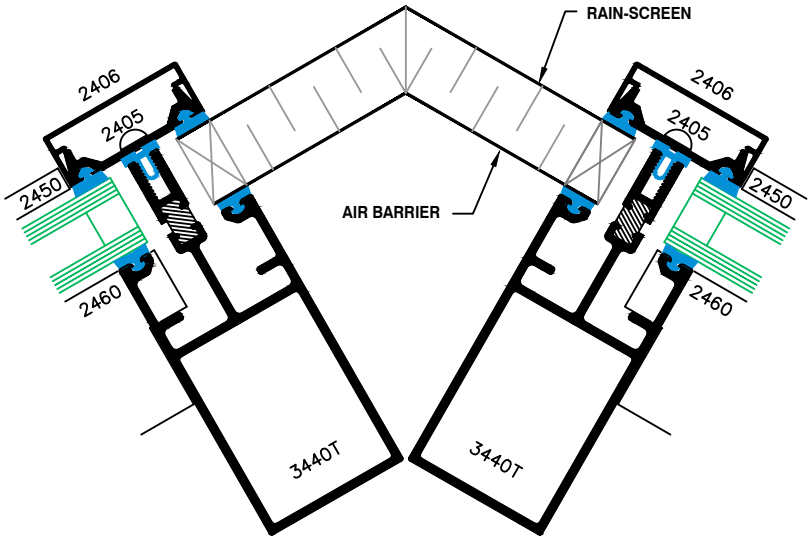
METRO ALUMINUM Products Ltd.

3400T SERIES

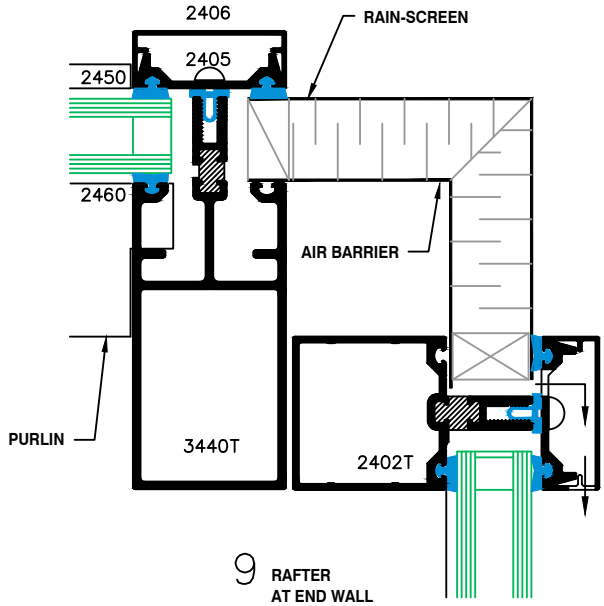
T/B RAFTER-PURLIN SKYLIGHT SYSTEMS
2" (50.8 mm) BASE WIDTH

G
08A

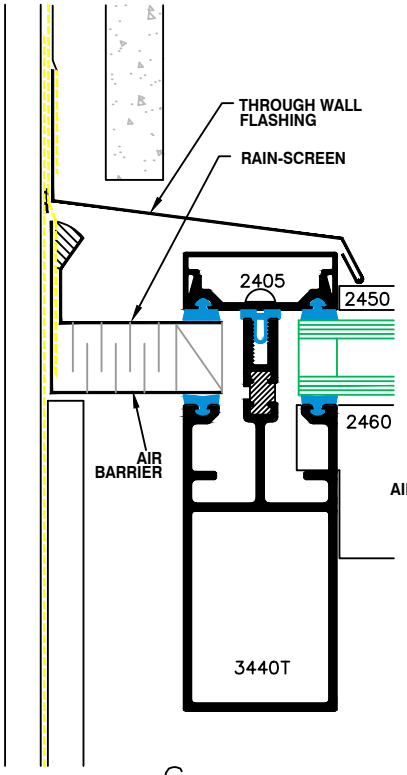
DETAILS



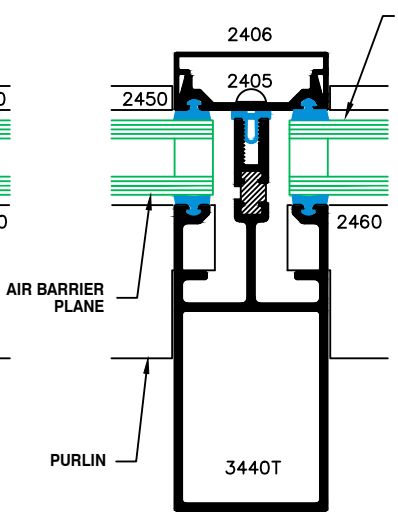
10 HIP RAFTER



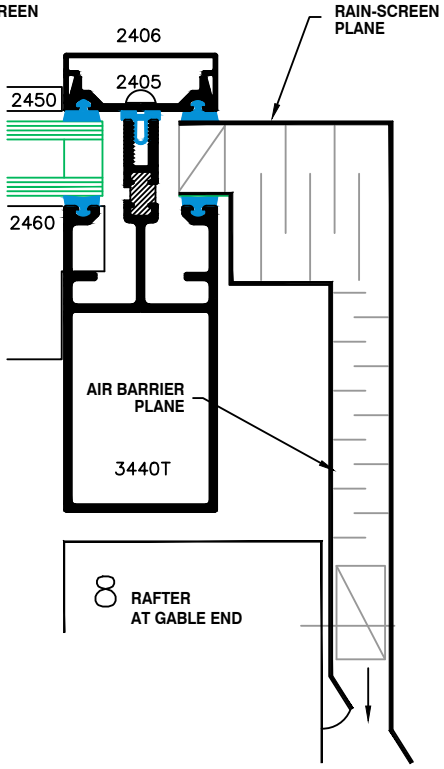
9 RAFTER AT END WALL



6 RAFTER AT CAVITY WALL

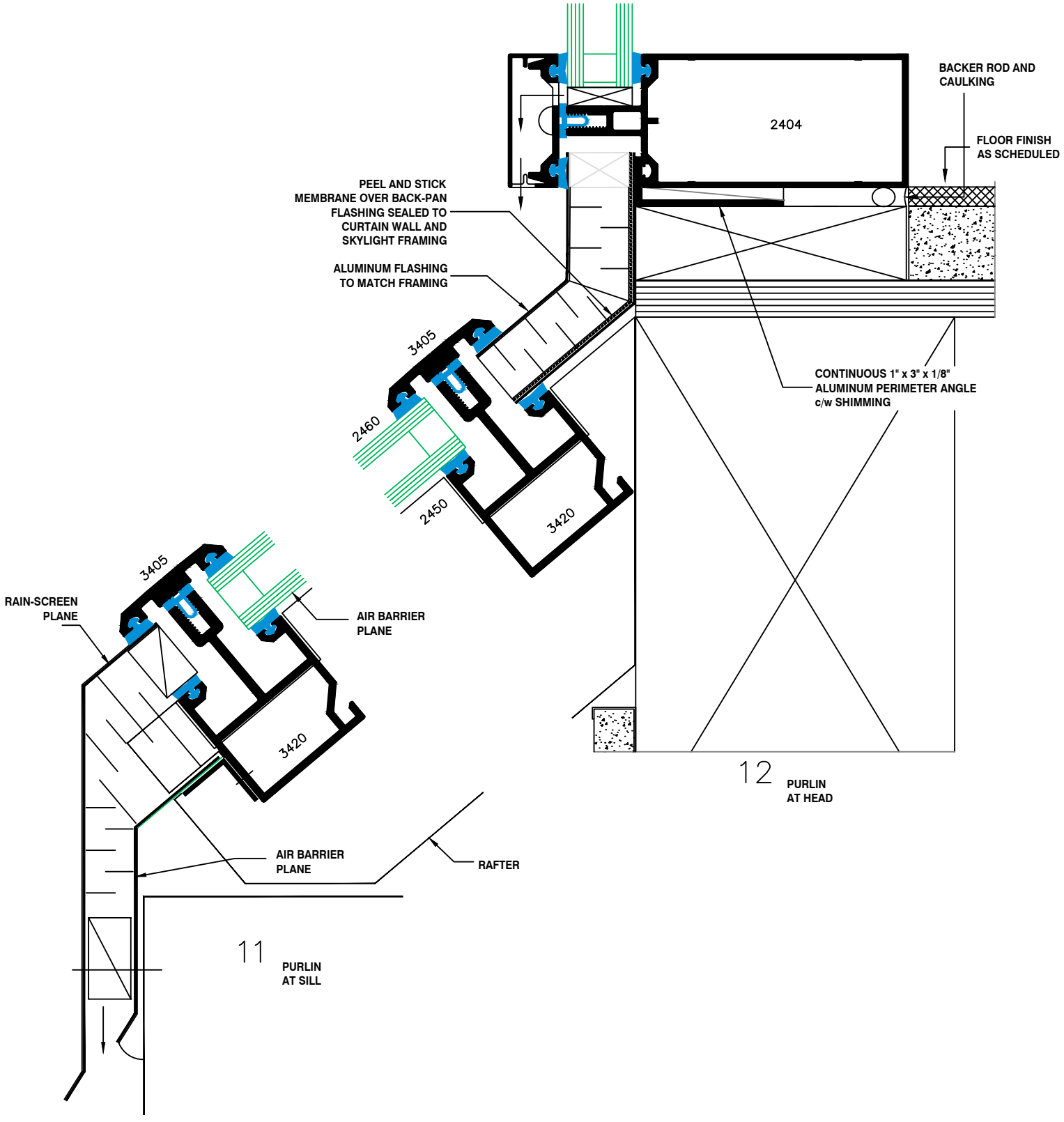


7 RAFTER TYPICAL

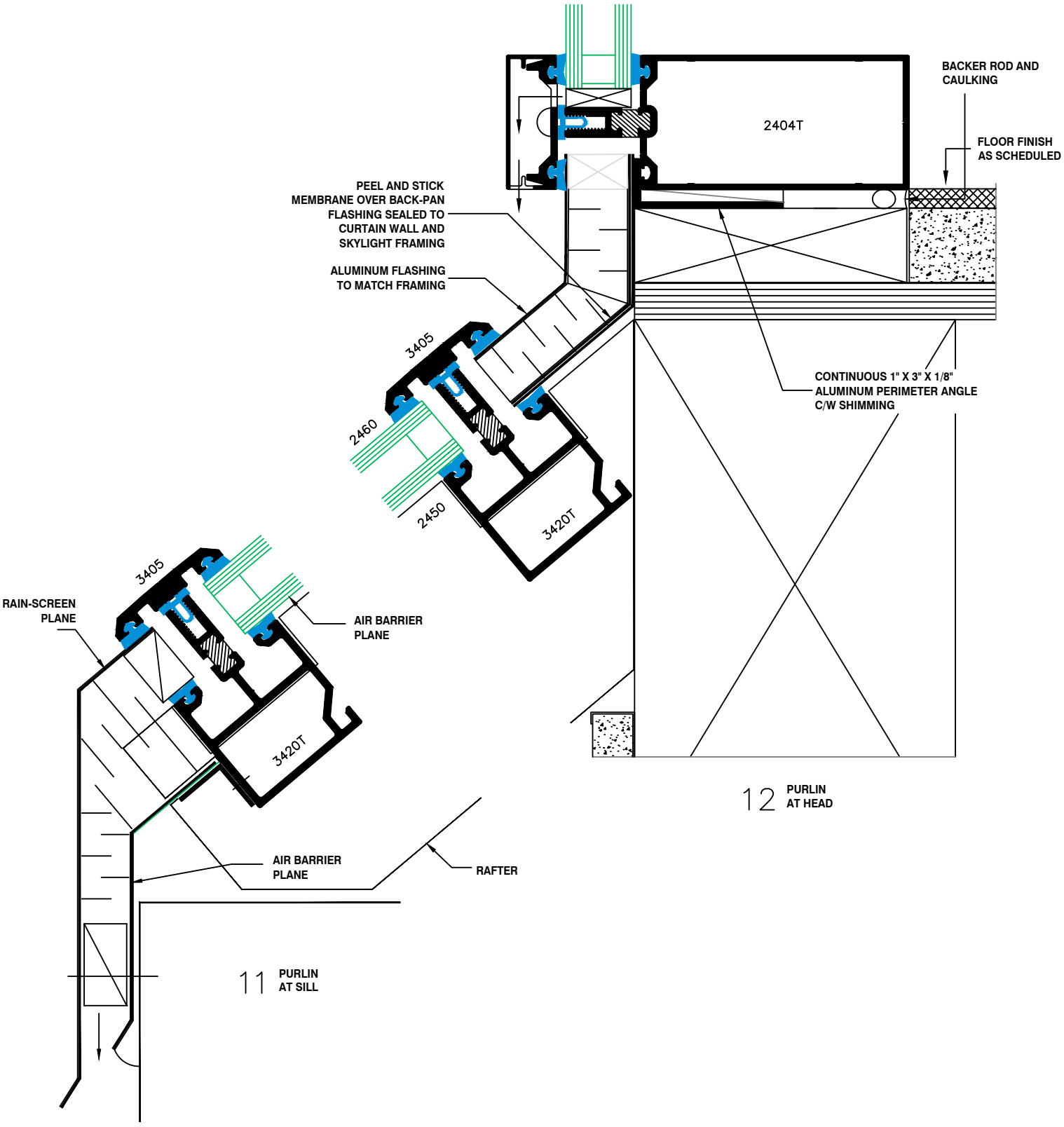


8 RAFTER AT GABLE END

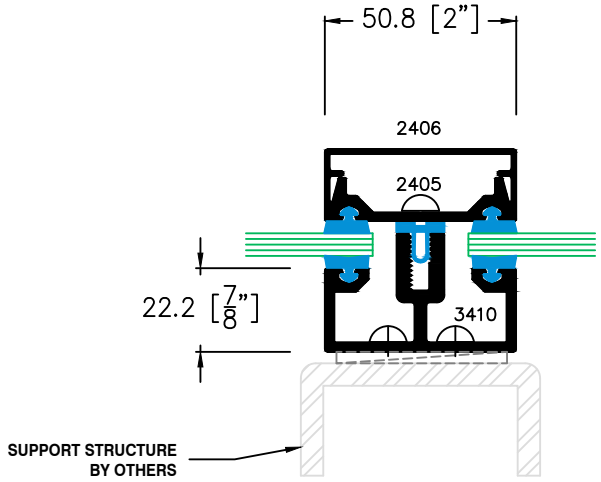
SUGGESTED INTERFACE DETAILS



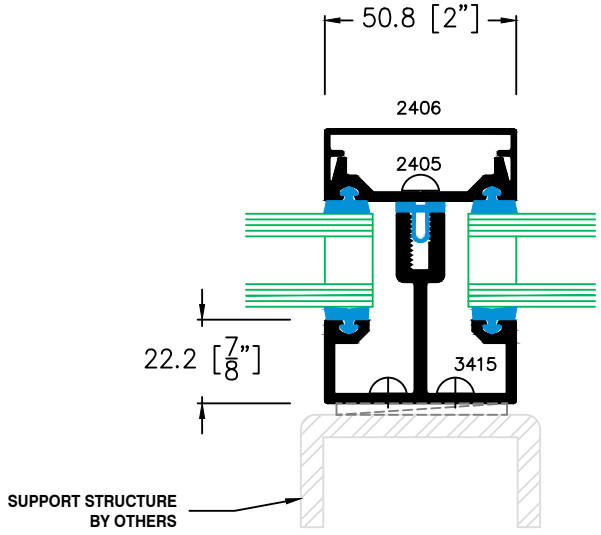
SUGGESTED INTERFACE DETAILS



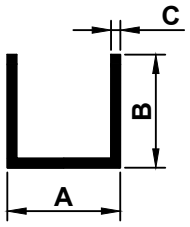
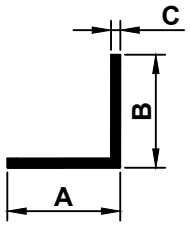
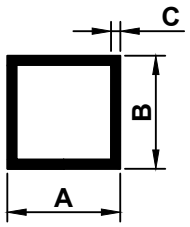
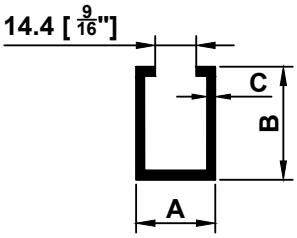
DETAILS



13 SINGLE GLAZING VENEER

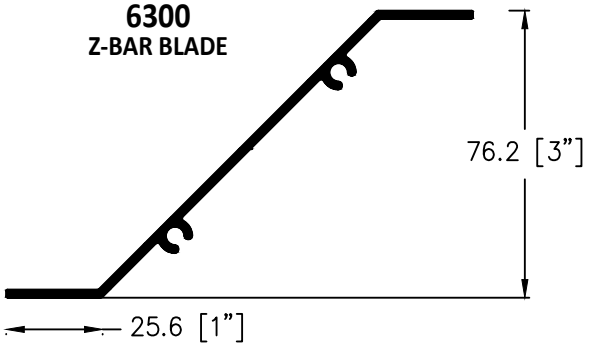


14 DOUBLE GLAZING VENEER

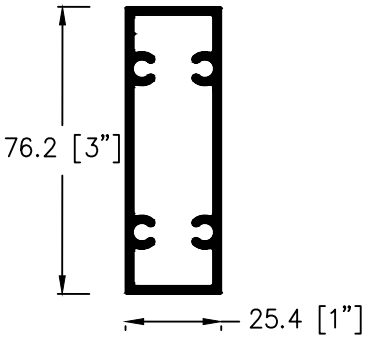
PROFILES	PART NUMBER	A	B	C
CHANNEL 	4050	12.7 0.5"	12.7 0.5"	1.5 0.06"
	4575	12.7 0.5"	19.05 0.75"	1.5 0.06"
	4075	19.05 0.75"	19.05 0.75"	1.5 0.06"
	4100	25.4 1.0"	25.4 1.0"	3.05 0.12"
	4150	38.1 1.5"	25.4 1.0"	3.05 0.12"
	4751	19.05 0.75"	25.4 1.0"	1.5 0.06"
ANGLE 	5075	19.05 0.75"	19.05 0.75"	1.5 0.06"
	5100	25.4 1.0"	25.4 1.0"	2.29 0.09"
	5102	25.4 1.0"	50.8 2.0"	3.17 0.125"
	5103	25.4 1.0"	76.2 3.0"	3.17 0.125"
TUBE 	401	44.45 1.75"	44.45 1.75"	2.29 0.09"
	402	50.8 2.0"	50.8 2.0"	2.54 0.10"
	403	63.5 2.5"	63.5 2.5"	2.41 0.095"
	405	44.45 1.75"	114.3 4.5"	2.54 0.10"
	406	50.8 2.0"	101.6 4.0"	2.41 0.095"
	407	50.8 2.0"	152.4 6.0"	2.29 0.09"
SPECIAL GLAZING CHANNELS 	4200	25.4 1.0"	25.4 1.0"	2.0 0.08"
	4201	25.4 1.0"	57.15 2.25"	2.0 0.08"

COMPONENTS

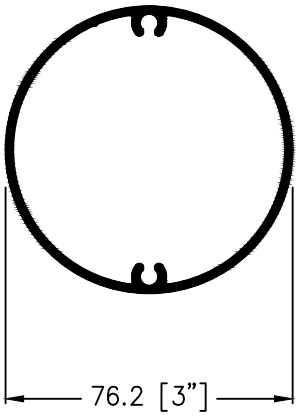
6300
Z-BAR BLADE



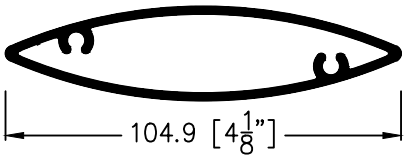
6301
END CAP



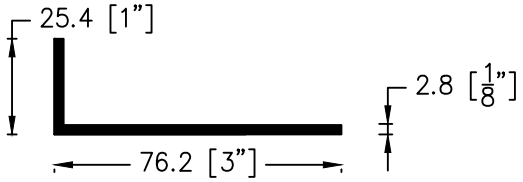
6303
3" DIA TUBE BLADE



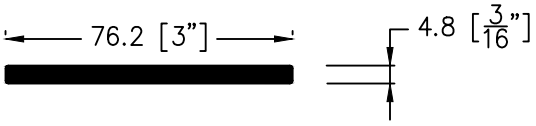
6302
AIRFOIL BLADE



5103
1" X 3" ANGLE



6316
3" X 3/16" FLAT BAR



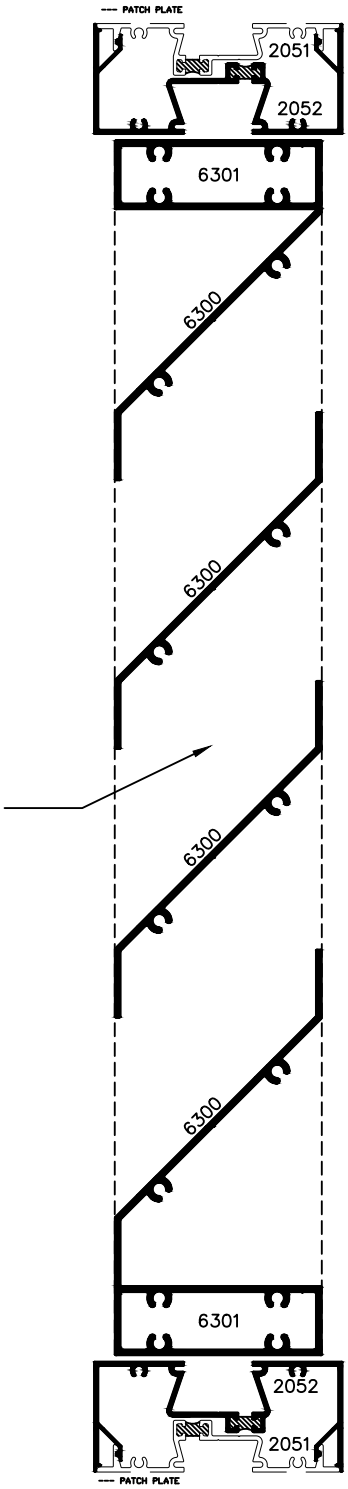
METRO ALUMINUM Products Ltd.

6300 SERIES
LOUVER / SUNSHADE SYSTEM

H
02A

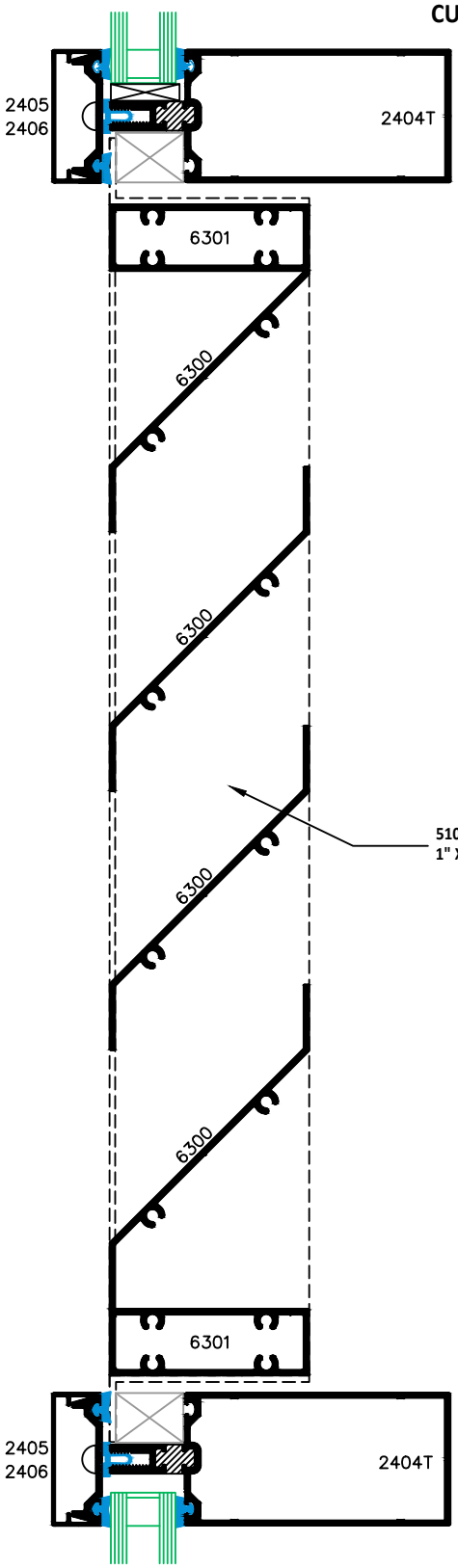
LOUVER DETAILS

STOREFRONT / ROUGH OPENING INSTALL



6316
3/16" X 3" PERIMETER
FLATBAR

CURTAIN WALL INSTALL



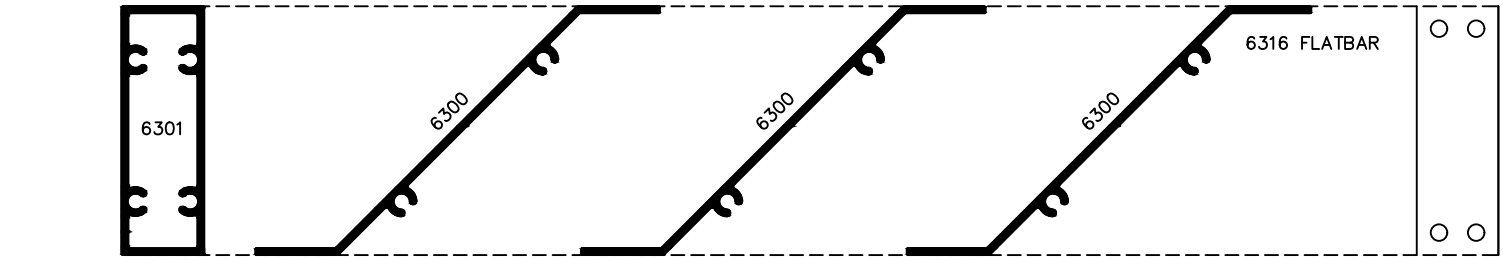
5103
1" X 3" PERIMETER ANGLE

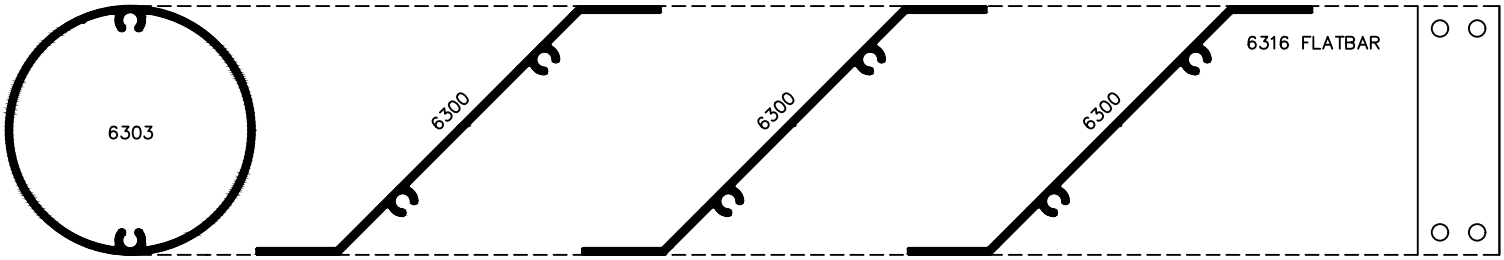
METRO ALUMINUM Products Ltd.

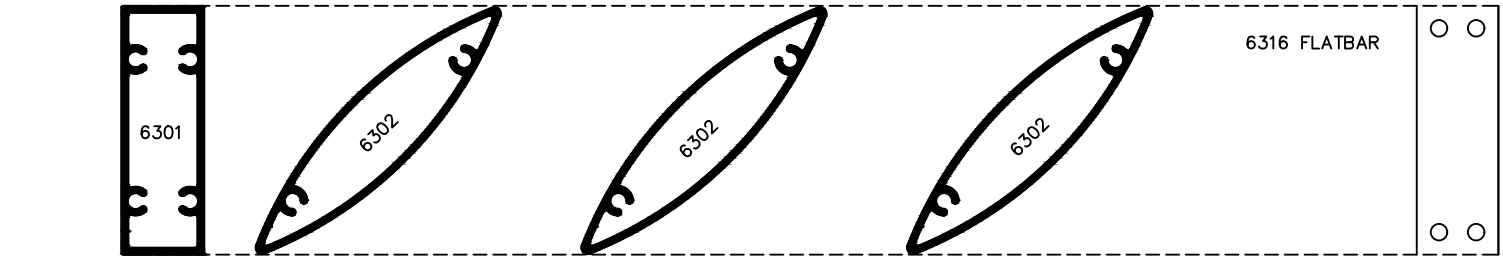
6300 SERIES
LOUVER / SUNSHADE SYSTEM

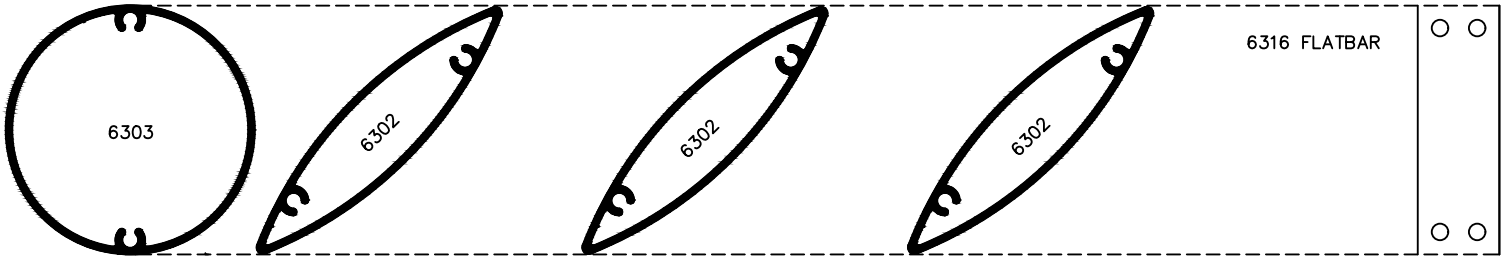
H
02B

SUNSHADE DETAILS









METRO ALUMINUM Products Ltd.

THRESHOLD PROFILES

H 03

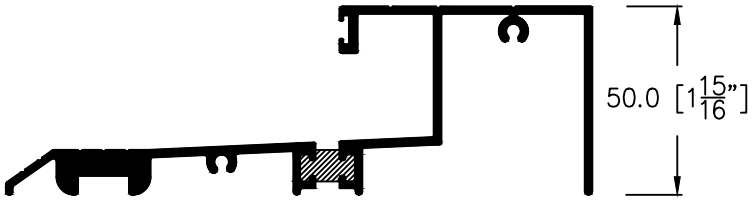
6" THRESHOLDS FOR 4 1/2" SYSTEM

1506

2106 BEVELLED

2106T SQUARE

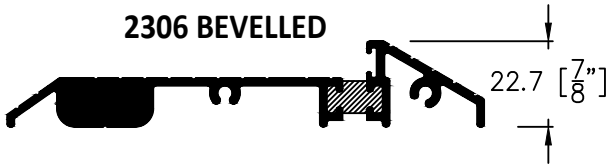
2107T SQUARE



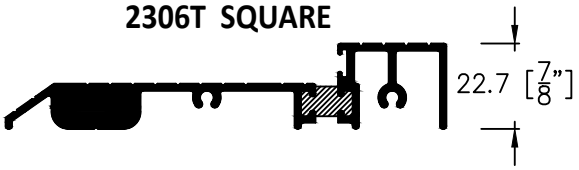
5" THRESHOLDS FOR 3 1/4" SYSTEM

1306

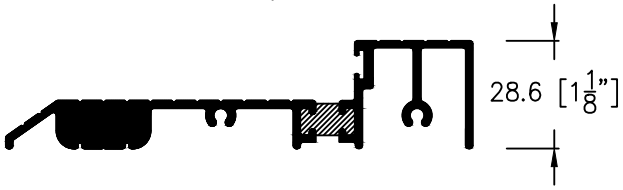
2306 BEVELLED



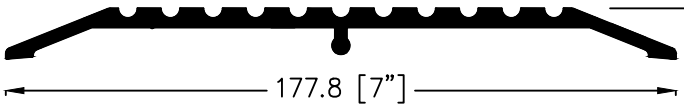
2306T SQUARE



G-2306ST SQUARE

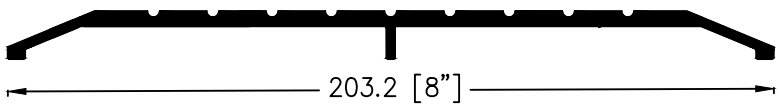


1507 7" THRESHOLDS



13.5 [1/2"]

1508 8" THRESHOLDS



NUMERICAL LISTING OF DESIGNATIONS

MECHANICAL FINISHES (M)

AS FABRICATED

M10 - UNSPECIFIED
M11 - AS FABRICATED
M12 - NONSPECULAR AS FABRICATED
M1X - OTHER (TO BE SPECIFIED)

BUFFED

M20 - UNSPECIFIED
M21 - SMOOTH SPECULAR
M22 - SPECULAR
M2X - OTHER (TO BE SPECIFIED)

DIRECTIONAL TEXTURED

M30 - UNSPECIFIED
M31 - FINE SATIN
M32 - MEDIUM SATIN
M33 - COARSE SATIN
M34 - HAND RUBBER
M35 - BRUSHED
M3X - OTHER (TO BE SPECIFIED)

NONDIRECTIONAL TEXTURED

M40 - UNSPECIFIED
M41 - FINE MATTE
M42 - MEDIUM MATTE
M43 - ENDE MATTE
M44 - COARSE MATTE
M45 - FINE SHOT BLAST
M46 - MEDIUM SHOT BLAST
M47 - COARSE SHOT BLAST
M4X - OTHER (TO BE SPECIFIED)

CHEMICAL FINISHES (C)*

NONETCHED CLEANED

C10 - UNSPECIFIED
C11 - DEGREASED
C12 - INHIBITED CHEMICAL CLEANED
C1X - OTHER (TO BE SPECIFIED)

ETCHED

C20 - UNSPECIFIED
C21 - FINE MATTE
C22 - MEDIUM MATTE
C23 - COARSE MATTE
C2X - OTHER (TO BE SPECIFIED)

BRIGHTENED

C30 - UNSPECIFIED
C31 - HIGHLY SPECULAR ALUMINUM
C32 - DIFFUSE BRIGHT
C3X - OTHER (TO BE SPECIFIED)

CHEMICAL CONVERSION COATINGS

C40 - UNSPECIFIED
C41 - ACID CHROMATE FLOURIDE
C42 - ACID CHROMATE-NO FLUORIDE- PHOSPHATE
C43 - ALKALINE CHROMATE
C4X - OTHER (TO BE SPECIFIED)

COATING, (A, R, V, E, L)

ANODIC COATINGS (A)

GENERAL

A10 - UNSPECIFIED
A11 - PREPARATION FOR OTHER APPLIED COATINGS
A12 - CHROMIC ACID ANODIC COATINGS
A13 - HARD, WEAR AND ABRASION RESISTANT COATINGS
A1X - OTHER (TO BE SPECIFIED)

PROTECTIVE AND DECORATIVE
(COATINGS LESS THAN 0.4 MIL THICK)

A21 - CLEAR
A22 - INTEGRAL COLOUR
A23 - IMPREGNATED COLOUR
A24 - ELECTROLYTICALLY DEPOSITED COLOUR
A2X - OTHER (TO BE SPECIFIED)

ARCHITECTURAL CLASS 11**
(0.4 - 0.7 MIL COATINGS)

A31 - CLEAR
A32 - INTEGRAL COLOUR
A33 - IMPREGNATED COLOUR
A34 - ELECTROLYTICALLY DEPOSITED COLOUR
A3X - OTHER (TO BE SPECIFIED)

ARCHITECTURAL CLASS 1**
(0.7 MIL AND THICKER ANODIC COATINGS)

A41 - CLEAR
A42 - INTEGRAL COLOUR
A43 - IMPREGNATED COLOUR
A44 - ELECTROLYTICALLY DEPOSITED COLOUR
A4X - OTHER (TO BE SPECIFIED)

**ALUMINUM ASSOCIATION STANDARDS FOR ANODIZED ARCHITECTURAL ALUMINUM

RESINOUS AND OTHER ORGANIC COATINGS (R) ***

R10 - UNSPECIFIED
R1X - OTHER (TO BE SPECIFIED)

VITREOUS COATINGS (PORCELAIN AND CERAMIC TYPES) (V) ***

V10 - UNSPECIFIED
V1X - OTHER (TO BE SPECIFIED)

ELECTROPLATED AND OTHER METAL COATINGS (E) ***

E10 - UNSPECIFIED
E1X - OTHER (TO BE SPECIFIED)

LAMINATED COATINGS (L) ***

(INCLUDES VENEERS, PLASTIC COATINGS AND FILMS BONDED TO ALUMINUM)

L10 - UNSPECIFIED
L1X - OTHER (TO BE SPECIFIED)

*** THESE DESIGNATIONS MAY BE USED UNTIL MORE COMPLETE SERIES OF DESIGNATIONS ARE DEVELOPED FOR THESE COATINGS

GENERAL INFORMATION

CLEANING AND MAINTENANCE OF ALUMINUM

Cleaning procedures should be initiated as soon as is practical after installation to remove construction and accumulated environmental dirt. Cleaning should start at the top of the building and proceed to grade in a continuous drop. For light soiling the simplest procedure is to flush the surface with water, using a moderate pressure. Progressively stronger cleaning methods may be required depending on the severity of the contamination. A small area should be tested first to check the suitability of the method and/or materials used. The aluminum finish can be damaged by abuse or harsh chemicals. Care must be taken to ensure that no cleaning methods cause any damage to adjacent materials and sealants. Also, care must be taken to ensure that materials used to clean other building elements will not damage the aluminum finish.

PROTECTION OF ALUMINUM

Aluminum should be protected during and after installation from contact with concrete, plaster or other alkaline substances. All trades involved should be careful when around aluminum and must share in the responsibility to see that the aluminum finish is not damaged. Aluminum can be protected by covering it with plastic film or paper, or by applying a strippable plastic coating. Any contamination of the aluminum by construction materials should be cleaned immediately to prevent damage to the finish.

ISOLATION COATINGS

When aluminum is in direct contact with steel or certain other metals in the presence of an electrolyte, galvanic corrosion of the aluminum can occur in the vicinity of the contact area. To prevent this corrosion, an isolation coating should be applied to the ferrous material, to serve as an electrical insulator between the two metals. Also, where raw aluminum is in contact with concrete, plaster or other alkaline substance a coating should be applied to the aluminum to protect it from attack. The most frequent coating specified and used for these purposes is bituminous paint. It is a low cost asphalt or coal tar derivative with excellent water resistance and good resistance to salts, oxides and alkalis.

THE FACTS ABOUT ALUMINUM WINDOWS

FACT #1
Unmatched Strength and Stability in Any Climate

Pound for pound, aluminum is one of the strongest and most reliable materials available for window frames. It stands up exceptionally well to the extreme temperature swings common in northern climates. Unlike other materials that expand, contract, warp, or crack with seasonal changes, aluminum retains its shape and strength year after year.

Its structural rigidity makes aluminum windows more resistant to deformation caused by building movement and climate stress. In fact, aluminum expands and contracts 2.6 times less than vinyl and doesn't swell or shrink like wood. This means a better long-term fit within the window opening, improved weather sealing, and greater energy efficiency. Simply put, your windows will last longer—and so will your investment.

FACT #2
Industry-Leading Energy Efficiency

Aluminum is an ideal material for building high-performance, energy-efficient windows. It’s easy to work with, highly machinable, and allows for precise fabrication, ensuring parts fit tightly and securely. Today’s aluminum window frames can incorporate advanced thermal barriers, durable seals, and precision glazing systems that help maintain comfort and reduce energy costs.

Unlike some materials that degrade over time due to sun, moisture, or temperature changes, aluminum maintains its structural integrity in all climates. Combined with modern glazing options—such as Low-E coatings and gas-filled insulating glass—aluminum windows can deliver year-round energy savings.

FACT #3
More Design Flexibility for Modern Homes

Aluminum’s strength-to-weight ratio makes it a favorite among designers and architects. Its rigidity allows for slimmer frames and larger glass areas, bringing in more natural light and offering a cleaner, more contemporary aesthetic.

It can be fabricated into a wide range of profiles and window styles, all engineered for smooth operation and a snug fit. Aluminum is also compatible with a wide selection of durable, low-maintenance finishes, available in a variety of standard and custom colors. Because it doesn't absorb moisture, aluminum won’t rust, rot, swell, crack, or warp—ensuring it stays beautiful for decades.

FACT #4
A Strong Future Built on a Proven Material

Aluminum has been used in building and construction since the 1870s, and its potential continues to grow. As one of Earth’s most abundant elements, it’s not only sustainable but also one of the most recyclable and energy-efficient materials to produce.

Organizations like the Aluminum Extruders Council (AEC) are driving innovation in aluminum manufacturing, working closely with builders, fabricators, and consumers to expand its use and efficiency. Their mission: to promote the benefits of aluminum and ensure it remains a vital material for tomorrow’s buildings. With its unmatched strength, versatility, and sustainability, aluminum is here to stay.

WARRANTY

METRO ALUMINUM PRODUCTS LTD. warrants that their products shall be free from defects in workmanship and materials to generally accepted industry standards for a period of one year from the date of shipment provided that they have been installed and maintained in accordance with METRO ALUMINUM PRODUCTS LTD. installation instructions and recommendations. This warranty is limited to defects appearing within one year from the date of shipment and provided that written notification defining defects is received by METRO ALUMINUM PRODUCTS LTD. within that one year period. This warranty is limited to the repair or replacement of defective materials or the repayment by METRO ALUMINUM PRODUCTS LTD. of the original purchase price paid for the defective material: METRO ALUMINUM PRODUCTS LTD. reserves the right to select any of the above options.