

T/E-4500-series Storefront Framing

Center Glazed Non-thermally and Thermally Broken

Product Details

Details:

- T/E-4500 series has a 1-3/4" sightline and is 4-1/2" deep.
- Utilizes a snap-in heavy duty CDM-32 door stop, which is 3/16" thick, 5/8" high and 1-1/2" wide. This door stop is an excellent choice where closers, removable hardware mullion, and strikes are mounted directly to door stop.
- High performance flashing always used on exterior applications.
- System can be specified as thermally broken system for immediate and transom framing applications, where door jambs and door stops are also thermally broken. FTM-1 door stop holds the same dimensions as CDM-32 and is the only snap-in door stop in the market that maintains systems thermally broken status.
- Center flush glazed system.
- Additional feature: Stabilizer brackets are used in areas, where extra reinforcement and support are needed.
- Unlimited design possibilities and hardware options.
- Infills range from 1/4" to 1".
- Virtually maintenance-free construction.
- Custom and standard anodized, painted, and wood grain finishes.
- UltraFab's UltraFin weatherseals for door stops.
- Unlimited head rail, midrail, and base sizes and configurations available.
- Numerous muntin details available.
- Flush glazed door panels (fluted and smooth patterns) available.
- Concealed card readers available.
- Head receptors and historical glazing kits available.
- Design Limits – 12 feet high/ 14 feet high with design modifications. Width limits - wide spans with addition of expansion jambs every 16 feet to 21 feet.

Product Uses

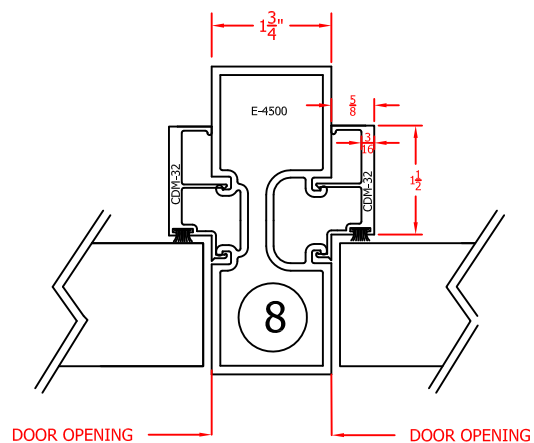
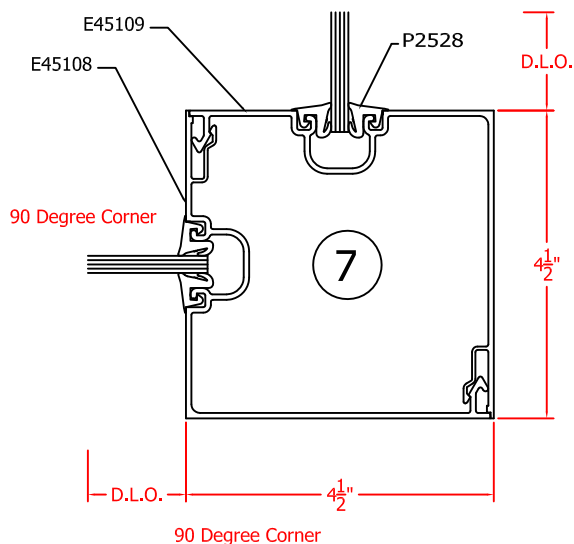
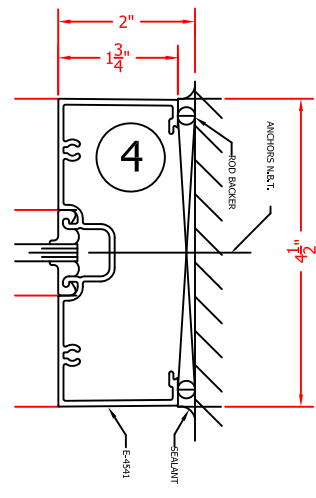
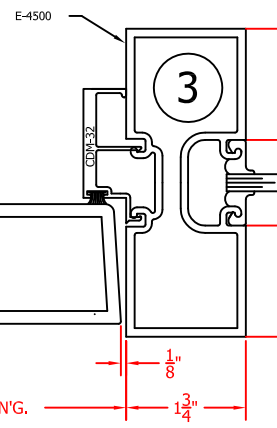
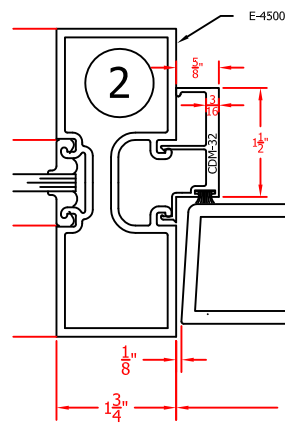
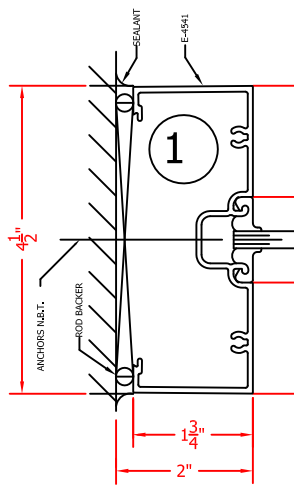
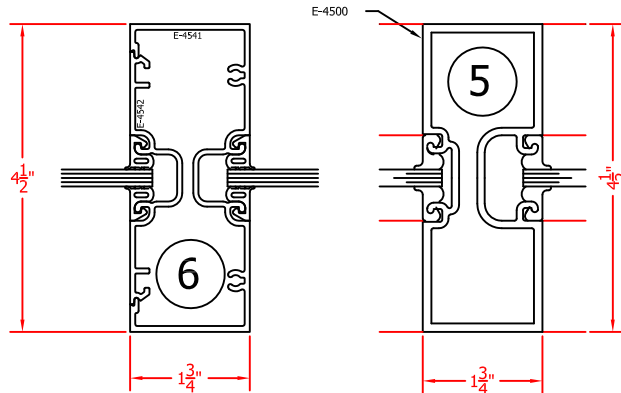
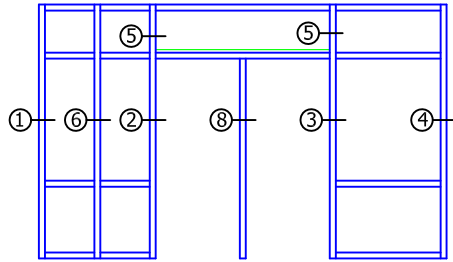
- Areas of common use: Military installations, schools, universities, water treatment plants, banks, stores, government buildings, restaurants, hotels, utilities buildings, YMCAs, indoor pool areas, greenhouses, aquatic centers.

E-4500-SERIES FRAMING



Vertical Jamb Details

Center Glazed

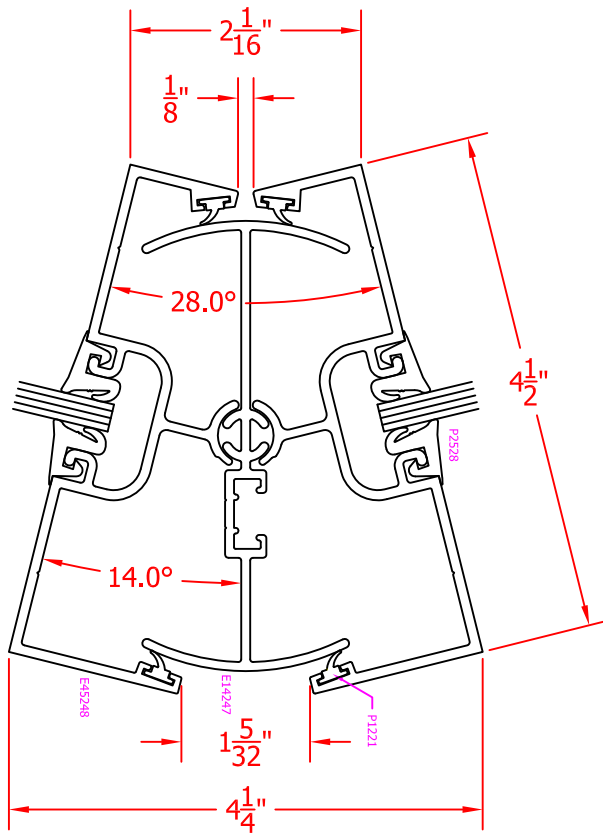


E-4500-SERIES FRAMING

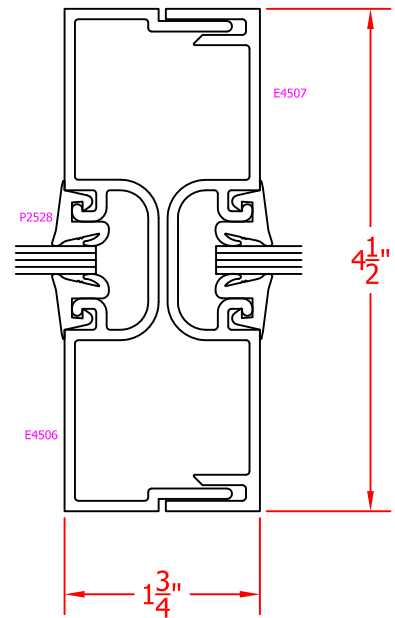
Additional Vertical Jamb Details



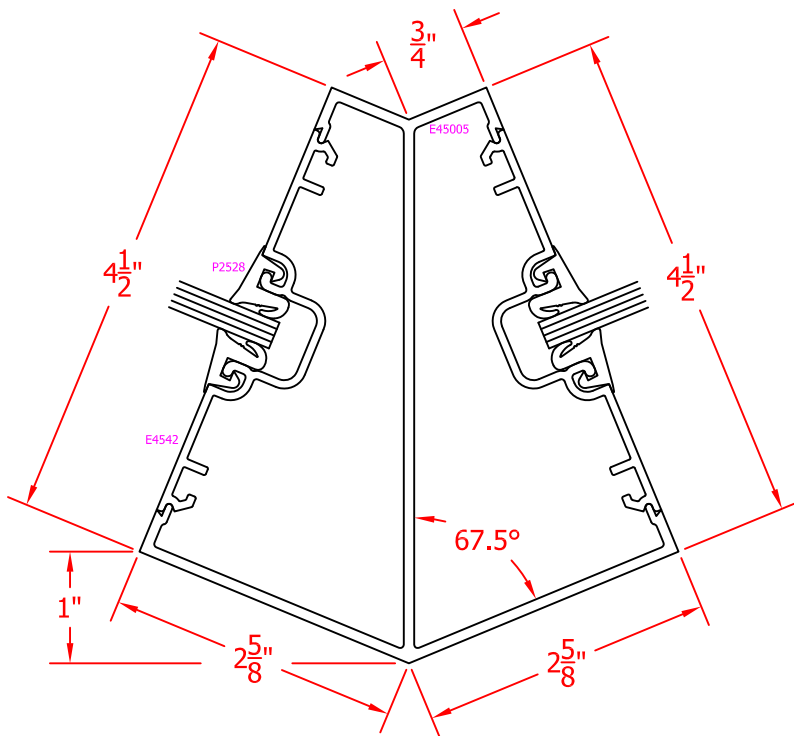
Center Glazed



Adjustable Angle Vertical



Expansion Jamb for
Long Width Runs - Use
Every 16' to 21'.



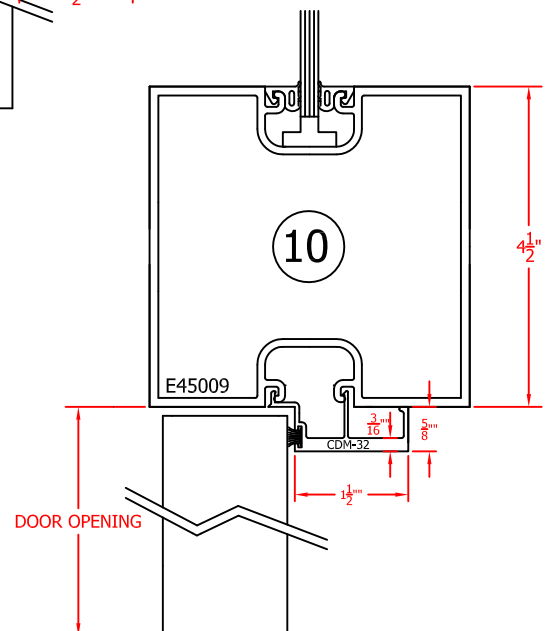
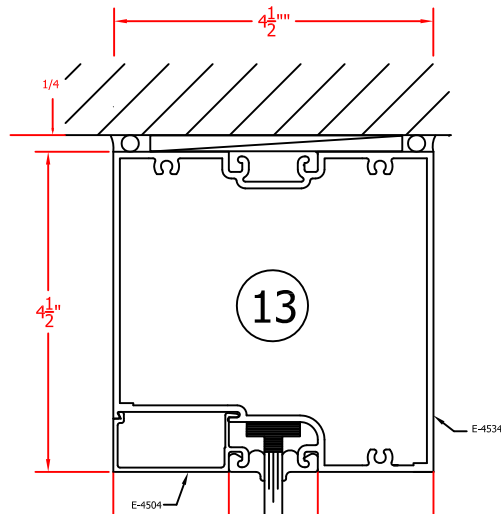
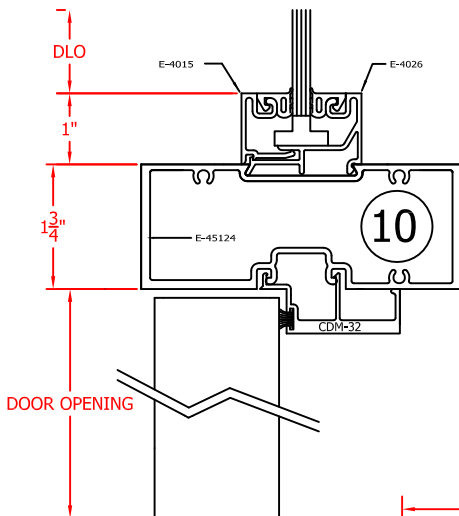
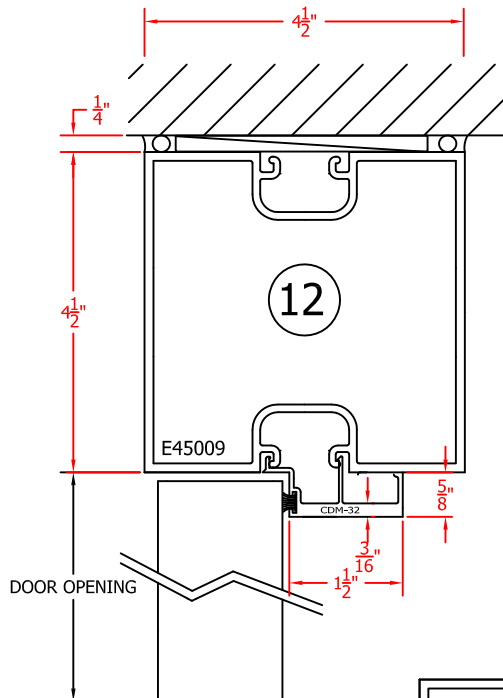
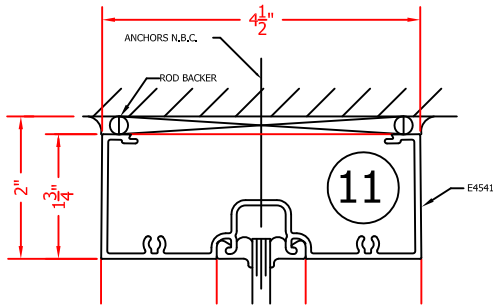
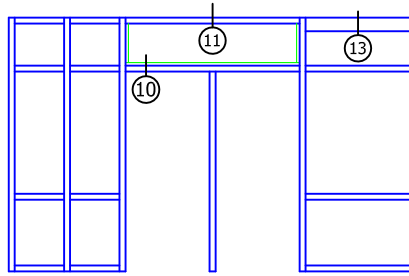
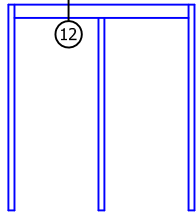
135° Corner

E-4500-SERIES FRAMING

Door and Transom Headers



Center Glazed



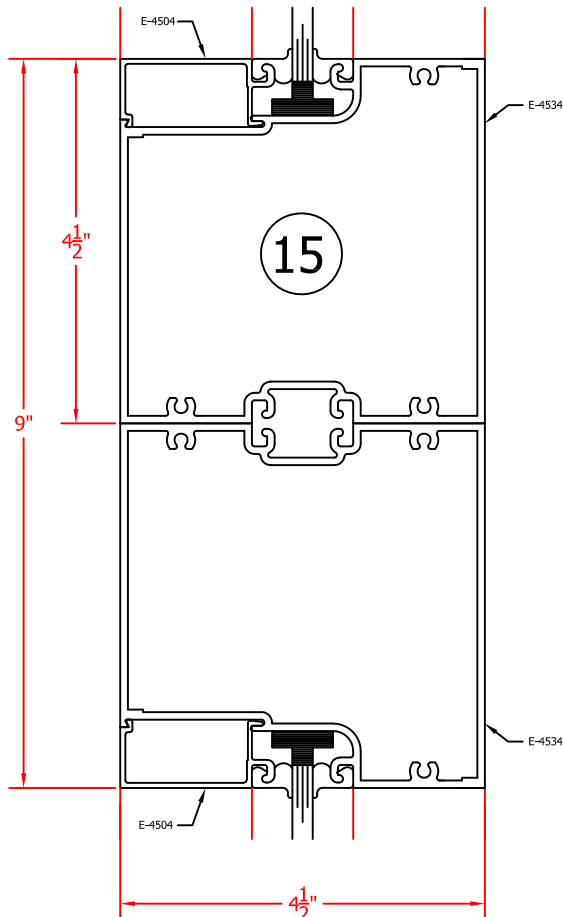
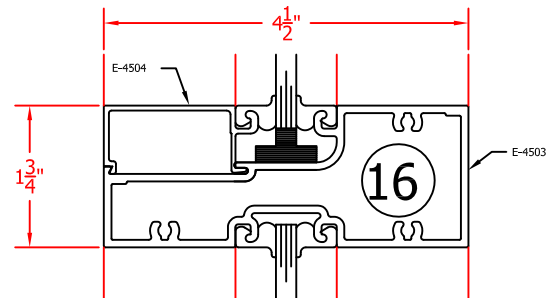
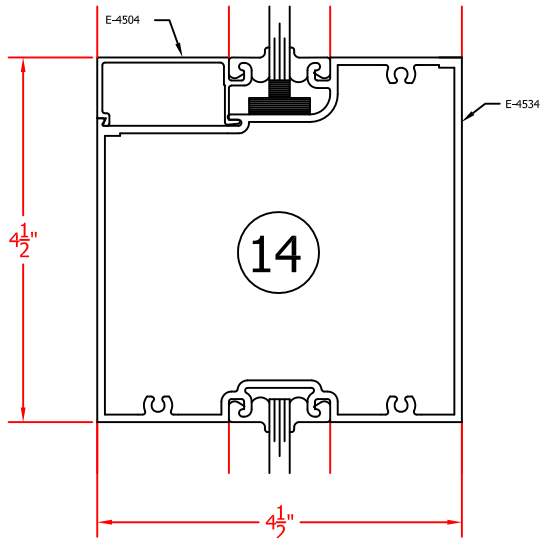
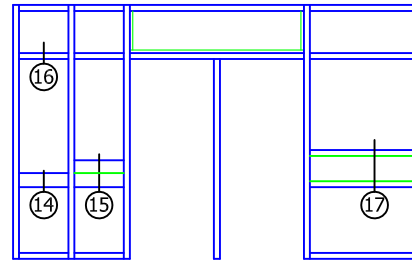
*Note: Custom door and transom frame headers are available.

E-4500-SERIES FRAMING

Horizontal Mid-Rails

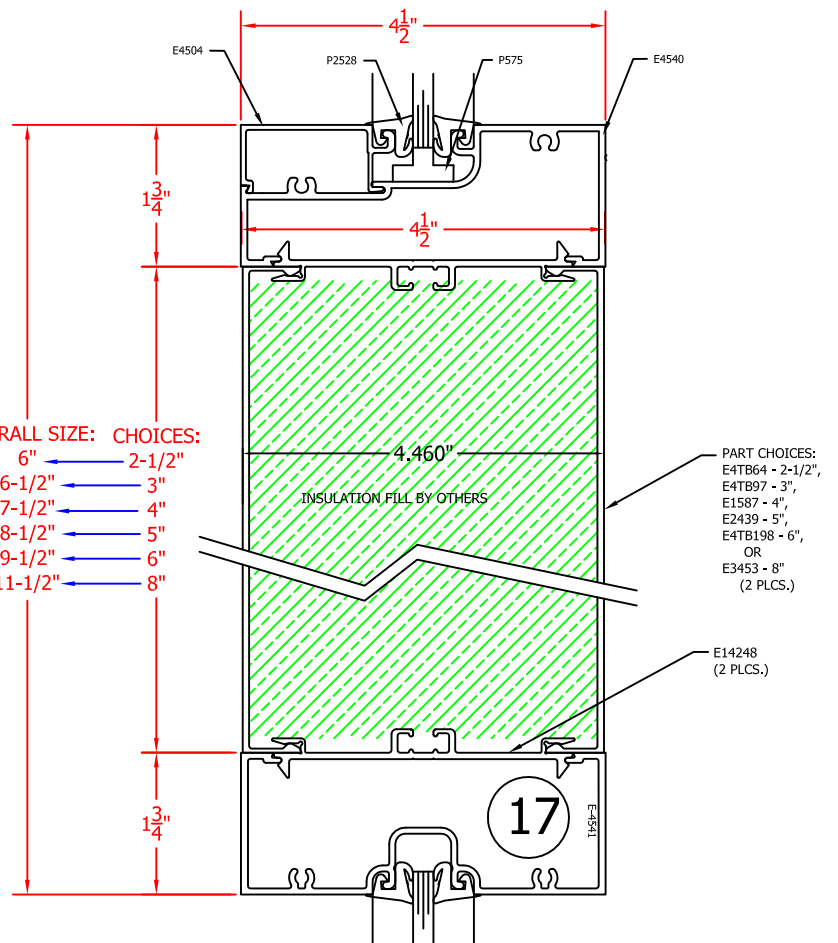


Center Glazed



OVERALL SIZE: CHOICES:

6"	2-1/2"
6-1/2"	3"
7-1/2"	4"
8-1/2"	5"
9-1/2"	6"
11-1/2"	8"



PART CHOICES:
E4TB64 - 2-1/2",
E4TB97 - 3",
E1587 - 4",
E2439 - 5",
E4TB198 - 6",
OR
E3453 - 8"
(2 PLCS.)

E14248
(2 PLCS.)

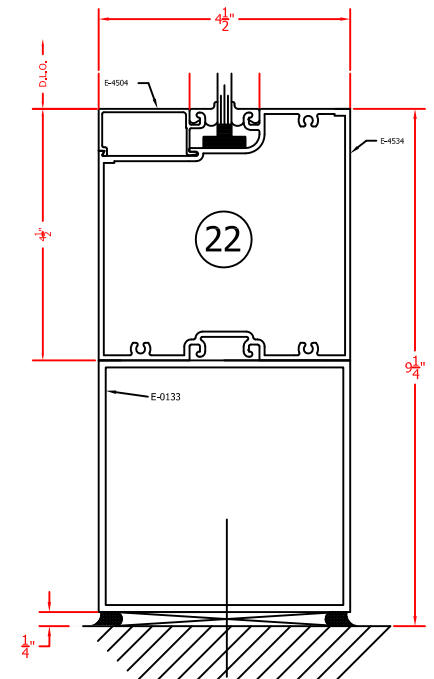
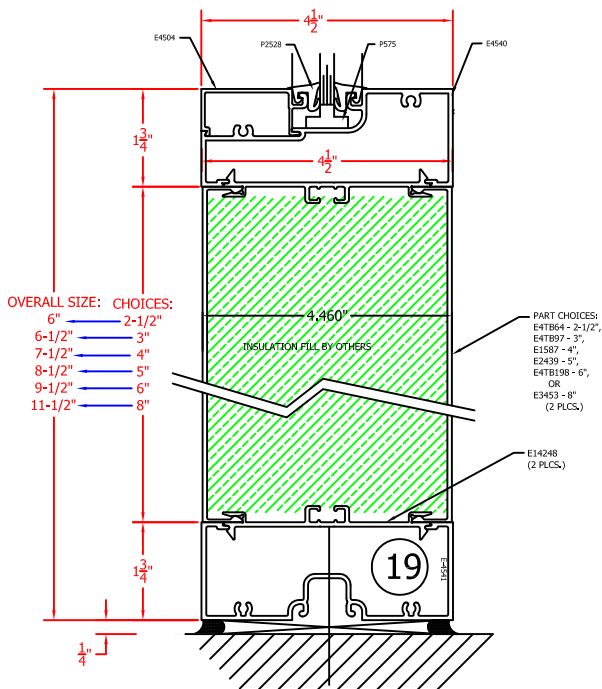
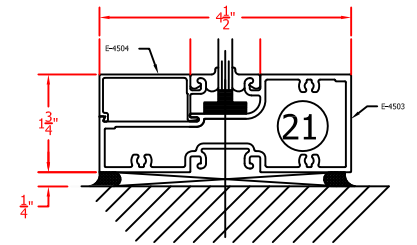
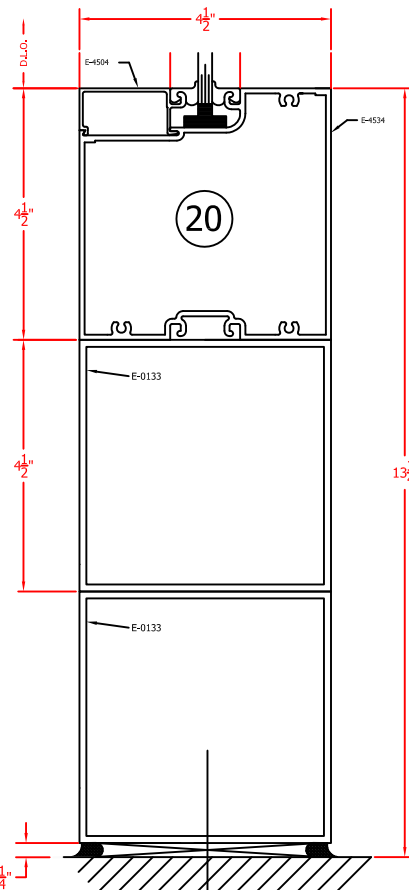
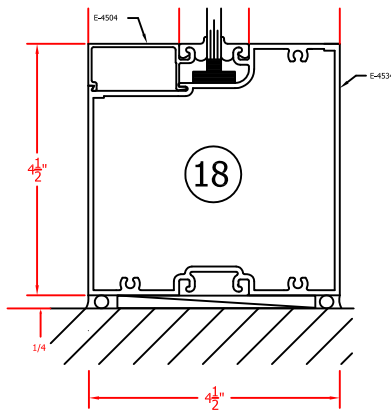
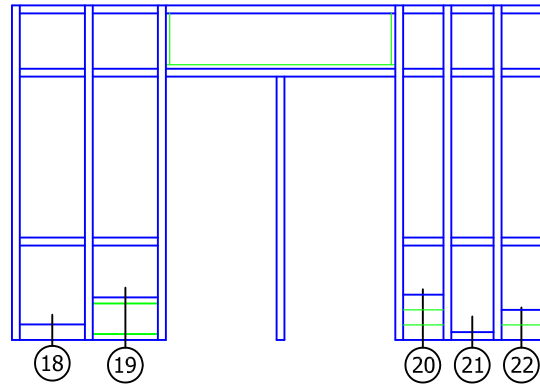
*Note: Custom frame mid-rail horizontals are available.

E-4500-SERIES FRAMING

Horizontal Base Rails



Center Glazed

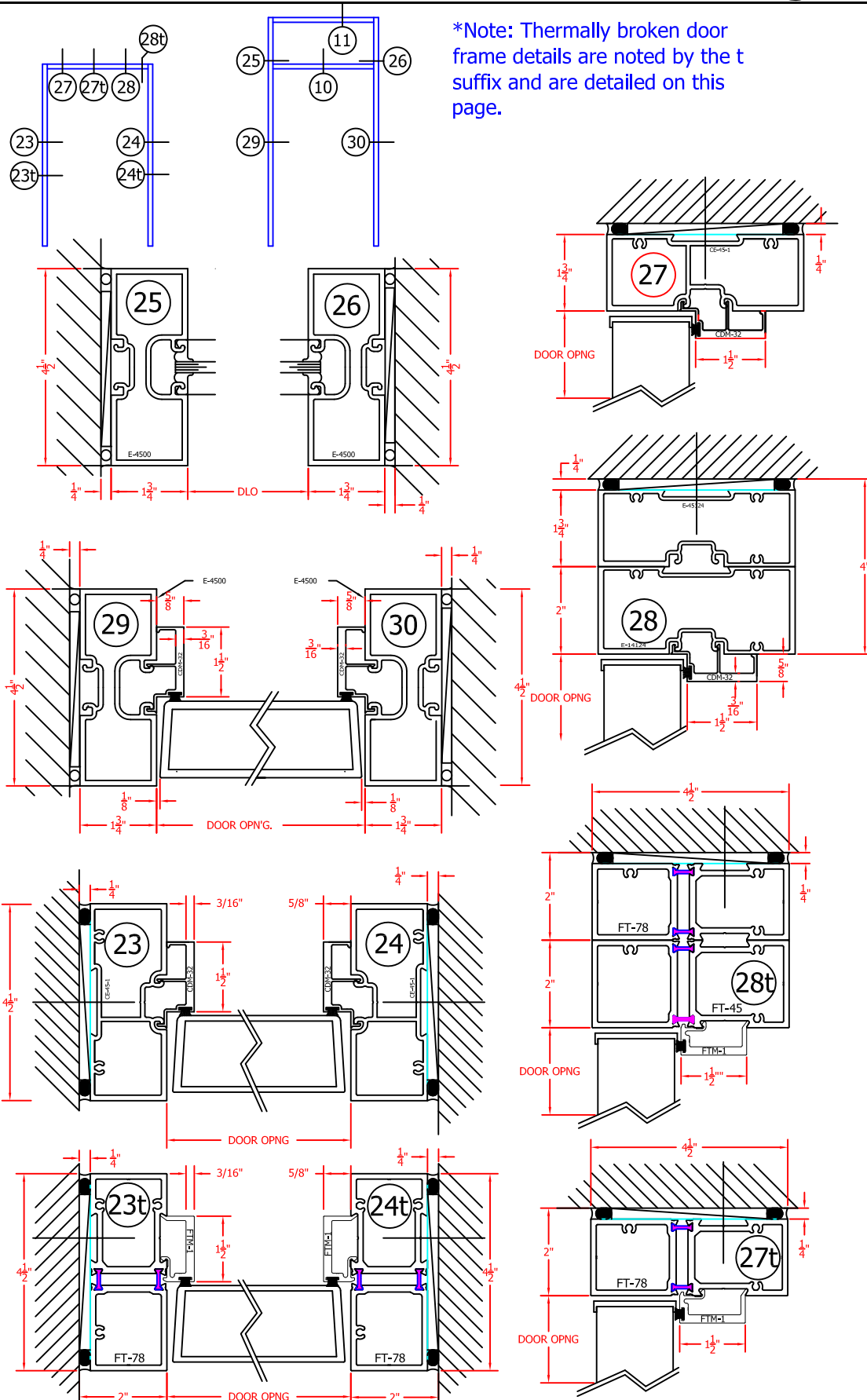


*Note: Custom frame base-rail horizontals are available.

T/E-4500-SERIES FRAMING

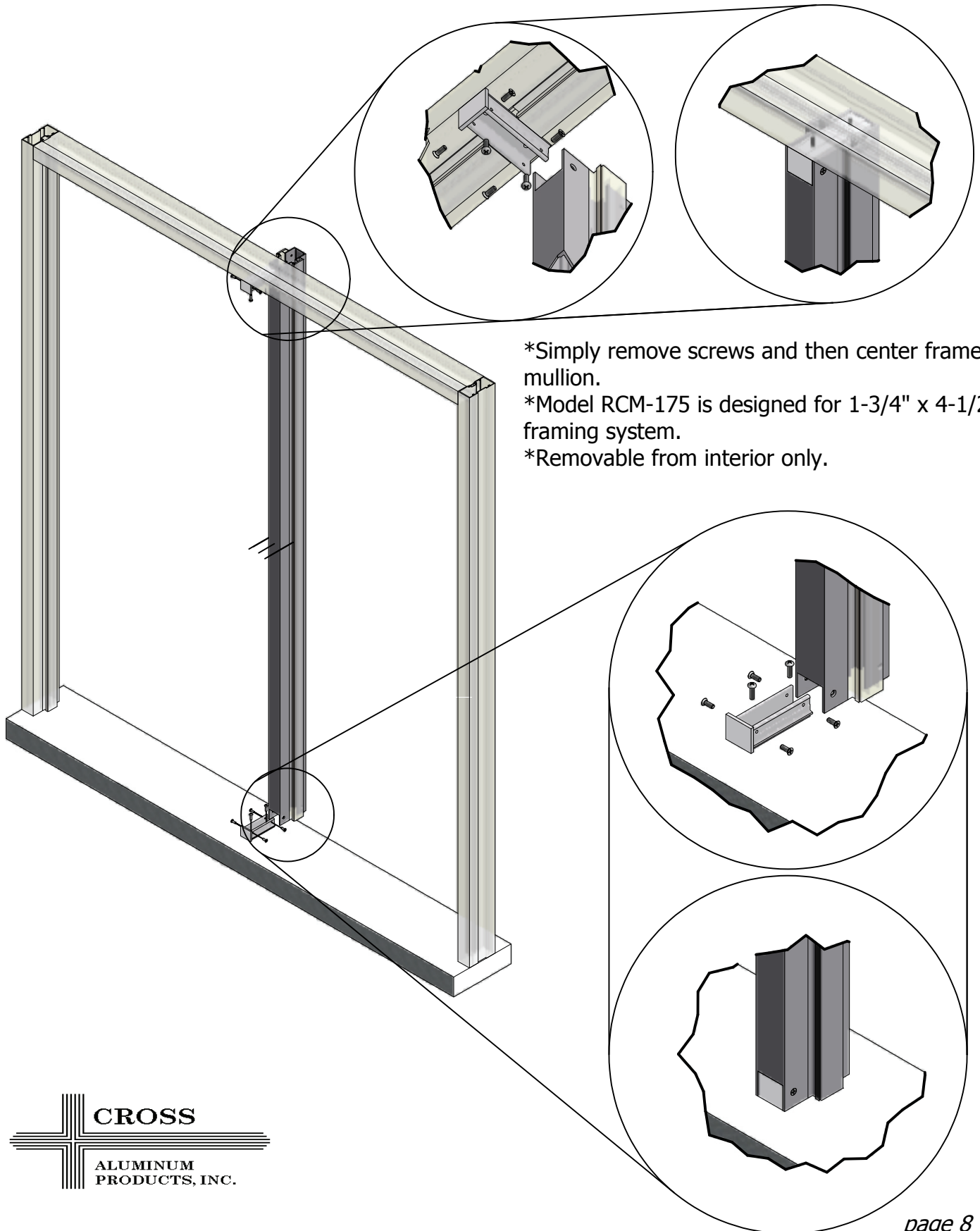
Immediate Door and Transom Door Framing

*Note: Thermally broken door frame details are noted by the t suffix and are detailed on this page.



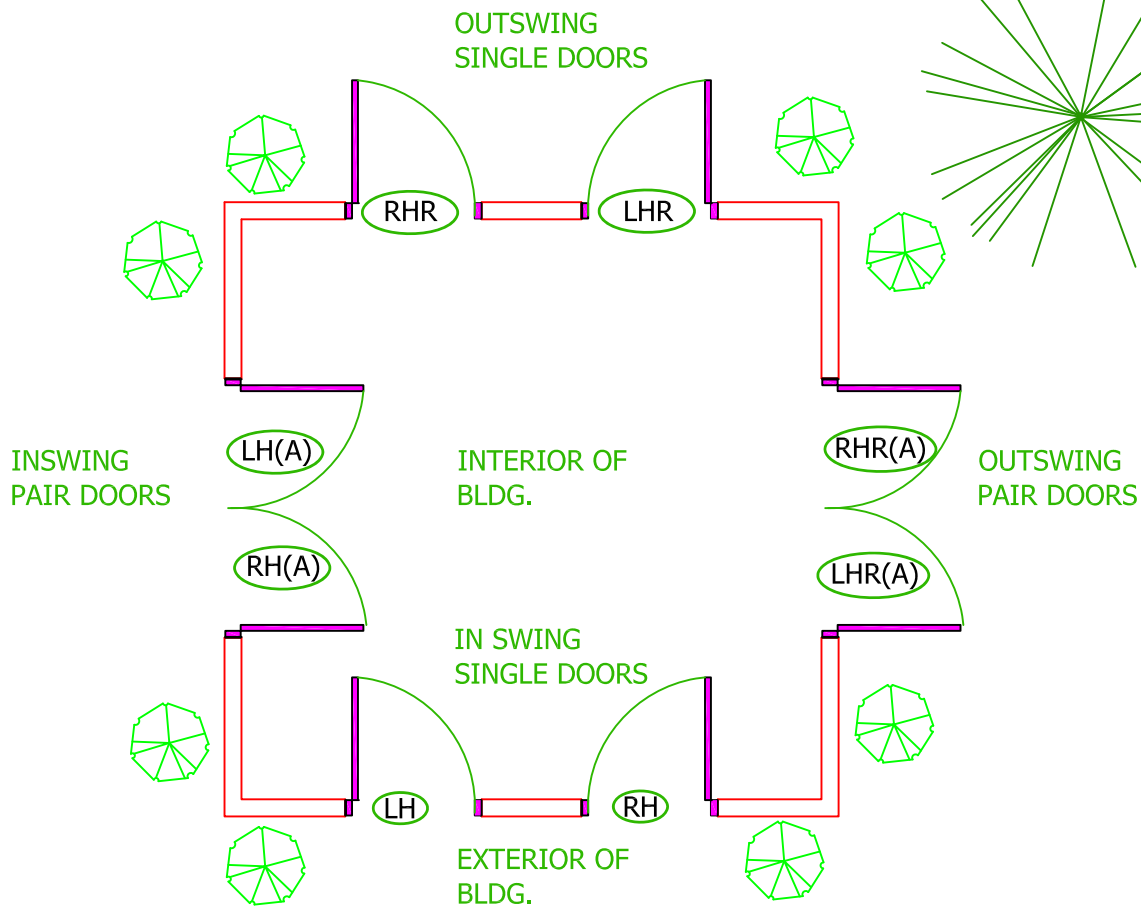
E-4500 SERIES FRAMING

REMOVABLE FRAME CENTER MULLION - RCM-175



E-4500-SERIES FRAMING

General Helps



FINDING DOOR SWINGS USING A FLOOR PLAN.

NOTE: ON PAIR DOORS, ONE DOOR LEAF IS USUALLY SELECTED AS THE ACTIVE LEAF. THIS IS DONE BY ATTACHING A LETTER A AT THE END OF THE ACTIVE DOORS HANDING.

OTHER IMPORTANT FACTORS FOR ALUMINUM DOOR AND FRAME SPECS.

- *REMEMBER TO SPECIFY A CENTER FLUSH GLAZE OR FRONT FLUSH GLAZE SYSTEM.
- *REMEMBER TO SPECIFY THERMALLY BROKEN SYSTEM FOR IMMEDIATE AND TRANSOM DOOR FRAMES, OR TO ALLOW NON-THERMAL EXTRUSIONS IN DOOR OPENING AREA.
- *IF NOT NOTED IN SHOP DRAWINGS, IT IS IMPORTANT TO REQUIRE FIELD MEASUREMENTS BEFORE FABRICATION.
- *REQUIRE COLOR SAMPLES FOR CUSTOM COLORS.
- *REQUIRE DOOR MANUFACTURER TO PROVIDE AT LEAST IMMEDIATE DOOR FRAMING TO GUARANTEE DOOR HARDWARE PREP LINES UP WITH FRAMING HARDWARE PREP.
- *DOOR AND FRAME MANUFACTURERS NEED FINAL APPROVED HARDWARE SCHEDULE BEFORE FABRICATION.
- *IF POSSIBLE, REQUIRE DOOR AND FRAME MANUFACTURER TO FACTORY INSTALL LOCKING, HINGING, TOP REMOVABLE HARDWARE MULLION, AND CONCEALED HARDWARE.
- *FOR ANY DOOR AND STOREFRONT OPENING CONCERNS OR QUESTIONS, FEEL FREE TO CONTACT OUR ARCHITECTURAL AND CUSTOMER SUPPORT LINE AT 1-800-806-DOOR.

Cross Aluminum Products, Inc.
1770 Mayflower Rd.
Niles, MI. 49120
Toll Free (800) 806-3667
Phone (269) 697-8340
Fax (269) 697-8348
www.crossaluminum.com
door@crossaluminum.com

Guide Specification

SECTION 08 43 13

ALUMINUM STOREFRONT FRAMING

Editor Comments: All contents of this product specification have been written using the Construction Specifications Institute (CSI) Master Format 2004 Edition. This specification has been edited and formatted to meet the CSI 3-Part Format. Page Format, Section Format, and the CSI Manual of Practice were used in the arrangement of this specification.

This specification is written by Cross Aluminum Products Inc. and includes storefront framing.

If necessary, apply sections for Glass and Glazing (section - 08 81 00), Sealants (section – 07 90 00).

This specification was intended to assist in distinct job specifications. It must be reviewed and revised by the Architect or job specifier to meet project requirements and local building codes. Anything which appears in brackets [_____] reveals an option for a particular item or statement to be either omitted, included, or inserted to meet job specific requirements.

Editor comments have been provided throughout this section to help the Architect or job specifier make any necessary changes.

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Cross Aluminum Storefront Framing.

Editor notes: Delete or Add any sections that may need to be included on this project.

1.02 RELATED SECTIONS

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Edit listing of standards that apply to the project, including titles and descriptions.
Refer to contracting requirements in section - 01 42 00.
The standards are just a listing of those used and may not require compliance.

- A. ASTM B 209 - Aluminum and Aluminum-Alloy Sheet and Plate.
- B. ASTM B 221 - Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- C. ASTM B 308 - Aluminum-Alloy 6061-T6 Standard Structural Profiles.
- D. ASTM E 283 - Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
- E. ASTM E 330 - Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
- F. ASTM E 331 - Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
- G. ASTM E 413 – Classification for Rating Sound Insulation.
- H. ASTM E 90 – Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
- I. AAMA 501.1 – Standard Test Method for Exterior Windows, Curtain Walls, and Doors for Water Penetration Using Dynamic Pressure.
- J. AAMA 501.5 – Test Method for Thermal Cycling of Exterior Walls.
- K. AAMA 501.4 – Recommended Static Test Method for Evaluating Curtain Wall and Storefront Systems Subjected to Seismic and Wind Induced Inter-story Drifts.
- L. AAMA 1503 – Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections.

Aluminum Storefront Framing

A. System Performance Requirements:

1. Air infiltration: When tested in accordance with ASTM E 283, the air infiltration should not exceed .06 CFM/Ft² at a pressure of 6.24 PSF.
2. Water Penetration: No uncontrolled water will pass through the entry system when tested in accordance with ASTM E 331 at a test pressure of 15 PSF.
3. Water Entry: No uncontrolled water entry shall occur when tested in accordance with AAMA 501.1-94 at a test pressure of 15 PSF.
4. Uniform Load Structural: Framing system shall be tested in accordance with ASTM E 330: based on a maximum allowable deflection of L/175 of the span or 3/4" maximum.
5. Structural performance: There shall be no buckling, stress on glass, edge seal failure, excess stress on curtain wall structure, anchors and fasteners or reduction in performance when tested in accordance with AAMA 501.5-98 at a temperature range of 0° to 180° F.
6. Seismic Test (lateral cycling): There shall be no "Life/Safety" type failures (glass breakage, anchor failures, or structural damage) when tested in accordance with AAMA 501.4.
7. Thermal Transmittance: U factor condition shall not be greater than .43 – poured & debridged only BTU/Hr/Ft² degree when tested in accordance with NFRC 102.
8. Condensation Resistance Factor: shall not be less than 56 - poured & debridged only (or 53 – slotted only) when tested in accordance with AAMA 1503-98.
9. Sound Transmission: Framing system shall have a Class rating of 32 and an Outdoor-Indoor Transmission rating of 26 when tested in accordance with ASTM E90, ASTM E413, and ASTM E1332.

1.05 SUBMITTALS

- A. General: Refer to Submittal Procedures – Section 01 33 00
- B. Product Data: Include manufacturer's product information, including material, elemental construction, fabrication, and finishes.
- C. Shop Drawings: Include shop drawings relating to dimensions, fabrication, finish and installation.
1. Drawings should include the following:
 - a. Dimensions

- b. Elevations with necessary detail keys
 - c. Entry system reinforcements (if applicable)
 - d. Fabrication and Finish
- D. Samples:
 - 1. Color: Provide manufacturer's samples of standard and non-standard finishes.
 - 2. Frame: Supply manufacturer's frame sample presenting finish and profile.
- E. Test Results: Offer any required test results for particular jobs. Accredited test reports will be available upon request.
- F. Manufacturer's Instructions: Provide all necessary instructions for installation including glazing, anchoring, reinforcement (if applicable), and optimum performance installation.

1.06 QUALITY ASSURANCE

- A. Manufacturer's Qualifications:
 - 1. Manufacturing process with contemporary inspection using neoteric methods for optimum longevity and field performance.
 - 2. Manufacturing same product specified for over 25 years.
- B. Pre-Installation Meetings: Plan initial pre-installation meetings for job details and regional regulations.

1.07 DELIVERY, STORAGE, HANDLING

- A. Packing: Finished products shall be packaged securely with appropriate labeling for protection and product identification visible on protective wrapping.
- B. Shipping and Handling: Deliver materials to site in original condition and packaging without any damage to packaging or materials.
- C. Storage and Protection:
 - 1. Store items indoors away from excessive amounts of moisture.
 - 2. Protect entry doors against damage from outdoor hazards and during the entire installation.
- D. Waste Management: Refer to contact information apparent on packaging for appropriate recycling opportunities.

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Longer warranties available. Confer with Cross Aluminum Products Inc. about additional warranty information.

1.08 WARRANTY

- A. Warrant frames to be free from defects which include factory applied hardware, and premature degradation of finish and structure.
- B. Warranty period will be ten years from the date of manufacture.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Cross Aluminum Products Inc.,
Address: 1770 Mayflower Rd., Niles, Michigan 49120.
Phone: (800) 806-3667 or (269) 697-8340
Fax: (269) 697-8348
Web: www.crossaluminum.com
Email: door@crossaluminum.com

2.02 ALUMINUM STOREFRONT FRAMING

Specify type of framing to be used for storefronts:

[4500 Series], [14000 Series], [14000-IO Series], [14650 Series]

4500 Series is a 1-3/4" x 4-1/2" or 2 x 4-1/2" flush glazed system accepting 1/4" glass.

14000 Series is a 2" x 4-1/2" deep flush glazed system accepting 1" insulated glass (1/4" thick glass may also be used with interior snap-in adaptor. 14000 Series framing is designed with Thermal and Thermal slot designs.)

14000-IO Series is a 2" x 4-1/2" deep front glazed system accepting 1" insulated glass.

14650 Series is a 2" x 6-1/2" deep flush glazed system accepting 1" insulated glass (1/4" thick glass may also be used with pocket reducers. 14650 Series framing is designed with Thermal and Thermal slot designs)

- A. Product: Aluminum Storefront Framing.
 - 1. Type: [4500 Series], [14000 Series], [14000-IO Series], [14650 Series].
- B. Framing Profile: To be Extruded [1-3/4" x 4-1/2"], [2" x 4-1/2"], or [2" x 6-1/2"] Tubes.
 - 1. Wall thickness:
 - a. Vertical Jambs and Headers: 0.125" thick.
 - b. Horizontals: 0.100" minimum thickness
- C. Thermal Design:
 - 1. Thermal Barrier: Poured and Debridged.
 - a. Material: Two-part chemically curing, polyurethane casting resin, poured in place.
 - 2. Thermally Improved: Slotted.
 - a. Slot size: To be 1/2" by 5-1/2" with 1/2" between slots.
 - b. Slot location: To be at center of extrusion pocket.
- D. Frame Assembly:

1. Frame member: To be aluminum alloy 6063; temper to be T5 with a minimum 1/8" wall thickness.
 2. Frame Tube Thickness: To be 1 3/4" or 2" thick tubular extrusion.
 3. Frame Joinery: Joinery shall be screw-spline or machine screw-applied sheer block with a minimum of 2 stainless steel fasteners at each clip.
- E. Clips and Reinforcements: Manufacturer's standard high strength aluminum: ASTM B 221; ASTM B 308.
- F. Anchoring:
1. Appropriate anchoring fasteners to be secured no more than 18" apart on entire frame opening.
 2. Frame headers to receive no less than 2 anchoring fasteners.
 3. Add extra fasteners where hardware and hinge may require more.
- G. Glazing
1. Gasket: To be extruded rubber compound; EPDM.

2.03 ALUMINUM IMMEDIATE DOOR FRAMING

Specify type of framing to be used for immediate door frames:

[4500 Series], [14000 Series], [14650 Series]

4500 Series is a 1-3/4" x 4-1/2" or 2" x 4 1/2" flush glazed system accepting 1/4" glass.

14000 Series is a 2" x 4-1/2" deep flush glazed system accepting 1" insulated glass (1/4" thick glass may also be used with interior snap-in adaptor.)

14650 Series is a 2" x 6-1/2" deep flush glazed system accepting 1" insulated glass (1/4" thick glass may also be used with pocket reducers. Indicate required header sizes.

If using frame systems other than Manufacturer's standard, delete and specify frame changes below. Delete frame sizes that are non-essential for the project.

**If not using Cross Aluminum's CDM-32 doorstop delete below and specify alternate, but similar doorstop with applicable specifications for that doorstop.*

- A. Framing Members: Manufacturer's standard aluminum extruded profiles with required thickness for load support.
1. Vertical Jamb and Header Type: [4500 Series], [14000 Series], [14650 Series]
 - a. Wall thickness: 0.125" thick
 2. Header Sizes: [1 3/4" x 4 1/2"], [2" x 4 1/2"], [2" x 6 1/2"], or [_____].
 - a. Wall Thickness: 0.125" thick.
 3. CDM-32 Doorstop:
 - a. Wall Thickness: To be 3/16" (0.1875") thick for receiving applicable hardware.
 - b. Profile Height: To be 5/8" (0.625") high.
 - c. Snap-in: Fits standard manufacturer's door jamb profiles.
 - d. To receive weather strip around acting door leaves.

1. Wool pile: Solid Propylene Base with resilient fibers in a standard black color.
- B. Clips and Reinforcements: Manufacturer's standard high strength aluminum: ASTM B 221; ASTM B 308.
 - C. Fasteners: Manufacturer's standard non-bleeding and non-corrosive material congruent to adjacent material.
 1. Exposed Fasteners(if needed): To be non-magnetic stainless steel Philips flathead screws with appropriate finish: ASME B 18.6.4
 2. Concealed Fasteners: To be manufacturer's standard.
 - D. Anchoring:
 1. Appropriate anchoring fasteners to be secured no more than 18" apart on entire frame opening.
 2. Frame headers to receive no less than 2 anchoring fasteners.
 3. Add extra fasteners where hardware and hinge may require more.
 - E. Hardware Preparation:
 1. Intramural Work: Hardware preparation according to hardware suppliers' templates.
 2. Field Work: Refer to manufacturers' installation instructions.
 - F. Side lites and Transoms:
 1. Factory-assembled to largest allowable shipping size.
 2. Identified in concealed locations according to final approved elevation numbers.

2.04 MATERIALS & ACCESSORIES

- A. Aluminum:
 1. ASTM B 221, alloy and temper to be 6063 T-5 or similar alloy and temper recommended by manufacturer for optimum finish results and consistency.

Editor notes: Specify necessary reinforcement other than manufacturer's standard (if needed) in the space provided at 2. If no reinforcement is needed, delete nonessential items.

- B. Internal Reinforcement
 1. ASTM B 308, for structural aluminum.
 2. []
- C. Fasteners
 1. Material: Aluminum, 18-8 Stainless Steel, or other non-corrosive materials compatible with items being screw applied.
 2. Exposed:
 - a. Type: Fasteners exposed will be Philips flathead fasteners unless provided by other supplier.

- b. Finish: Fasteners to match appropriate finish on standard doors and frames.
 - 3. Concealed: To be standard according to manufacturer's standards.
- D. Weather stripping:
 - 1. Wool pile:
 - a. Material: Solid Propylene Base with resilient fibers.
 - b. Color: Manufacturer's standard black color.
- E. Glazing:
 - 1. Type: Exterior Snap-in glass stops.
 - 2. Frame gasket to be flush glaze extruded rubber compound; EPDM..

 Editor notes: Hardware may be supplied by Cross Aluminum, the contractor, or others.

Most Hardware will be factory-applied, if the hardware is received in a timely manner that doesn't interfere with job completion schedule. Hardware should have no damage or have any missing parts.

2.05 HARDWARE

- A. Hardware Preparation: To be fabricated at factory according to hardware templates provided.
- B. Hardware Installation: To factory install all applicable and supplied hardware to appropriate frames.
- C. Hardware Reinforcement: To provide necessary reinforcement for proper longevity and hardware function; ASTM B 209 and/or ASTM 308.

2.06 FABRICATION

- A. Processes:
 - 1. Job Preparation:
 - a. Preliminary Analysis: Job drawings to indicate frame types, horizontal location(s), side lite and transom lite configuration(s), and finishes.
 - b. Fulfill Custom Requirements: Follow through on any specific deviations from standard requirements.
 - c. Approved shop drawings with final coordinated field measurements necessary before fabrication.
 - 2. Assembly:
 - a. Framing members are separate aluminum pieces cut to length and mechanically fastened from either screw spline or shear block systems.
 - b. Joinery to be hairline.

- B. Do not install damaged components.
- C. Install frames plumb, level, and square, with no warp or rack.
- D. Shim appropriately behind frame perimeter to allow for sufficient caulk joint.
- E. Fit joints to produce hairline joints free of burrs and distortion.
- F. Rigidly secure non movement joints.
- G. Install recommended anchors with separators to prevent metal corrosion and electrolytic deterioration.
- H. Seal joints watertight, unless otherwise indicated.
- I. Glazers to provide necessary setting blocks for proper glass installation on vision lites and side lites. Reference section Glazing Accessories (08 85 00).
- J. Place thresholds and sills in proper weather sealant.

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For more on sealants refer to Section 07 90 00 Joint Treatment (sealants) and glass refer to related (Section 08 80 00) Glazing.

3.03 ADJUSTING

- A. Allow for expansion and contraction in appropriate areas.

3.04 CLEANING

- A. Immediately clean frames after installation.
- B. Avoid any harsh cleaners not specified on manufacturer's cleaning and care guide.

3.05 PROTECTION

- A. Follow Manufacturer's guide to cleaning and care for proper treatment on entrances for optimum longevity, function, and performance.

END OF SECTION