Architectural Manual

Thermally Improved

Aluminum Series

Windows & Patio Doors

Milgard Windows & Doors

Instructions on how to use this manual:

This document has been designed for easy navigation and to quickly click to the section you need. Here's some important tips on using this document:

- Any item print in red, will click through to the corresponding item.
- Click to any item in the Table of Contents on page 3. Click on the Milgard logo at the top of any page to return to the Table of Contents - FULL MANUAL ONLY.
- From each section's Quick Links page, click to any Drawing listed.
- From any Drawing page, click the "Go Back to Quick Links" box on the bottom right of the page to return to the list of drawings.
- Click on the links on the bottom of the page to go to Revit, SketchUp . PDF and .DWG files. Please note that you must have internet access for these links and you will be re-directed to the Milgard site.
- This document can also be navigated from Adobe Acrobat Bookmarks.

Revit, SketchUp, .PDF and .DWG files can be accessed at **milgard.com/professionals** or clicking here:

Thermally Improved Aluminum Architectural Library

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Contents

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About Thermally Improved Aluminum Series

Milgard Thermally Improved Aluminum windows consist of extruded aluminum, where a "channel" is cut through the aluminum and polyurethane is poured into this channel to separate the interior from exterior extrusion. This process is done to reduce thermal transfer and improve energy efficiency.

Features and benefits of Thermally Improved Aluminum Windows:

- Sealed, mechanically-joined corners stay square and true over years of use, helping to keep homes dry.
- Clean, narrow sight lines for contemporary designs and maximum view area.
- Milgard SunCoat® Low-E glass for excellent energy savings and protection against fabric fading.
- Industry-leading Full Lifetime Warranty.
- Anodized coating helps to prevent against rusting, pitting and corroding.

Not all locations manufacture or sell Thermal Break aluminum. Check with your Milgard Dealer.

Energy Packages

Milgard adheres to ENERGY STAR® v6 requirements to meet or exceed U-Factor and Solar Heat Gain Coefficient (SHGC) criteria for all ENERGY STAR® zones.

Milgard also offers high energy performance options for the ultimate in energy efficiency. Energy efficient windows could include one or more of the following features based on your climate.

- SunCoat® or SunCoatMAX®
- EdgeGardMAX®
- Argon

For more details on Milgard Energy Efficient packages, visit www.milgard.com/learn/energy-efficiency/energy-efficient-components

To check the energy performance of all Milgard windows and doors, use our Energy Calculator at:

milgard.com/energy-calculator

Test Standards

Contact your Milgard Representative for specific test data.

CAUTION: The use of petroleum based fuels or solvents as release agents in stucco wall installations or glass cleaning will chemically attack materials used in seals and other components, and voids the Milgard Full Lifetime Warranty. The use of wax-based release agents is recommended.

Expanding foam for insulation purposes should not be used. Non-expanding foam or loose packed batt insulation is recommended.

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Thermally Improved Aluminum Options

Hardware

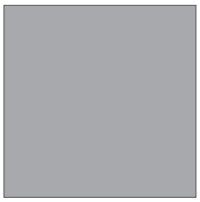
Casement and Awning Handle

Spring action lock for Single Hung and Horizontal Slider

Sliding Door Handle - interior

Sliding Door Handle - exterior

Colors



Clear Anodized

Bronze Anodized

Grids

5/8" Flat Grid

1-1/16" Sculpted

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Full Lifetime Warranty

At Milgard, we build our windows and doors to last. With the dedication to quality that we put into building the best windows in the business, it wouldn't make sense to back them with anything but the best warranty in the business. That's why we back every properly installed window and door for as long as the homeowner owns their home–including parts and labor. It's why you can be sure you won't find any windows better than Milgard.

For complete warranty details, visit milgard.com.

Why Milgard?

Milgard is one of the largest and most trusted names in windows and doors. For the last 50 years, we've demonstrated our commitment to innovation, quality and service.

While our coverage is extensive, our service is local. Milgard has multiple locations throughout the Western U.S. and Western Canada. Our belief is that by being close to our customers, we can provide them better service. This means faster lead and delivery time, as well as faster response to any warranty situations. We're there for you long after the job has been completed. Milgard also has a comprehensive network of qualified dealers and offers some of the best training in the industry.

Awards give you added assurances and Milgard has been named "Best Quality in the Nation" eight times and the nation's "Most Used Vinyl Window" four times by Builder magazine. Both Professional Remodeler and Professional Builder magazines have named us "Most Preferred Vinyl Window" three times.

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Awning & Casement Windows

Please also see:

TI Aluminum Options

Full Lifetime Warranty

Overview

All 920 Series Casement and Awning windows are available in both standard and custom sizes to match virtually any design, either new or retrofit.

Components

FRAME

Frame components are made from 6063-T5 aluminum alloy with a structural wall thickness of .078 ", and non-structural wall thickness of .062". The 920 Series utilizes a thermal break for added insulation value. The poured in polyurethane insulator is approximately 1/4" wide at the most narrow point and is used in all frame members. The frame is available in clear and bronze anodized finishes with a standard .4" mil coating thickness. Wide screw spacing on the mechanically joined corners ensure a rigid connection with a consistent dimension. Corners are sealed for added protection from the weather.

The 920 Series is available with either a standard frame with nail-on fin. The standard frame is 2-1/4" in width. Both types utilize 1" overall glazing for either fixed or vented sections.

NAIL-ON FIN

An integral nailing fin extends 1" around the perimeter of the standard frame and is used to attach the window into the rough opening. The fin is scored for complete removal for retrofit/wood stop installations. The fin is set back 1-5/16" from the exterior edge of the frame.

WEEP SYSTEM

The rectangular weep holes are located in the frame sill for effective drainage and moisture control.

GLAZING MATERIAL

AAMA approved glazing tape adheres glass to the fixed and vent frame and seals and cushions the glass. Rigid vinyl setting blocks are used to support the glass-unit, preventing glass slip-page and glass-to-metal contact.

GLASS

Glass options are available in 1" overall insulating units in clear, tinted, reflective, obscure, Low-E, and safety glass. Other specialty glass is available upon request.

VENT PANEL

The vent features a clean appearance and rigid construction with mitered and mechanically joined corners. Due to weight limitations of the hinging system, the vent is restricted to a maximum size of 12 square feet for awnings and 15 square feet for casements.

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HINGES

Two types of hinges are available with the 920 Series, one standard and one for egress application. The stainless steel egress hinge allows a full 90 degree rotation opening. The standard hinge is zinc-plated steel with a sliding brass shoe, which is tension adjustable and is completely concealed when the window is in a closed position. Each vent uses two hinges.

WEATHERSTRIPPING

For Casements and Awnings, a dual durometer vinyl bulb seal surrounds the entire perimeter of the vent frame, creating a positive, weather tight seal.

LOCKING ASSEMBLY

Friction Hardware– Hand-operated push out latch located on the vent which secures against a polyester strike plate and provides a positive lock and tight seal.

Rotary hardware not available in the Northwest.

Note: Casements over 36" in height two handles are utilized to ensure a tight seal.

SCREEN

Screen frames are aluminum, finished with three coats of color matched baked polyester for long-term durability. The screen material is an attractive, low maintenance black fiberglass mesh. Screens are installed on the inside of Casement and Awning windows using four screw-mounted vinyl L-clips that secure through pre-drilled holes in the window frame. A wicket may be inset into the screen, giving access to the lock for vent operation.

Options

GRIDS

Available in 5/8" standard or 1-1/16" sculptured aluminum pro-files sealed between panes.

WARM EDGE SPACER

Spacers are available in a standard clear finish.

A gray or bronze foam box spacer is available as an option in the Texas market only.

EGRESS HINGES

Available upon request.

TRUE DIVIDED LITE

True divided lite configurations are available, subject to production approval.

TEST STANDARDS

Contact your Milgard Representative for specific test data.

CAUTION: The use of petroleum based fuels or solvents as release agents in stucco wall installations or glass cleaning will chemically attack materials used in seals and other components, and voids the Milgard Full Lifetime Warranty. The use of wax based release agents is recommended. Expanding foam for insulation purposes should not be used. Non-expanding foam or loose packed batt insulation is recommended.

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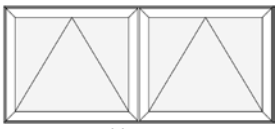
Awning & Casement Windows

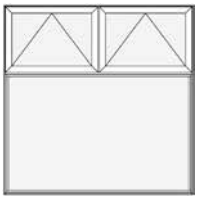
Configurations

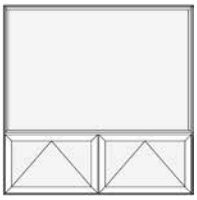

Full Awning

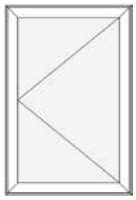

Double Awning

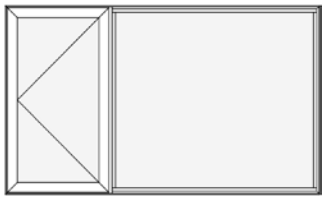

Top Awning

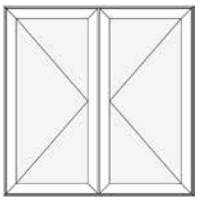

Bottom Awning

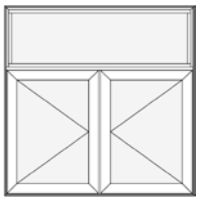

Double Awning Top

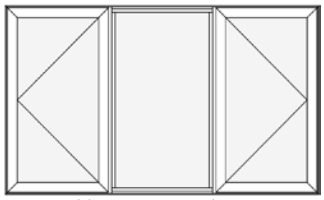

Double Awning Bottom


Full Casement


Single Casement


Double Casement


Double bottom Casement


Double Casement with Picture

NOTE: For engineering approval contact your Milgard representative for any configuration over 40 square feet. Each Milgard Manufacturing plant reserves the right to alter or change sizes and configurations according to location capabilities. Ask your Milgard rep about specialty applications. Windows over 40 square feet shipped open for field glazing. Varies by location.

Not all frame styles available at all Milgard locations.
Contact your Milgard Representative for more information.

Minimum/Maximum Sizes

FULL AWNING
– Min $1^{6}1^{6}$ Max $4^{0}3^{0}$

DOUBLE AWNING
– Min $3^{0}1^{6}$ Max $8^{0}3^{0}$

BOTTOM AWNING
– Min $1^{6}2^{0}$ Max $5^{0}8^{0}$

FULL CASEMENT
– Min $1^{6}1^{6}$ Max $3^{0}6^{0}$

DOUBLE CASEMENT
– Min $3^{0}1^{6}$ Max $8^{0}3^{0}$

SINGLE CASEMENT
– Min $2^{0}1^{6}$ Max $8^{0}5^{0}$

DOUBLE CASEMENT WITH PICTURE
– Min $3^{0}1^{6}$ Max $10^{0}5^{0}$

Available Frame Styles

– 1-3/8" Setback
– No Fin (Block Frame)

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Drawings - Quick Links

Awning Window

11—1-5/16" Nailfin Setback

12—Block Frame

13—1-5/16" Nailfin Setback - Bottom Awning

14—1-5/16" Nailfin Setback with hinged screen

15—Block Frame - Top Awning

Casement Window

16—1-5/16" Nailfin Setback with hinged screen

17—1-5/16" Nailfin Setback Single Casement with hinged screen

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Awning Window

1-5/16" Nailfin Setback

CAD File Scale	View	File Name	Units
NTS	Horizontal & Vertical	Aluminum_TIE_920_FA_1.313in	Inch

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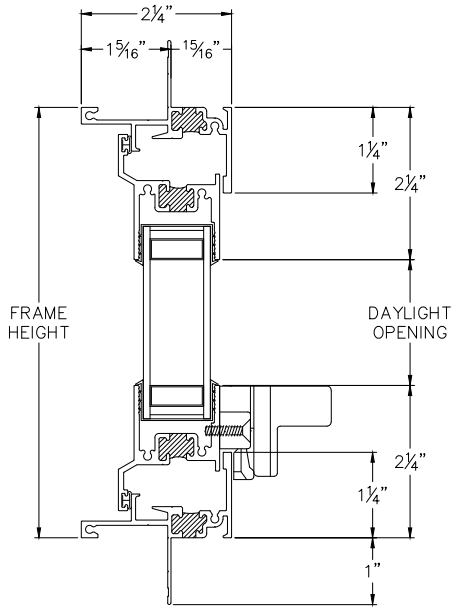
CASEMENT
SERIES 920



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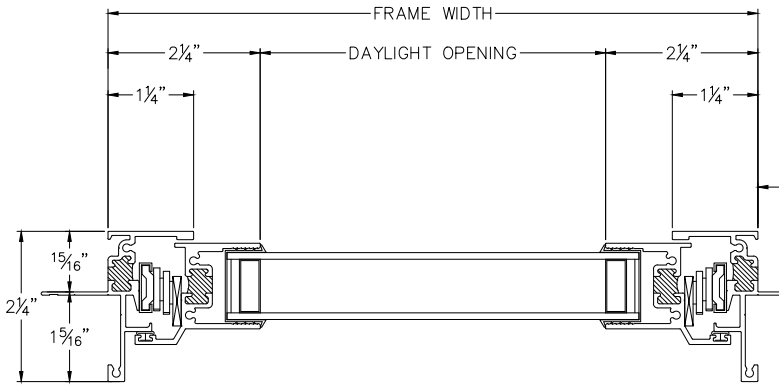

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Awning Window

Block Frame

CAD File Scale	View	File Name	Units
NTS	Horizontal & Vertical	Aluminum_TIE_920_FA_Block	Inch

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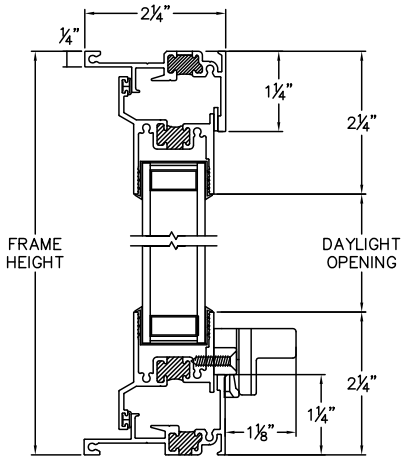

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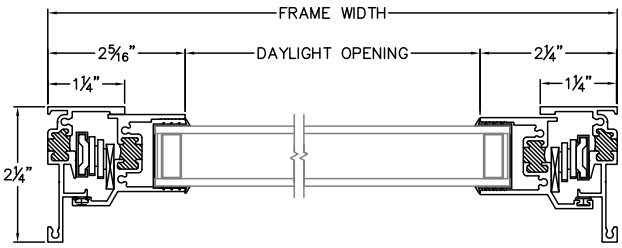

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Awning Window

1-5/16" Nailfin Setback - Bottom Awning

CAD File Scale	View	File Name	Units
NTS	Horizontal & Vertical	Aluminum_TIE_920C_BA_1.3125in	Inch

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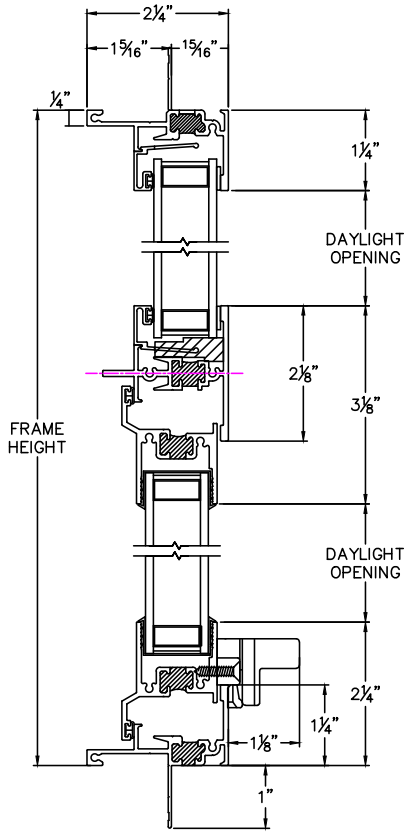

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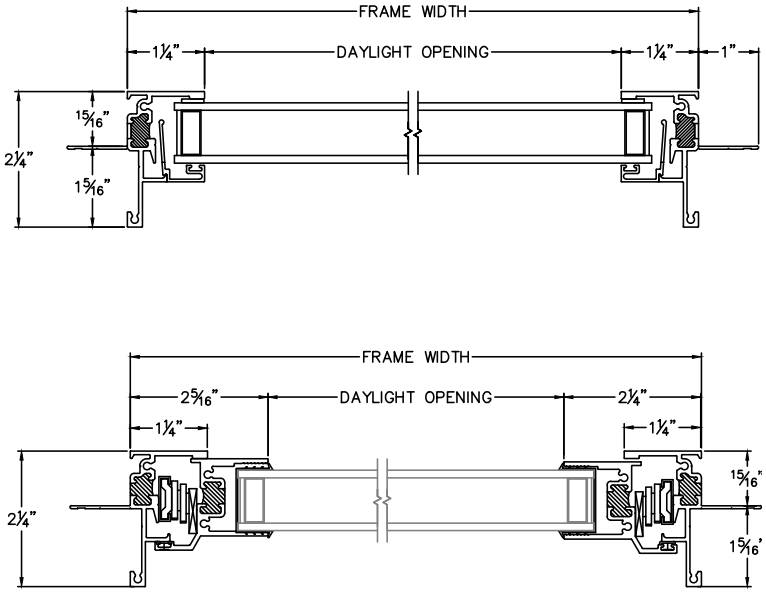

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Awning Window

1-5/16" Nailfin Setback with hinged screen

CAD File Scale	View	File Name	Units
NTS	Horizontal & Vertical	Aluminum_TIE_920C_FA_1in_W_Hinged Scren	Inch

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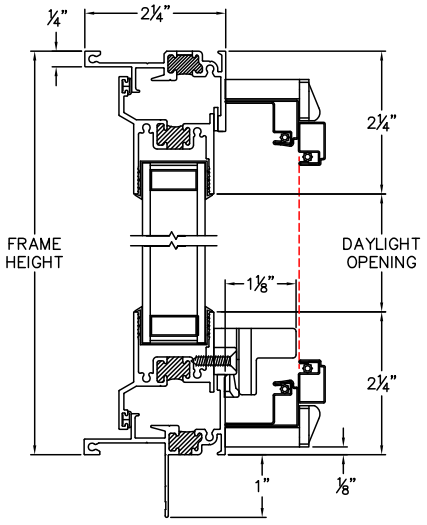

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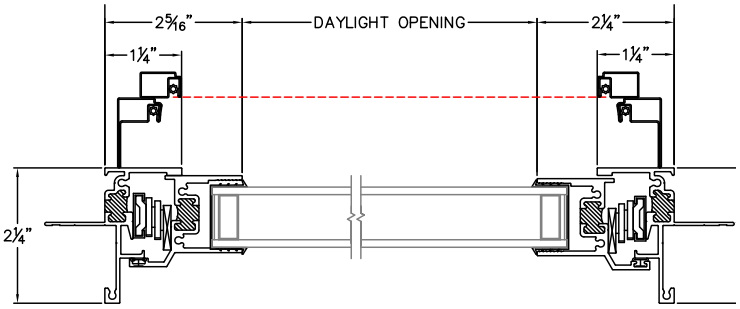

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Awning Window

Block Frame - Top Awning

CAD File Scale	View	File Name	Units
NTS	Horizontal & Vertical	Aluminum_TIE_920C_FA_1in_W_Hinged Scren	Inch

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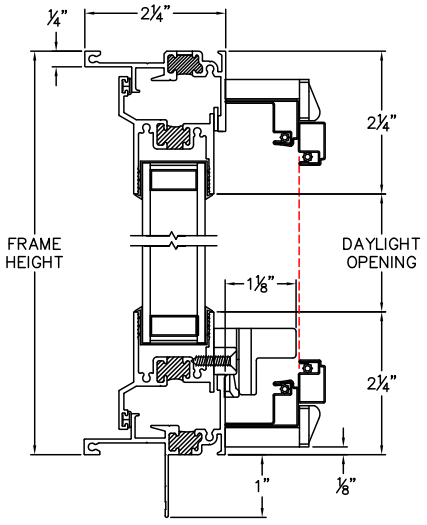

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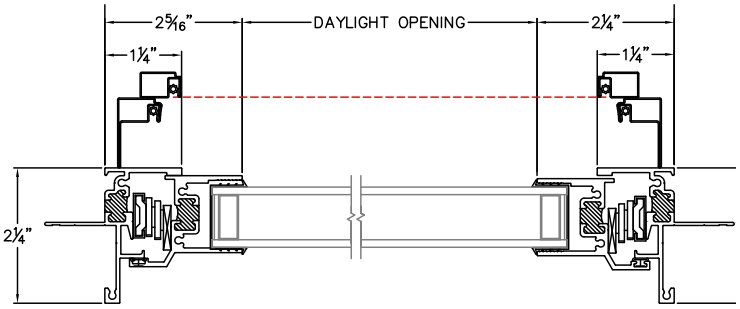

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Casement Window

1-5/16" Nailfin Setback with hinged screen

CAD File Scale	View	File Name	Units
NTS	Horizontal & Vertical	Aluminum_TIE_920_FC_1in_hinged-screen	Inch

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CASEMENT
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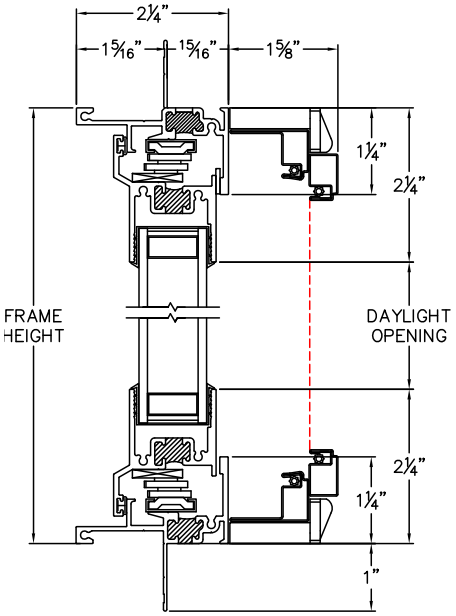

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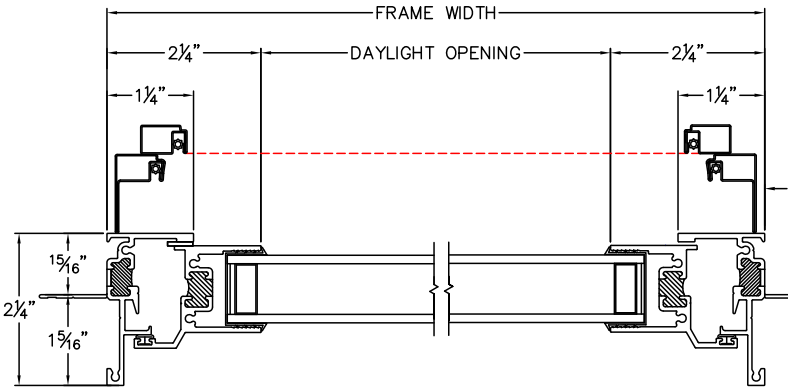

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Casement Window

1-5/16" Nailfin Setback Single Casement with hinged screen

CAD File Scale	View	File Name	Units
NTS	Horizontal & Vertical	Aluminum_TIE_920_SC_1in_hinged-screen	Inch

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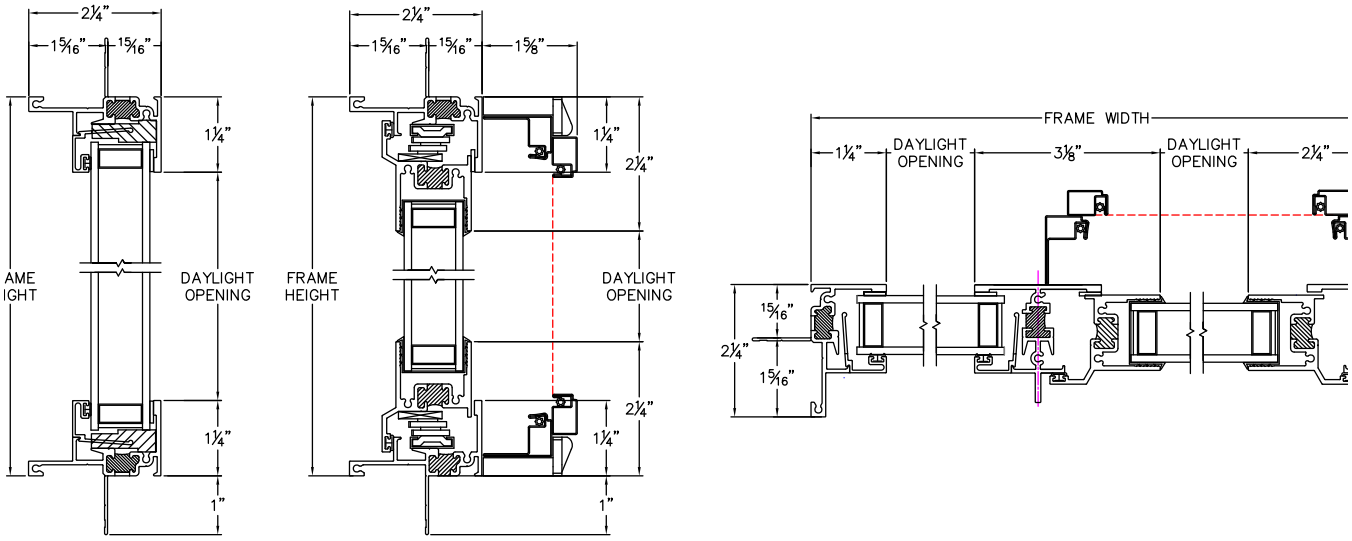

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