Aluminum Reinforced Joining Guide (Horizontal and Vertical)

for Andersen® 400 Series Casement, Awning, and Specialty Windows

INSTALLER: Please leave this guide with the building owner to file for future reference.

Congratulations! You have just purchased one of the many fine Andersen® products. Proper assembly, installation and maintenance are essential if the benefits of your Andersen product are to be fully attained. Therefore, please read and follow this instruction guide completely. If your abilities do not match this procedure’s requirements, contact an experienced contractor. You may direct any questions about this or other products to your local Andersen dealer, found in the Yellow Pages under “Windows” or call Andersen WindowCare® service center at 1-888-888-7020 Monday through Friday, 7 a.m. to 7 p.m. Central Time and Saturday, 8 a.m. to 4 p.m. Central Time. Thank you for choosing Andersen.

Important Safety, Assembly, and Installation Information

Every assembly and installation is different (windloads, structural support, etc.). Andersen strongly recommends consultation with an Andersen supplier or an experienced contractor, architect, or structural engineer prior to the assembly and installation of any Andersen product. For installation methods not covered in this guide, (i.e. through jamb) please visit the Architect Detail File on the web (www.andersenwindows.com). Andersen has no responsibility in regard to the post-manufactured assembly and installation of Andersen products.

⚠️ WARNING

Use caution when working at elevated heights and around unit openings. Follow manufacturer’s instructions for safe use of ladder and/or scaffolding. Failure to do so may result in injury or death.

⚠️ WARNING

Follow manufacturer’s instructions for safe operation of hand or power tools. Always wear safety glasses. Failure to do so may result in injury and/or product damage.

Windows and doors can be heavy. Use safe lifting techniques and a reasonable number of people with enough strength to lift, carry and install window and door products to avoid injury and/or product damage.

⚠️ WARNING

Unless specifically ordered, Andersen windows and doors are not equipped with safety glass, and if broken, could fragment causing injury. Many laws and building codes require safety glass in locations adjacent to or near doors. Andersen windows are available with safety glass that may reduce the likelihood of injury when broken. Information on safety glass is available from your local Andersen dealer.

⚠️ CAUTION

• Andersen® Installation Flanges DO NOT take the place of standard window and door flashing. **Unit must be properly flashed and sealed with sealant, and full width drip cap for protection against water and air infiltration.** Use non-reflective flashings. Highly reflective flashing tapes can raise the surface temperature of the vinyl to the point where vinyl deformation and product damage may occur.

• Do not apply any type of film to glass. Thermal stress conditions resulting in glass damage could occur.

• Use of movable insulating materials such as window coverings, shutters, and other shading devices may damage glass and/or vinyl. In addition, excessive condensation may result causing deterioration of windows and doors.
Parts Included
(2) Aluminum End Plates
(16) #8 x 3/4" Pan Head Screws
(22) Trim Strip Clips
(12) #10 x 2-1/4" Sermagard™ Coated Screws (Pack #RMA3)
(12) #10 x 2-1/2" Sermagard Screws (Pack #RMB3)
(12) #10 x 2-3/4" Sermagard Screws (Pack #RMC3)
(1) Instruction Guide

Additional Parts Required
• Aluminum Joining Strip*
  (Available in 6’ 0-3/32” and 7’ 8” lengths.)
• Inside Wood Casing*
  (Available in 2-3/8”, 2-5/8” and 2-7/8” widths in both 96” and 144” lengths.)
• Exterior Trim Strip*
  (Available in 96” and 150” lengths.)
• (40) Steel Galvanized Staples, 16 gauge, 1/2” long, 7/16” crown
  (Optional fasteners for End Plates)
• Drip Cap (full width)*

“Sermagard” is a trademark of Sermatch International, Inc.

Installation Tools and Supplies Needed
• Safety Glasses
• Hammer
• Saw for Cutting Aluminum
• Silicone Primer & Sealant
• Phillips Screwdriver
• Electric Drill
• Installation Screws
• (4d) Finish Nails
• 1/8” Drill Bit / 5/32” Drill Bit
• Utility Knife
• Caulk Gun
• Tape measure
• Pencil
• Wood Block
• Clamps
• Small Pry Bar

Metal fasteners and components may corrode when exposed to preservative-treated and/or fire-retardant treated lumber. Obtain and use the appropriate metal fasteners and hardware as called out by the installation guide to fasten unit to any rough opening made from preservative-treated and fire-retardant treated lumber. Failure to use the appropriate materials for the installation may cause a failure resulting in injury, property or product damage.

WARNING

CAUTION
• The Andersen® Reinforced Aluminum Non-Reinforced Joining products are designed to give added windload performance to joined combinations of Andersen windows and patio doors. They do not take the place of structural components in a building. Failure to provide adequate structural support could lead to window and door performance problems.
• Window units joined over patio doors should not rest on the door’s head jamb.

NOTICE
Units may be joined horizontally and then lifted into the rough opening, or joined in sections and assembled in the rough opening. The method used will depend on the combination size and weight, and on the installer’s individual preferences.
Andersen offers several choices in custom designed joining materials. Whether or not to use reinforcement in a window combination is dependent on the combination size and the design load requirement. The combination size is based on the geometry and area of the combination in question. Design load is based on several factors; wind speed, location, orientation, elevation, and others. Local building codes should be consulted for determining the design load of your installation. Determination of the design load is the sole responsibility of the architect, building owner, contractor, and/or consumer. Refer to the Combination Design section in the Andersen® Product Guide for further information.

Proper joining material selection for Andersen® windows and patio doors is essential if the benefits of experienced window design and engineering, quality materials and skilled workmanship are to be fully attained.

Every assembly, joining, and installation is different. Andersen strongly recommends consultation with the local Andersen supplier or an experienced contractor, architect, or structural engineer prior to the installation of any Andersen product.

### 1. Verify that Aluminum Joining is Adequate for Your Installation

- Calculate the average adjacent unit dimension \((A + B) ÷ 2\).
- Determine the mullion length \(C\).
- Use the windload chart below to cross reference the average adjacent unit dimension with the mullion length to determine the windload performance of your combination.
- Be sure that this performance is adequate for your installation requirements.
- Refer to the Combination Design section in the Andersen® Product Guide for further information.

### Design Windload PSF Table for Reinforced Aluminum

**Type of Combination: 1-Way or 2-Way**

*For Combining: Casement, Awning, Circle Top™, or Flexiframe® Units*

<table>
<thead>
<tr>
<th>Average Adjacent Unit Dimension</th>
<th>3'-1&quot;</th>
<th>3'-6&quot;</th>
<th>4'-1&quot;</th>
<th>4'-6&quot;</th>
<th>5'-1&quot;</th>
<th>5'-6&quot;</th>
<th>6'-1&quot;</th>
<th>6'-6&quot;</th>
<th>7'-1&quot;</th>
<th>7'-8&quot;</th>
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</thead>
<tbody>
<tr>
<td>((A + B) ÷ 2 = 9' 1&quot;)</td>
<td>40</td>
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<td>((A + B) ÷ 2 = 8' 6&quot;)</td>
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<td>((A + B) ÷ 2 = 7' 6&quot;)</td>
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<td>((A + B) ÷ 2 = 7' 1&quot;)</td>
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<td>((A + B) ÷ 2 = 3' 1&quot;)</td>
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<td>40</td>
<td>34</td>
<td>27</td>
</tr>
</tbody>
</table>

**C** = (mullion length) 3'-1" 3'-6" 4'-1" 4'-6" 5'-1" 5'-6" 6'-1" 6'-6" 7'-1" 7'-8"

For a mullion joint with a continuous jamb on one side, multiply the PSF by 1.2.

For a mullion joint with a continuous jamb on both sides, multiply the PSF by 1.4.

**NOTE:** When exceeding 40 PSF design load, verify that the individual units meet the windload performance criteria.
2. Prepare Units

- Position units on a clean flat work surface, exterior side up. Remove all packaging materials.
- Identify the locations for the Aluminum Joining Strip.
- Remove Installation Flanges from sides to be joined by cutting with a utility knife. Do not cut the end of Installation Flange. Leave an overhang on both sides. Speciality unit Installation Flanges can be removed from sides to be joined by pulling outward.

**NOTICE**

- All joins not requiring Aluminum Joining Strip must use and follow Andersen’s Non-reinforced Joining Procedures. Refer to Instruction Guide #0000368 for Casement/Awning units or #0004344 for Flexiframe® units.
- **DO NOT** apply Gusset Plates in Non-reinforced Joining Procedure until Step 6 of this guide.
- Installation Flanges must overlap one another at ends of the horizontal/vertical joins.

3. Cut Aluminum Joining Strip

- Measure the length of the joining kerf on side to be joined.
- Cut the aluminum Aluminum Joining Strip to the length measured. Cutting can be accomplished with any standard metal cutting method (i.e. hack saw, reciprocating saw, band saw, circular saw with metal cutting blade).
- A minimum of 1/4” engagement between the Aluminum Joining Strip and the Aluminum End Plate post is required to maintain structural integrity.

**WARNING**

Windows and doors can be heavy. Use safe lifting techniques and a reasonable number of people with enough strength to lift, carry and install window and door products to avoid injury and/or product damage.

- Turn units over interior side up.
4. Select Correct Screw Pack Envelope

- Select the correct screw pack envelope based on the units and the direction of the reinforced joint in your combination.

<table>
<thead>
<tr>
<th>Joining These Units:</th>
<th>Joining Direction:</th>
<th>Screw Size:</th>
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</thead>
<tbody>
<tr>
<td>SCREW PACK #RMA3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casement to Casement</td>
<td>Vertical</td>
<td>#10 x 2 1/4&quot;</td>
</tr>
<tr>
<td>Awning to Awning</td>
<td>Horizontal</td>
<td>#10 x 2 1/4&quot;</td>
</tr>
<tr>
<td>SCREW PACK #RMB3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casement to Awning</td>
<td>Horizontal/Vertical</td>
<td>#10 x 2 1/2&quot;</td>
</tr>
<tr>
<td>Specialty to Casement</td>
<td>Vertical</td>
<td>#10 x 2 1/2&quot;</td>
</tr>
<tr>
<td>Specialty to Awning</td>
<td>Horizontal</td>
<td>#10 x 2 1/2&quot;</td>
</tr>
<tr>
<td>Picture to Casement</td>
<td>Vertical</td>
<td>#10 x 2 1/2&quot;</td>
</tr>
<tr>
<td>Picture to Awning</td>
<td>Horizontal</td>
<td>#10 x 2 1/2&quot;</td>
</tr>
</tbody>
</table>

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<th>Joining These Units:</th>
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<tbody>
<tr>
<td>SCREW PACK #RMC3</td>
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<td></td>
</tr>
<tr>
<td>Casement to Casement</td>
<td>Horizontal</td>
<td>10 x 2 3/4&quot;</td>
</tr>
<tr>
<td>Picture to Casement</td>
<td>Horizontal</td>
<td>10 x 2 3/4&quot;</td>
</tr>
<tr>
<td>Picture to Awning</td>
<td>Vertical</td>
<td>10 x 2 3/4&quot;</td>
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<td>Specialty to Casement</td>
<td>Horizontal</td>
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<td>Specialty to Awning</td>
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<td>Picture to Picture</td>
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<td>Awning to Awning</td>
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<td>Specialty to Awning</td>
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</tr>
<tr>
<td>Specialty to Specialty</td>
<td>Horizontal/Vertical</td>
<td>10 x 2 3/4&quot;</td>
</tr>
</tbody>
</table>

5. Choose Reference Detail

- Refer to the illustration that shows the reinforced mulling joint in your combination.

**NOTICE**

For combinations on Page 5-6 drill straight through existing holes in Aluminum Joining Strip, 1/4” less than screw length. For combinations on Page 7, DO NOT drill through existing holes in Aluminum Joining Strip.

**NOTICE**

Glass Stop removal may be required on direct glazed windows with High-Performance Impact Resistant glass.
5. Choose Reference Detail (continued)

### Casement to Casement - Vertical Join

**#10 x 2 1/4” Sermagard™ Coated Screws**  
(Screw Pack RMA3)

- **Sealant Primer, Sealant, Exterior Trim Strip, and Trim Strip Clip**
- **2 3/8” Inside Wood Casing**
- **1 3/8”**

### Specialty to Awning - Horizontal Join

**#10 x 2 1/2” Sermagard Coated Screws**  
(Screw Pack RMB3)

- **Sealant Primer, Sealant, Exterior Trim Strip, and Trim Strip Clip**
- **1 3/8”**

### Specialty to Casement - Vertical Join

**#10 x 2 1/2” Sermagard Coated Screws**  
(Screw Pack RMB3)

- **Two 5 5/8” Inside Wood Casings**
- **2 3/8” Inside Wood Casing**
- **1 3/8”**

### Specialty to Awning - Horizontal Join

**#10 x 2 1/2” Sermagard Coated Screws**  
(Screw Pack RMB3)

- **Sealant Primer, Sealant, Exterior Trim Strip, and Trim Strip Clip**
- **1 3/8”**

### Picture to Awning - Horizontal Join

**#10 x 2 3/4” Sermagard Coated Screws**  
(Screw Pack RMC3)

- **2 3/8” Inside Wood Casing**
- **1 3/8”**

### Picture to Casement - Vertical Join

**#10 x 2 3/4” Sermagard Coated Screws**  
(Screw Pack RMC3)

- **Sealant Primer, Sealant, Exterior Trim Strip, and Trim Strip Clip**
- **1 3/8”**

*Aluminum Reinforced Joining Guide (Horizontal and Vertical)*
For combinations on this page **DO NOT** drill through existing holes in Aluminum Joining Strip. Cross section details show drilling location. For complete instructions see **Step 6**.

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**NOTICE**

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5. Choose Reference Detail (continued)

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**Picture to Picture** - Horizontal/Vertical Join

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**Picture to Specialty** - Horizontal/Vertical Join

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**Specialty to Specialty** - Horizontal/Vertical Join
6. Assemble the Combination

**WARNING**

Windows and doors can be heavy. Use safe lifting techniques and a reasonable number of people with enough strength to lift, carry and install window and door products to avoid injury and/or product damage.

**CAUTION**

The Side Stop on lock side of tandem lock Casement units have an underlying lock mechanism. Use caution when removing Side Stop on lock side to avoid damage to lock mechanism and/or Side Stop.

- Turn unit interior side up.
- Carefully remove all stop nails with a hammer and block of wood.
- Remove the Head and Sill Stops before the Side Stops. Insert a small pry bar between frame and stop, gently prying outwards.
- Bundle Side Stops, Head and Sill Stops and place in protected area until reinstallation.
- Position the Aluminum Joining Strip between jambs, centering between ends. Clamp the jambs together.
- Drill pilot holes.

For combinations on Page 5-6, drill 1/8" pilot holes, 1/4" less than screw length, at 8" intervals through existing holes in Aluminum Joining Strip, alternating sides. Use scribe marks on Aluminum Joining Strip to locate pilot holes.

For combinations on Page 7, DO NOT drill through existing holes in Aluminum Joining Strip. Drill 5/32" pilot holes, 2-1/4" deep at 8" intervals, alternating sides. Refer to cross section details on Page 7.

- Fasten units together using appropriate length Sermagard coated screws. Screw head must be slightly below frame surface.

**CAUTION**

When reapplying Side Stop on lock side of tandem lock Casement units, nail through existing holes. Failure to do so could result in damage to underlying lock mechanism.

- Position Side Stops first, then Head and Sill Stops on frame and tack into place with (4d) finish nails. Leave approximately 1/8" of nail head exposed to assist in removal of stops for finishing.
- For non-reinforced joining only, apply gusset plates following Instruction Guide #0000368 for Casement/Awning units or #0004344 for Flexiframe® units.
7. Apply End Plates

- Position *Aluminum End Plates* by sliding the hexagon shaped end plate posts into the holes on opposite ends of the *Aluminum Joining Strip*. Anchoring holes must be facing the interior.
- Fasten the *Aluminum End Plates* to frame with #8 x 3/4" screws provided or with 20 steel galvanized staples (16 gauge, 1/2" long, 7/16" crown - not included).

8. Prepare Exterior Trim Strip

**CAUTION**

If combination has vertical and horizontal joins, vertical Exterior Trim Strips must run continuously and should be applied first. Fill voids at intersections with sealant and butt horizontal Exterior Trim Strips tightly against vertical Exterior Trim Strips. Failure to do so may allow water infiltration leading to product and/or property damage.

- Cut *Exterior Trim Strip* to length. The unit and *Exterior Trim Strip* contact surfaces must be clean.
- Apply a 1/8" diameter bead of sealant to both sides of the *Exterior Trim Strip*.
- Apply *Trim Strip Clips* to *Exterior Trim Strip*. Locate *Trim Strip Clips* 1" from each end, space remaining clips at 8" intervals.

9. Apply Exterior Trim Strip

- Turn unit exterior side up.
- Position *Exterior Trim Strip* with ends flush with ends of units.
- Apply a light coating of sealant primer to all sealant contact surfaces with a stiff brush. Allow sealant primer to dry until all the solvent evaporates.
- Tap *Exterior Trim Strip* in place using a hammer and wood block until firmly seated.
10. Apply Sealant

- Apply sealant to ends of Trim Strip and fill void between units. Clean off any excess sealant immediately.

11. Install Combination in Rough Opening

**WARNING**

Metal fasteners and components may corrode when exposed to preservative-treated and/or fire-retardant treated lumber. Obtain and use the appropriate metal fasteners and hardware as called out by the installation guide to fasten unit to any rough opening made from preservative-treated and fire-retardant treated lumber. Failure to use the appropriate materials for the installation may cause a failure resulting in injury, property or product damage.

**NOTICE**

For complete unit installation, refer to basic unit Installation Guide included with basic window unit.

- Shim under the Aluminum End Plates with a noncorrosive material as needed and fasten with a minimum of four #8 x 2 1/2" or larger screws per Aluminum End Plate.
- Proceed to drip cap (full width) application step in the unit installation guide for full width drip cap, flashing and installation steps.