BEFORE YOU BEGIN

IMPORTANT
Read these instructions thoroughly before beginning to assemble any multiple Integrity units. Failure to assemble as recommended will void any warranty, written or implied. Refer to specific product installation instructions for proper installation methods.

NOTE: When specifying or considering the structural load requirements for windows and doors, it is important to consider the method of fastening the unit(s) together in addition to the method of fastening multiple assemblies into an opening. The methods contained herein may not be appropriate for all performance requirements. Selection of the appropriate fastening method(s) is the sole responsibility of the installer, contractor, structural engineer, architect, building owner and/or installer.

Multiple assemblies can be ordered factory mullied up to 7 units wide by 1 unit high, or 4 units wide by 5 units high as long as the following limitations are not exceeded:

Maximum RO Width: 113" (2870) not to exceed 71 5/8" (1819) in height.
Maximum RO Height: 94 3/4" (2407) not to exceed 85" (2159) in width.

Assemblies exceeding these limitations must be field mullied and must be assembled using a structural mullion kit designed specifically for Integrity multiple assemblies. Contact your Integrity dealer for additional information.

The construction adhesive called for in the Round Top over Casement instructions should meet AFG-01 specifications, as established by the American Plywood Association.

WARNING
Practice safety! Wear safety glasses or goggles and appropriate hearing protection when assembling multiple Integrity window and door products.

<table>
<thead>
<tr>
<th>Illustrations (not to scale)</th>
<th>Description and Color</th>
<th>Part/Profile Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2-Mull filler blocks 14&quot; (356)</td>
<td>W6172 33732900</td>
</tr>
<tr>
<td>2-Wood mullion tie 12&quot; (305)</td>
<td>2-Mull filler blocks</td>
<td>W7004 33732920</td>
</tr>
<tr>
<td>Mull sealant foam tape - 1 sided adhesive 96&quot; (2438)</td>
<td>Mull sealant foam tape - 1 sided adhesive 96&quot; (2438)</td>
<td>11869508</td>
</tr>
<tr>
<td>Aluminum mulling pin*</td>
<td>Aluminum mulling pin*</td>
<td>A330</td>
</tr>
<tr>
<td>Mullion insulation 96&quot; (2438)</td>
<td>Mullion insulation 96&quot; (2438)</td>
<td>10501115</td>
</tr>
<tr>
<td>2-Nailing fin connector*</td>
<td>2-Nailing fin connector*</td>
<td>10500213</td>
</tr>
</tbody>
</table>

* Length/color will vary depending on particular mull kit ordered.

You Will Need to Supply
Safety glasses  Hearing protection
Phillips screwdriver  Hammer
Power drill  3/16" drill bit
Clamps  Hacksaw
Silicone sealant w/gun
1/2" crown x 1/2" leg 16 gauge staples w/gun
3/16" crown x 1" leg 18 gauge staples w/gun
Mulling Procedure - Standard

1. Lay frames on a flat surface in the desired mulling configuration (interior facing up). Remove nailing fin and/or drip cap from head jamb, sill, and side jambs that will be mulled together. Apply mull sealing tape the full length of the head jamb or jambs ensuring that it is located 1/4" (6) from the exterior edge of the Ultrex® as shown in figure 1.

**NOTE:** When assembling units vertically it will be necessary to remove standing block from underside of sill (upper unit only).

**IMPORTANT**

Units should be flush and square with each other.

NOTE: If mulling a polygon to a casement unit drill out the outer edges of the nailing fin/drip cap kerf of the polygon unit on one end with a 3/16" (5) drill bit, clean filings out of kerf. This will ensure easy installation of the mulling pin.

2. Slide aluminum mulling pin into nailing fin/drip cap kerf. The mull pin ends must be recessed 1/4" (6) to allow sealant application later. See figure 2.

3. Insert mullion insulation between side jambs or head jamb and sill depending on your configuration. Insert mullion filler blocks at each end of mull cavity and at center in units with jambs 55" (1397) or longer. Attach blocks using 1/2" x 1/2" 16 gauge staples spaced every 4" (102). See figure 3. Attach mullion tie blocks at junction points with at least four 3/16" x 1" 18 gauge staples on each side of mullion as shown in figure 3.

4. Apply silicone sealant at the mullion from the frame exterior edge to the drip cap/nailing fin kerf and across the kerf over the mulling pin as shown in figure 4. Apply nailing fin connectors at the head jamb and sill or jambs by removing the paper backing from the connector and pressing into place. See figure 4. Follow installation instructions for installing unit into rough or masonry opening. Interior mull trim should be applied after unit is completely installed and interior trim is applied.

**Figure 1**

**Figure 2**

**Figure 3**

**Figure 4**

**Note:** Nailing fin shown cut away for illustrative purposes.
Structural Mullion Kit

Parts Shipped With Standard Mullion Kit Casement/Awning

<table>
<thead>
<tr>
<th>Illustrations (not to scale)</th>
<th>Description and Color</th>
<th>Part/Profile Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Mull reinforcement member</td>
<td></td>
<td>W7008</td>
</tr>
<tr>
<td>Interior mull trim*</td>
<td></td>
<td>W1243</td>
</tr>
<tr>
<td>2-Wood mullion tie 12&quot; (305)</td>
<td></td>
<td>W7004 33732920</td>
</tr>
<tr>
<td>Aluminum mulling pin*</td>
<td></td>
<td>A330</td>
</tr>
<tr>
<td>2-Nailing fin connector*</td>
<td></td>
<td>10500213</td>
</tr>
<tr>
<td>1-Roll mull sealant foam tape-one side adhesive 96&quot; (2438)</td>
<td></td>
<td>11869508</td>
</tr>
<tr>
<td>8-#8 x 1 3/4&quot; screws</td>
<td></td>
<td>11881122</td>
</tr>
<tr>
<td>8-#7 x 5/8&quot; Phillips flat head screws</td>
<td></td>
<td>11800758</td>
</tr>
<tr>
<td>4-Structural brackets 6&quot; (152) 10&quot; (254)</td>
<td></td>
<td>11860014 11860009</td>
</tr>
</tbody>
</table>

* Length/color will vary depending on particular mull kit ordered.

You Will Need to Supply

<table>
<thead>
<tr>
<th>Safety glasses</th>
<th>Hearing protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phillips screwdriver</td>
<td>Hammer</td>
</tr>
<tr>
<td>Power drill</td>
<td>3/16&quot; drill bit</td>
</tr>
<tr>
<td>Hacksaw</td>
<td>Silicone sealant w/gun</td>
</tr>
<tr>
<td>1/2&quot; crown x 1/2&quot; leg 16 gauge staples w/gun</td>
<td></td>
</tr>
<tr>
<td>3/16&quot; crown x 1&quot; leg 18 gauge staples w/gun</td>
<td></td>
</tr>
</tbody>
</table>

Mulling Procedures - Structural

NOTE: When using the mull reinforcement member provided with the Integrity Structural Mullion Kit the rough or masonry opening width and/or height does not need to be adjusted for the reinforcement. The reinforcement is placed into a pocket which is normally filled with insulation. When assembling in-sash units vertically using the Integrity mull reinforcement it is necessary to remove standing block from underside of sill (upper unit only).

1. Lay frames on a flat surface in the desired mulling configuration (interior facing up). Remove nailing fin and/or drip cap from head jamb, sill, and side jambs that will be muled together. Apply mull sealing tape to the full length of the head jamb, jamb or sill ensuring that it is located 1/4" (6) from the exterior edge of the Ultrex frame as shown in figure 5.

2. Attach mull reinforcement member (W7008) vertically to side jambs or horizontally to head jambs (depending on mulling configuration) with #8 x 1 3/4" screws spaced every 12" (305) along the length of the reinforcement. See figure 6.

NOTE: Mull reinforcement member should be flush with side jambs (vertical reinforcement) or with head jambs and sills (horizontal reinforcement).
IMPORTANT
Units should be flush and square with each other.

NOTE: If mulling a direct glaze polygon to a casement, drill out the outer edges of the nailing fin/drip cap kerf of the polygon on one end with a 3/16” drill bit. Clean filings out of kerf. This will ensure easy installation of the mulling pin.

3. With frames in the desired mulling configuration (interior facing up) clamp units together on interior near each end of the mullion (use scrap blocks to protect interior wood frame members). Slide aluminum mulling pin into nailing fin/drip cap kerf as shown in figure 7. Make sure mulling pin is recessed 1/4” to allow for sealant placement later.

4. Fasten interior wood frame members with 1/2”x1/2” 16 gauge staples spaced every 4” (102). See figure.

5. Attach mullion tie blocks at junction points with at least four 3/16” x 1” 18 gauge staples on each side of mullion as shown in figure 9.

6. Attach structural brackets on each side of the mullion using two #7 x 5/8” screws provided. Structural brackets should be installed within 6” of mull as shown in figure 10.
7. Apply silicone sealant at the mullion from the frame exterior edge to the drip cap/nailing fin kerf and across the kerf over the mulling pin as shown in figure 11. Apply nailing fin connectors at the head jamb and sill or jambs by removing the paper backing from the connector and pressing into place. See figure 11. If applicable jamb extension can now be applied. Follow installation instructions for installing unit into rough or masonry opening. Interior mull trim should be applied after unit is completely installed and interior trim is applied.

**Round Top Over Casement Mullion Kit**

<table>
<thead>
<tr>
<th>Illustrations (not to scale)</th>
<th>Description and Color</th>
<th>Part/Profile Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wood mullion ties</td>
<td>W7004 33732920</td>
</tr>
<tr>
<td></td>
<td>Horizontal mull filler block*</td>
<td>W7006</td>
</tr>
<tr>
<td></td>
<td>Interior mull trim*</td>
<td>W1242</td>
</tr>
<tr>
<td></td>
<td>26 Gauge 3 1/2&quot; x 16&quot; galvanized mulling tin</td>
<td>02070302</td>
</tr>
<tr>
<td></td>
<td>Nailing fin connectors</td>
<td>10500213</td>
</tr>
<tr>
<td></td>
<td>Roll mull sealant foam tape</td>
<td>11869508 96&quot;(2438)</td>
</tr>
<tr>
<td></td>
<td>Connecting barb fastener</td>
<td>V803 15812008</td>
</tr>
<tr>
<td></td>
<td>#7 x 5/8&quot; Phillips flat head screws</td>
<td>11800758</td>
</tr>
</tbody>
</table>

* Length/color will vary depending on particular mull kit order

**You Will Need to Supply**
- Safety glasses
- Hearing protection
- Phillips screwdriver
- Hammer
- Clamps
- Silicone sealant w/gun
- 1/2" crown x 1/2" leg 16 gauge staples w/gun
- 1/2" crown x 1" leg 16 gauge staples w/gun
- 3/16" crown x 1" leg 18 gauge staples w/gun
Mulling Procedures - Round Top over Casement

1. Secure casement unit in a rigid standing position. Remove drip cap from head jamb of casement. Apply double sided mull sealing tape to the full length of the head jamb ensuring that it is located 1/4" (6) from the exterior edge of the Ultrex frame. Leave approximately 1 1/2" (38) excess to wrap around each jamb. Do not remove the tape backing at this time. See figure 12. Install horizontal mull filler (W7006) to the casement head jamb and attach with 3/16" x 1" staples spaced every 5" (127) as shown in figure 12.

2. Insert the vinyl connecting barb into the sill kerf on the round top unit. Apply an 1/8" (3) bead of APA rated AFG-01 sealant/adhesive to the exterior side of the connecting barb as shown in figure 13.

3. Align round top flush with side jambs and exterior, align and press barb into casement unit nailing fin/drip cap kerf to mull.

NOTE: Before proceeding make sure that vinyl connecting barb is fully seated in the kerfs of both units.

4. Carefully remove the protective backing from the mull sealant foam tape. Use wood blocks and clamp on exterior to press together. Start on one side and clamp every 2" (51) until completely joined. See figure 14.

CAUTION
Do not use excessive pressure on exterior clamp, damage may result to Ultrex.

5. Lightly clamp units together on interior (use wood blocks to protect interior frame members) near each end of the mullion. Fasten interior of mulled units with 1/2" x 1" 16 gauge staples spaced every 4" (102). See figure 15.
6. Attach mull tie blocks to jambs of casement unit with at least four 3/16” x 1” 18 gauge staples on each end. Mull tie block should butt against round top jamb. See figure 16.

![Figure 16](image1)

7. Center and attach mulling tin over mullion and fasten securely with 1/2” x 1/2” 16 gauge staples to jamb of round top unit and to the filler block of the casement unit, as shown in figure 17.

![Figure 17](image2)

8. Seal the ends of the mull connector kerf with sealant and apply foam nailing fin connectors. See figure 18. If applicable, jamb extension can now be installed. Follow installation instructions for installing unit into rough or masonry opening.

![Figure 18](image3)

**NOTE:** It is important that care be exercised when moving a mulled assembly from the mullion area to the rough opening. Interior mull trim should be applied after unit is completely installed and interior trim is applied.

---

### 2 Wide x 2 High Configuration

<table>
<thead>
<tr>
<th>Illustrations (not to scale)</th>
<th>Description and Color</th>
<th>Part/Profile Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Mullion reinforcement</td>
<td></td>
<td>W7008</td>
</tr>
<tr>
<td>2-Mullion filler blocks</td>
<td>14” (356)</td>
<td>W6172 33732900</td>
</tr>
<tr>
<td>2-Wood mullion tie</td>
<td>12” (305)</td>
<td>W7004 33732920</td>
</tr>
<tr>
<td>Interior mullion trim*</td>
<td></td>
<td>W1243</td>
</tr>
<tr>
<td>1-Roll mull sealant foam tape- one sided adhesive</td>
<td>96” (2438)</td>
<td>11869508</td>
</tr>
<tr>
<td>4-Integrity structural brackets</td>
<td>Note: 10” not supplied with kit used on 6 9/16” or 6 13/16” jambs, must be ordered separately.</td>
<td>6” (152)-11860014 10” (254)-11860009</td>
</tr>
<tr>
<td>2-Nailing fin connector*</td>
<td></td>
<td>10500213</td>
</tr>
<tr>
<td>Mullion insulation</td>
<td>96” (2438)</td>
<td>10501115</td>
</tr>
<tr>
<td>8-#7 x 5/8” screws</td>
<td></td>
<td>11800758</td>
</tr>
<tr>
<td>8-#8 x 1 3/4” screws</td>
<td></td>
<td>11881122</td>
</tr>
</tbody>
</table>

* Length/color will vary depending on particular mull kit ordered.

#### You Will Need to Supply

- Safety glasses
- Hearing protection
- Phillips screwdriver
- Hammer
- Power drill
- 3/16” (5) drill bit
- Hacksaw
- Silicone sealant w/gun
- 1/2” crown x 1” leg 16 gauge staples w/gun
- 3/16” crown x 1” leg 18 gauge staples w/gun
IMPORTANT

2 wide 2 high configurations require the use of a structural mull reinforcement member (W7008) and structural mullion brackets. Mull reinforcement member should be added to the shortest span. Reinforcement member is installed horizontally in the procedures described below. Mull reinforcement member can be installed vertically provided that it is the shortest span. Left and right halves of unit would then be mulled prior to installing the vertical mulling pin and reinforcement member.

NOTE: Illustrations for mulling the upper units of a 2 wide x 2 high assembly show direct glaze polygons. Procedures are the same for in-sash transoms or awnings.

Mulling Procedures - Upper 2 Wide Assembly

1. Lay the two direct glaze polygon, in sash transom, or awnings that will be mulled above the two casement units in the desired mulling configuration (interior facing up). Remove nailing fin from sill and side jambs that will be mulled together. If mulling direct glaze polygons above casement units drill out the outer edges of the sill nailing fin/drip cap kerfs on each corner and head jamb at mullion with a 3/16" drill bit. Clean filings out of kerf. This will ensure easy installation of the mulling pin. Apply mull sealing tape the full length of the jamb ensuring that it is located 1/4" (6) from the exterior edge of the Ultrex frame as shown in figure 19.

2. Slide aluminum mulling pin into nailing fin drip cap kerf. Make sure mulling pin is recessed at least 1/4" on each end to allow for sealant placement and horizontal mulling pin application later. See figure 20.

3. Insert mullion insulation between side jambs. Insert mullion filler blocks at each end of mull cavity. Attach blocks using 1/2" x 1/2" 16 gauge staples spaced every 4" (102). See figure 21.

4. Attach mullion tie blocks at head jamb mullion with at least four 3/16" x 1" 18 gauge staples on each side as shown in figure 22. Carefully set the upper units aside.

---

**Figure 19**

**Figure 20**

**Figure 21**

**Figure 22**
Mulling Procedures - Lower 2 Wide Assembly

NOTE: Illustrations for mulling the lower units of a 2 wide x 2 high assembly show in-sash stationary units. Procedures are the same for operating Casements or direct glaze polygons.

1. Lay the lower casement frames on a flat surface in the desired mulling configuration (interior facing up). Remove nailing fin and drip cap from head jambs and side jambs that will be mulled together. Apply mull sealing tape the full length of the jamb ensuring that it is located 1/4" (6) from the exterior edge of the Ultrex frame as shown in figure 23.

![Figure 23](image)

NOTE: If mulling direct glaze polygons, drill out the outer edges of the head jamb nailing fin/drip cap kerfs at all corners.

2. Slide aluminum mulling pin into nailing fin/drip cap kerf. Make sure mulling pin is recessed at least 1/4" on each end to allow for sealant placement and horizontal mulling pin application later. See figure 24.

![Figure 24](image)

3. Insert mullion insulation between side jambs or head jamb and sill depending on your configuration. Insert mullion filler blocks at each end of mull cavity and at center in units with jambs 55" (1397) or longer. Attach blocks using 1/2" x 1/2" 16 gauge staples spaced every 4" (102). Attach mullion tie blocks at sill mull with at least four 3/16" x 1" 18 gauge staples on each side as shown in figure 25.

![Figure 25](image)

Mulling Procedures - 2 Wide 2 High Unit Assembly

1. Apply mull sealing tape the full length of the head jamb of the lower 2 wide casement assembly ensuring that it is located 1/4" (6) from the exterior edge of the Ultrex frame similar to steps 1 and 5.

2. Attach mullion reinforcement member (W7008) to head jambs of lower unit with #8 x 1 3/4" screws spaced every 12" (305) as shown in illustration 27. Set upper and lower mulled units in the desired configuration (interior facing up). Clamp units together on interior near each end of the mullion (use scrap blocks to protect interior wood frame members). Slide horizontal aluminum mulling pin into nailing fin kerf. Make sure mulling pin is recessed at least 1/4" on each end to allow for sealant application later. Fasten interior wood frame members with 1/2" x 1/2" 16 gauge staples spaced every 4" (102). See figure 26.

![Figure 26](image)
3. Center and attach mullion tie blocks at mullion with at least four 3/16" x 1" 18 gauge staples on each side of mullion as shown in figure 27. Attach structural masonry brackets on each side of mullion using two #7 x 5/8" screws. Structural brackets should be installed within 6" of mull junction as shown in figure 27.

![Figure 27](image1)

4. Apply silicone sealant at the mullions from the frame exterior edge to the drip cap/nailing fin kerf and across the kerf over the mulling pin as shown in figure 28. Apply nailing fin connector at the head jamb, sill, and jambs by removing the paper backing from the connector and pressing into place. See figure 28. If applicable, jamb extension can now be installed. Follow installation instructions for installing unit into rough or masonry opening. Interior mull trim should be applied after unit is completely installed and interior trim is applied.

![Figure 28](image2)

### IRTM Casement Mullion Kit Instructions

#### Standard Parts Shipped with IRTM to Casement Mullion Kits

<table>
<thead>
<tr>
<th>Illustrations (not to scale)</th>
<th>Description and Color</th>
<th>Part/Profile Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Mull splice blocks 12&quot; (305)</td>
<td>W7004 33732920</td>
<td></td>
</tr>
<tr>
<td>4-Mull filler blocks 14&quot; (356)</td>
<td>W6172 33732900</td>
<td></td>
</tr>
<tr>
<td>2-Mull tin 2 1/2&quot; x 16&quot; (64 x 406)</td>
<td>02070460</td>
<td></td>
</tr>
<tr>
<td>2- Foam nailing fin connectors</td>
<td>10500213</td>
<td></td>
</tr>
<tr>
<td>1-Roll- Mull sealant foam tape- one sided adhesive 96&quot; (2438)</td>
<td>11869508</td>
<td></td>
</tr>
<tr>
<td>1- Aluminum mulling pin*</td>
<td>A330</td>
<td></td>
</tr>
<tr>
<td>Mullion insulation- 96&quot; (2438)</td>
<td>10500213</td>
<td></td>
</tr>
<tr>
<td>1-Horizontal mull trim*</td>
<td>A330</td>
<td></td>
</tr>
<tr>
<td>4- Structural brackets</td>
<td>6&quot;(152)-11860014 10&quot;(254)-11860009</td>
<td></td>
</tr>
<tr>
<td>8- #7 x 5/8&quot; Phillips flat head wood screws</td>
<td>11800758</td>
<td></td>
</tr>
</tbody>
</table>

* Length/color will vary depending on particular mull kit ordered.

**NOTE:** Units may be shown without nailing fin in figures 29-35 for illustration purposes.
Mulling Procedures

1. Lay frames on a flat surface in the desired mulling configuration (interior facing up). Removing nailing fin/drip cap and any shipping blocks from mullion locations. Using a wood saw cut the ends of the jambs on the IRTM so that it is flush with the sill. See figure 29.

2. Apply mull sealing tape to the full length of the mullion on the casement unit jamb or head jamb, ensuring that it is located 1/4" (6) from the exterior edge of the Ulrex frame. See figure 3. Remove paper backing from mull tape.

3. Drill out end of nailing fin/drip cap kerf on IRTM units with a 3/16" drill bit. This will ease the installation of the mulling pin. Clean away any fibers or filings from the kerf area.

NOTE: If mulling a direct glaze polygon to an IRTM, drill out the polygon nailing fin/drip cap kerf as well.

4. Place frames together and slide aluminum mulling pin into nailing fin/drip cap kerf. A hammer may aid in the application of the mull pin. The mull pin ends must be recessed 1/4" to allow sealant application later. See figure 31.

5. Insert mullion insulation between mullions. Insert mullion filler blocks (W6172) at each end and if necessary, center of mull cavity. Clamp the units together and attach blocks using 1/2" x 1/2" 16 gauge staples spaced every 4". See figure 32.

You Will Need to Supply

- Safety glasses
- Hearing protection
- Wood saw
- 3/16" drill bit
- Clamps
- Silicone sealant w/gun
- Hammer
- Power drill/driver w/Phillips head bit
- 1/2" x 1/2" 16 gauge staples w/gun
6. Center and attach mulling tin over mullion and fasten securely with 1/2\" x 1/2\" 16 gauge staples to wood members using the staggered pattern shown in figure 33. On vertical mulling configurations with uneven headers such as an RT2 or RT6, first crease the mullion tin in half to ease installation.

7. When mulling RT2 or RT6 over a casement unit, apply one structural masonry bracket approximately 4\" (102) from each side of the mullion on both jambs. Attach each of the brackets with one of the #7 x 5/8\" screws provided. See figure 34.

8. Apply silicone sealant at the mullion from the frame exterior edge to the drip cap/nailing fin kerf and across the kerf over the mulling pin. Remove paper backing from nailing fin connectors and press into place as shown in figure 35. Seal around the edge of the connectors as shown.

9. If applicable, jamb extension can now be installed. Follow installation instructions for installing unit into rough or masonry opening. Mull trim should be applied after the unit is completely installed and interior trim is applied.

NOTE: It is important that care be exercised when moving a mulled assembly from the mullion area to the rough opening.