SOLAR ECLIPSE™
Sun Control System

INSTALLATION MANUAL
# SOLAR ECLIPSE™ SUNSHADE INSTALLATION MANUAL

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GENERAL INFORMATION

PRODUCT USE

The SOLAR ECLIPSE™ sun control system is intended for installation by glazing professionals with appropriate experience. Subcontractors without experience should employ a qualified person to provide field instructions and project management.

Variations from the details shown are not the responsibility of Oldcastle BuildingEnvelope® when drawn by others. Oldcastle BuildingEnvelope® strongly encourages its customers to utilize Oldcastle BuildingEnvelope® supplied calculations and shop drawings. Sun Control products must be reviewed by an engineer for each project to ensure proper application.

Oldcastle BuildingEnvelope® does not control the application or selection of its product configurations, sealant or glazing material and assumes no responsibility thereof. It is the responsibility of the owner, architect and installer to make these selections in strict compliance with applicable laws and building codes.

Consult sealant manufacturer for review and recommendation of sealant application. Follow sealant manufacturer’s recommendations and literature for proper installation.

PROTECTION AND STORAGE

Handle all material carefully. Do not drop from the truck. Stack with adequate separation so materials do not rub together. Store material off the ground, protecting against the elements and other construction hazards by using a well ventilated covering. Remove material from package if wet or located in a damp area. For further guidelines consult AAMA publication "Care and Handling of Architectural Aluminum from Shop to Site".

CHECK MATERIAL

Check all material upon arrival at job site for quality and to determine any shipping damage.

Using the contract documents, completely check the surrounding conditions that will receive your material. Notify the general contractor by letter of any discrepancies before proceeding with the work. Failure to do so constitutes acceptance of work by other trades.

Check shop drawings, installation instructions, architectural drawings and shipping list to become familiar with the project. The shop drawings take precedence and include specific details for the project. The installation instructions are of a general nature and cover the common conditions. Due to varying job conditions all sealant used must be approved by the sealant manufacturer to insure it will perform per the conditions shown on the instructions and shop drawings. The sealant must be compatible with all surfaces in which adhesion is required, including other sealant surfaces. Use primers where directed by sealant manufacturer. Properly store sealant at the recommended temperatures and check sealant for remainder of shelf life before using.

FIELD CONDITIONS

All materials to be installed must be plumb, level and true. Aluminum to be placed in direct contact with masonry or incompatible material should be isolated with a heavy coat of zinc chromate, bituminous paint or non-metallic material.

CLEANING MATERIALS

Cement, plaster terrazzo, alkaline and acid based materials used to clean masonry is very harmful to finishes. Any residue should be removed with water and mild soap immediately or permanent staining will occur. A spot test is recommended before cleaning agent is used. Refer to Architectural Finish Guide in the Detail Catalog.
1.1 Fabrication

1) Locate the centerline of each sunshade anchor. A 1/4" wide x 6-1/2" long cutout must be milled into face of mullion tongue as shown in upper detail of FIGURE 1. The standard sunshade anchor (WW-107-01) for Reliance Curtain Wall will require (4) four 7/16" clear holes for attachment. See FIGURE 1 for hole locations. (Size, locations and quantity of bolts may vary based on project requirements, consult engineer for specific applications.)

2) Face caps must be notched to clear anchor. Face caps are cut at centerline of sunshade, notched on ends. Notch per FIGURE 2.

Installation Notes:

1) Face cap will be notched above and below anchor. See FIGURE 2.
2) Slide cap over anchor and snap into position.
3) Butt splice cap at centerline of anchor.

Note: WW-110 face cap shown, notch similar for custom applications.
1.2 Assembly

3) Hardware required for attachment of standard anchor (WW-107-01) will be contained in the hardware package, (part. no. 12854). This package contains (1) one WW-162-02 cover plate, (4) four 3/8"- 16 x 7/8" stainless steel button socket head bolts, nuts and washers and (4) four 3/8"-16 x1-1/4" stainless steel hex head bolts, nuts and washers. (Size and quantity of bolts may vary based on project requirements, consult engineer for specific job applications).

4) Attach anchor to mullion by first inserting anchor into cutout in face of mullion tongue. Attach anchor using the 3/8"-16 x 7/8" S.S. button socket head bolts, washers and securing using the 3/8"-16 S.S. jamb nuts. Repeat for each of the 4 bolts. See FIGURE 3 (Size and quantity of bolts may vary based on project requirements, consult engineer for specific job applications).

5) Once system is glazed. Install section of GP-103 gasket onto WW-162-02 cover plate and install plate over anchor attaching to mullion using (2) two FS-325 (#12-14 x 1-1/2" HWH Drill-Flex fasteners).

Note: Due to reduced clearance for attachment of anchors, special care must be taken when installing glass.

Notes:
1) Hardware package part no. 12854 required.
2) Anchor must be installed prior to glazing.
3) Glass clearance at anchor is reduced to 3/16"; so care should be exercised during installation of glass.
1.3 Glazing

6) Clean all surfaces to be sealed using isopropyl alcohol. Then seal cover plate to anchor to prevent any water infiltration. See FIGURE 4.

7) Pressure plates should be located above and below the cover plate allowing 1/8" joint. This joint should be cleaned and sealed. See FIGURE 4.

FIGURE 4

Note:
1) Typical pressure plates will be installed above and below cover plate.
2) See FIGURE 2 page 4 for face cap fabrication.
2.1 Fabrication

1) Fabrication for typical WW-285-01 SSG sunshade anchor shown below. The length and number of fasteners may vary based on project conditions. All sunshade anchors must be reviewed by an Engineer to determine proper size and attachment. See FIGURE 5.

2) FIGURE 6 shows the fabrication of the WW-286 SSG glazing adaptor and optional captured glazing adaptors; WW-287 and WW-289. Cut length of WW-286 adaptors will be cut to leave 1/8" joint above and below sunshade anchor. See FIGURE 5. WW-287 and WW-289 adaptor will run between SSG bridges.

- **FIGURE 5**
  - 1/8" joint above and below sunshade anchor.
  - Drill "H" (.266Ø) holes and countersink for 1/4" Flat head fasteners.

- **FIGURE 6**
  - Drill #11 (.191Ø) @ 24" On Center & Countersink for #10 flat head.
2.2 Assembly

3) Reliance-SSG will use the WW-563 (7-1/4") mullion for sunshade applications. Note that it is recommended to build the mullion assemblies in the shop by sliding each glazing adaptor and sunshade anchor into place, attaching and sealing.

4) After the WW-285 anchor is in its proper location, match drill mullion for anchor using a #11 (.191Ø) drill. Inject sealant into holes prior to installing fasteners. Attach with (6) FS-260 (1/4"-20 x 1" Flat Head Type F) fasteners. Cap seal all fasteners. See FIGURE 7 & 8. (Length of anchor and number of fasteners may vary based on Engineer's review.)

5) The WW-286 SSG glazing adaptor will run continuous except where it crosses the sunshade anchor. Slide the WW-286 onto the mullion between the sunshade anchors. Cut the WW-286 so there is a 1/8" joint above and below sunshade anchors. Attach with FS-7 (#10 x 3/4" flat head) at 1" from each end and 24"on center or based on Engineer's review. Match drill mullion using #25 (.149"Ø) drill bit. Fill holes with sealant and install fasteners. Once fastener is installed cap seal. See FIGURE 8

Notes:
1) Hardware Package # 36526 required
2) Anchor and glazing adaptors to be installed prior to installation of system.
2.3 Captured Adaptor Anchor Installation

6) Optional captured adaptors are also available. WW-287 will be the standard captured glazing adaptor and WW-289 may be used for thermal composite applications. Attach captured adaptors using the FS-7 fasteners at each side of adaptor at 24" on center and 1" from each end. See FIGURE 9 & 10. Figures below show installation of a captured glazing adaptor above and below a sunshade anchor. An 1/8" joint should be held above and below anchor. Slide adaptors onto mullion as required for project starting at bottom of mullion and working to top. Attach anchor as shown on page 8, FIGURE 7 & 8.

FIGURE 9

FIGURE 10
7) The WW-563 mullion can be used for installation of captured to SSG transitions. Installation of typical SSG adaptors would apply where applicable as shown in previous pages. Transitions to captured are shown in figures below. Captured adaptor will be cut to run day light opening plus 5/8" at top and bottom of the WW-287 (WW-289). See FIGURE 11 & 12.

8) The WW-287 SSG adaptor will be cut day light opening plus 1-3/4" so that it extends above and/or below the horizontal stem as needed. See FIGURE 11 & 12. This will allow the installation and sealing of the WW-300 zone bridge. Top of SSG adaptor must be sealed and married to seals at bridge. See FIGURE 13.
6) Use GP-105 spacer gasket at SSG verticals and sunshade anchor. See FIGURE 15. Gasket will run continuous across anchor. Ear of spacer gasket must be trimmed to clear flat head fasteners used to attach sunshade anchor to mullion. See FIGURE 16.

7) WW-287 and WW-289 captured adaptors will use either GP-1050 gasket on interior or GP-106 spacer gasket with cap bead of silicone. Both will use the GP-103 gasket on WW-162 pressure plate. See FIGURE 17.

8) Clean all surfaces to be sealed using isopropyl alcohol. Seal around sunshade anchor marrying seal with glass seal above and below. Note: glass spacer must be 3/4” when sunshade anchors are used with SSG mullions to provide 1/4” sealant joint on either side of anchor. See FIGURE 15 & 17.

9) Glass bite varies based on glazing configuration. Typical SSG installation will have 1/2” sealant joint with 1” glass bite. SSG where a sunshade anchor is required will have a 3/4” sealant joint with 7/8” glass bite. When captured glazing adaptors are used glass bite will be 1/2” per standard Reliance glazing. See FIGURE 17.

NOTE: Due to reduced glazing clearance at sunshade anchors. Special care must be taken when installing glass.
3.1 Fabrication
1) Locate the centerline of each sunshade anchor. A 1/4" wide x 6-1/2" long cutout must be milled into face of mullion tongue as shown in upper detail of FIGURE 19. The standard sunshade anchor (RL-107-01) for Reliance-LT Curtain Wall will require (4) four 7/16" clear holes for attachment. See FIGURE 19 for hole locations. (Size, locations and quantity of bolts may vary based on project requirements, consult engineer for specific applications.)
2) Face caps must be notched to clear anchor. Face caps are cut at centerline of sunshade, notched on ends. Notch per FIGURE 20.

Installation Notes:
1) Face cap will be notched above and below anchor. See FIGURE 20.
2) Slide cap over anchor and snap into position.
3) Butt splice cap at centerline of anchor.

Note: RL-110 face cap shown, notch similar for custom applications.
3.2 Assembly

Install RL-107-01 anchor with (4) FS-86 (3/8"-16" x 1/2" set screw w/ Loctite patch) prior to installing glass.

Notes:
1) Hardware package part no. 36525 required.
2) Anchor must be installed prior to glazing.
3.3 Glazing

6) Clean all surfaces to be sealed using isopropyl alcohol. Then seal cover plate to anchor to prevent any water infiltration. See FIGURE 22.

7) Pressure plates should be located above and below the cover plate allowing 1/8" joint. This joint should be cleaned and sealed. See FIGURE 22.

FIGURE 22

Seal gap between cover plate and pressure plates.
Install RL-162-02 cover plate after glass is installed. attach with (2) FS-325 fasteners
Seal gap between anchor and cover plate

Note:
1) Typical pressure plates will be installed above and below cover plate.
2) See FIGURE 20 page 12 for face cap fabrication.
4.1 Fabrication

1. Mill cutouts from stem of mullion at location of each anchor bolt, 4 bolts shown are for standard application and your project may require additional fasteners based on engineers review. Cutouts will be 1-1/2" wide by 1" deep and must be flush with back of mullion face. Location will vary depending on project requirements, pattern shown is for standard anchor only. SEE FIGURE 23

2. Drill face of mullion with 7/16" Ø holes for 3/8" anchor bolts. SEE FIGURE 23

3. Debur bolt holes on exterior and interior face of mullion to insure proper fit of anchor and bolts.

4.2 Installation

4. A bead of sealant must be applied around each hole in face of mullion prior to attaching anchor. SEE FIGURE 45

5. Attach anchor to face of mullion with 3/8"-16 x 1" hex head bolt, nut, flat and lock washers. Cap seal bolts once installed. SEE FIGURE 24, page 16.

6. ICW-111 face cap required for projects with sunshade installation. Face cap will be notched at each anchor. SEE FIGURE 23

NOTE: All sunshade installations must be reviewed by a structural engineer for anchor design and attachment.
Apply sealant around each anchor bolt

Notes:
1) Hardware Package part # 36527 required
2) Bolt size and quantity to be reviewed by project engineer to insure proper size and application.
3) Anchor must be installed prior to glazing.

FIGURE 24
Sunshade Anchor Assembly
5.1) Storefront Sunshade Anchor Fabrication

1) Mill face of mullion to clear SS-200 (Center Set) or SS-201 (Front Set) sunshade anchor. Mill cut will be anchor length minus $\frac{3}{8}$" x $\frac{1}{4}$" wide. See parts list for available standard anchors. All anchors should be sized based on Engineer's review for project loads.
5.2) Storefront Sunshade Anchor Installation

2) Run bead of sealant around slot in face of mullion.

3) Insert sunshade anchor through slot in face of mullion. Clean any excess sealant from around anchor once installation is complete. SS200-01 (6") and SS201-01 (6") anchors shown. SS-200-02 (9"), SS-200-03 (12"), SS-201-02 (9") and SS-201-03 (12") are available. Size of anchor will be determined by Engineer's review.
4) Match drill mullion for 1/4"-20 fasteners using 7/32" (.218 Ø) drill. Center set storefront will use a 1/4"-20 x 3/4" Phillips Flat Head Type F fastener. Front Set uses a 1/4"-20 x 1/2" Phillips flat head machine screw, so will require holes to be tapped for the 1/4"-20 after match drill. Number of fasteners must be reviewed by Engineer per project requirements.
6.1 Assembly

1) Sunshades on the Reliance TC Type I system requires the use of the WW-566 mullion. This mullion is designed with heavy wall at base of stem to accept the Bi-Flex fastener.

2) The SS-203-01 sunshade anchor will be attached using the FS-306 (1/4"-20 x 3" HWH #5 pt Bi-Flex) fasteners. Final sunshade anchor and attachment must be determined by Engineer's review.

3) Use sunshade anchor to mark face of mullion to locate holes in face. Drill pressure plate of the WW-566 mullion using 13/32" drill bit. Insert 3/8" o.d. x 1" long pipe sleeve inside of thermal struts. The Bi-Flex fastener will be used to drill into the tubular section of the mullion.

4) Bed anchor in sealant.

Notes:
1) Hardware Package part # 36528 required.
2) Anchor may be installed before or after glazing.
6.2 Assembly

1) Cap seal the fasteners at sunshade anchor. See FIGURE 29

2) The face cap will be notched at sunshade anchor to fit over sunshade anchor blade, See FIGURE 30. Face cap may also be notched at each end and spliced at centerline of anchor. WW-110 face cap shown. Install caps per OBE standards as shown in Reliance installation manual.
6.3 Assembly

1) Sunshades on the Reliance TC Type II system requires the use of the AW-530 mullion. This mullion is designed with heavy wall at base of stem to accept the Bi Flex fastener.

2) The SS-202-01 sunshade anchor will be attached using the FS-306 (\(\frac{3}{4}\)-20 x 3" HWH #5 pt Bi Flex) fastener. Final sunshade anchor and attachment must be determined by Engineer's review.

3) Use the sunshade anchor to mark the pressure plate. Match drill the WW-162 pressure plate using "H" (0.266") drill bit. Drill the tongue of the mullion using a 13/32" drill bit and insert a 3/8" x 1" long pipe sleeve inside of the thermal struts. The Bi Flex fastener will be used to drill into the tubular section of the mullion.

4) Bed anchor in sealant.

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**FIGURE 31**

Phone: 1-866-OLDCASTLE (653-2278)  
Web: www.obe.com

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Notes:  
1) Hardware Package part # 36528 required.  
2) Anchor may be installed before or after glazing.
6.4 Assembly

1) Cap seal fasteners at sunshade anchor. See FIGURE 32.

2) The face cap will be notched at sunshade anchor to fit over the sunshade anchor blade. See FIGURE 33. Face cap may also be notched at each end and spliced at center of anchor. WW-216 face cap shown, minimum $\frac{3}{4}''$ deep cap required for Reliance-TC Type II. Install caps per OBE standards as shown in Reliance installation manual.
7.1 Fabrication

1) All standard sunshade outriggers are factory drilled for attachment to shade louvers.
2) Cut louvers to fit between outriggers per formulas shown on FIGURE 34.

Fabrication Notes:
1) Louver Cut Length = Mull centerline minus 11/16” or mull centerline minus anchor (1/4” std.) minus 3/8” (thickness of two standard outriggers) minus 1/16” clearance.
2) Each louver attached to outriggers with (4) FS-20 fasteners. Custom louvers may require additional fasteners.
3) Note: Number of louvers will vary based on sunshade depth and project requirements.
7.2 Assembly

3) Attach outriggers to louvers using FS-20 (#10 x 3/4" stainless steel button socket head). Quantity of fasteners will vary based on sunshade depth. See FIGURE 35.

4) Attach sunshades to anchors using (4) four 3/8"-16 x 1" stainless steel hex head head bolts. See FIGURE 36. (Size and quantity of bolts may vary based on project requirements, consult engineer for specific job applications.)

Note: See system installation pages or parts list for hardware packages used for each product.
## Parts List

### Sunshade Extrusions

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>WW-463</td>
<td>Reliance SSG 6&quot; Depth</td>
</tr>
<tr>
<td>WW-563</td>
<td>Reliance SSG 7-1/4&quot; Depth</td>
</tr>
<tr>
<td>WW-863</td>
<td>Reliance SSG 10-1/8&quot; Depth</td>
</tr>
<tr>
<td>FG-3621</td>
<td>Series 3000 Multiplane Center Set</td>
</tr>
<tr>
<td>FG-3622</td>
<td>Series 3000 Multiplane Front Set</td>
</tr>
<tr>
<td>FG-3624</td>
<td>Series 3000XT</td>
</tr>
<tr>
<td>FG-6621</td>
<td>Series 6000 Multiplane Center Set</td>
</tr>
<tr>
<td>FG-6622</td>
<td>Series 6000 Multiplane Front Set</td>
</tr>
<tr>
<td>FG-6624</td>
<td>Series 6000XT</td>
</tr>
<tr>
<td>WW-466</td>
<td>Reliance-TC Type I / TC IG Mullion 6&quot; Depth</td>
</tr>
<tr>
<td>WW-566</td>
<td>Reliance-TC Type I / TC IG Mullion 7-1/4&quot; Depth</td>
</tr>
<tr>
<td>AW-430</td>
<td>Reliance-TC Type II Mullion 6&quot; Depth</td>
</tr>
<tr>
<td>AW-530</td>
<td>Reliance-TC Type II Mullion 7-1/4&quot; Depth</td>
</tr>
</tbody>
</table>

### Sunshade Extrusions

<table>
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<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>SS-100</td>
<td>4&quot; Diamond</td>
</tr>
<tr>
<td>SS-101</td>
<td>5&quot; Rectangle</td>
</tr>
<tr>
<td>SS-102</td>
<td>4&quot; Square</td>
</tr>
<tr>
<td>SS-103</td>
<td>5&quot; Zee</td>
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<tr>
<td>SS-104</td>
<td>4&quot; Round</td>
</tr>
<tr>
<td>SS-105</td>
<td>5&quot; Round</td>
</tr>
<tr>
<td>SS-106</td>
<td>5&quot; Bullnose</td>
</tr>
<tr>
<td>SS-107</td>
<td>6&quot; Half Airfoil</td>
</tr>
<tr>
<td>SS-108</td>
<td>6&quot; Airfoil</td>
</tr>
<tr>
<td>SS-109</td>
<td>4&quot; Airfoil</td>
</tr>
<tr>
<td>FG-3634-01</td>
<td>Center Set Storefront I.S. 90 Corner Anchor Reinforcement</td>
</tr>
</tbody>
</table>

Reliance, Reliance-IGSS and Reliance-LT use standard system mullions based on project load requirements. Mullions shown above are specific to sunshade applications for systems shown.
### Parts List

#### Sunshade Anchors

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>WW-107-01</td>
<td>Reliance Anchor</td>
</tr>
<tr>
<td>WW-285-01</td>
<td>Reliance SSG Anchor</td>
</tr>
<tr>
<td>WW-2266-01</td>
<td>Reliance Cassette Anchor</td>
</tr>
<tr>
<td>IW-107-01</td>
<td>Reliance-IGSS Anchor</td>
</tr>
<tr>
<td>SS-200-01</td>
<td>Series 3000 / 6000 Multiplane Center Set / XT Anchor</td>
</tr>
<tr>
<td>SS-201-01</td>
<td>Series 3000 / 6000 Multiplane Front Set Anchor</td>
</tr>
<tr>
<td>SS-202-01</td>
<td>Reliance-TC Type II Anchor</td>
</tr>
<tr>
<td>SS-203-01</td>
<td>Reliance-TC Type I / TC IG Anchor</td>
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#### FASTENERS

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<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS-7</td>
<td>#10 X 3/4&quot; Phillips Flat Head</td>
</tr>
<tr>
<td>FS-20</td>
<td>#10 X 3/4&quot; S.S. Button Socket Head</td>
</tr>
<tr>
<td>FS-260</td>
<td>1/4&quot;-20 x 1&quot; Phillips Flat Head Type F Thread Cutting Screw</td>
</tr>
<tr>
<td>FS-146</td>
<td>1/4&quot;-20 x 1/2&quot; Phillips Flat Head Stainless Machine Screw</td>
</tr>
<tr>
<td>FS-147</td>
<td>#10 x 3/4&quot; Phillips Flat Head Type F Stainless Thread Cutting Screw</td>
</tr>
<tr>
<td>FS-325</td>
<td>#12-24 x 1-11/32&quot; H.W.H. Self Drilling Fastener</td>
</tr>
<tr>
<td>FS-306</td>
<td>1/4&quot;-20 x 3&quot; H.W.H. Bi-Flex Self Drilling Fastener</td>
</tr>
<tr>
<td>60657-01</td>
<td>3/8&quot; O.D. x 1&quot; Lg Pipesleeve</td>
</tr>
<tr>
<td>FS-86</td>
<td>3/8&quot;-16 X 1/2&quot; Set screw w/ Loctite Patch</td>
</tr>
</tbody>
</table>

**Hardware Packages:**

<table>
<thead>
<tr>
<th>System</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliance</td>
<td>12854</td>
</tr>
<tr>
<td>Reliance SSG</td>
<td>36526</td>
</tr>
<tr>
<td>Reliance-LT</td>
<td>36525</td>
</tr>
<tr>
<td>Reliance Cassette</td>
<td>36529</td>
</tr>
<tr>
<td>Reliance-IGSS</td>
<td>36527</td>
</tr>
<tr>
<td>Reliance-TC Type I &amp; II</td>
<td>36528</td>
</tr>
<tr>
<td>Reliance-TC IG</td>
<td>36528</td>
</tr>
<tr>
<td>3000XT</td>
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<tr>
<td>3000 &amp; 6000 Multiplane Center Set</td>
<td>36530</td>
</tr>
<tr>
<td>3000 &amp; 6000 Multiplane Front Set</td>
<td>36531</td>
</tr>
</tbody>
</table>

Sunshade blades shown above are standard profiles. Custom shapes and sizes may be created to fit your design and application. Outriggers are custom ordered for each project and not shown above. Please contact your nearest OBE facility for additional information.