CRL

INSTALLATION INSTRUCTIONS

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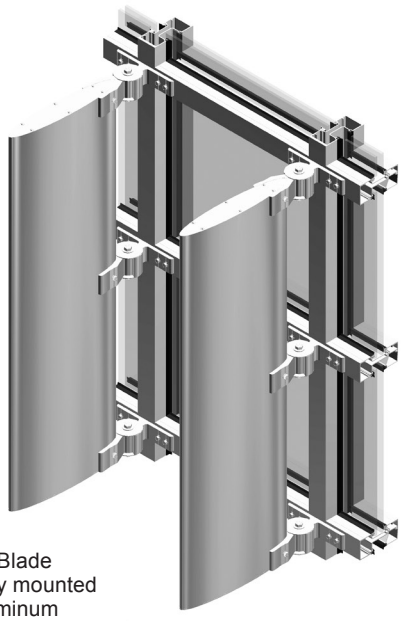
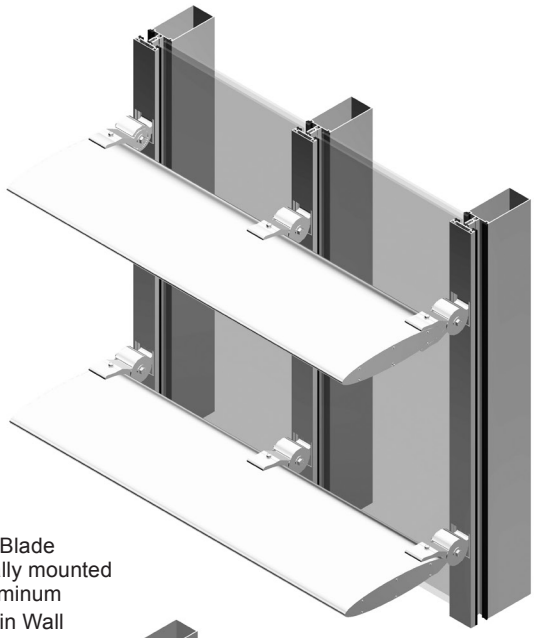
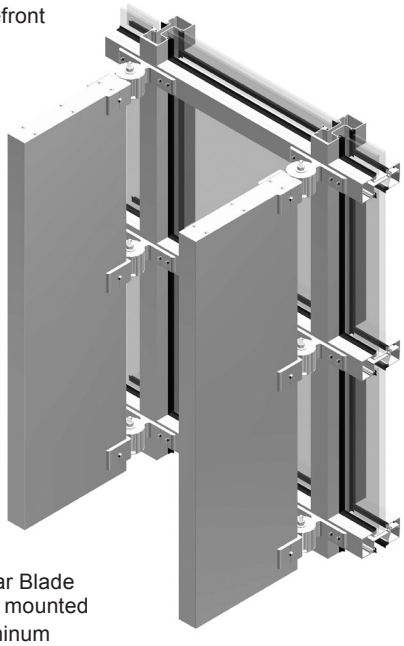
CRL 8010 ADJUSTABLE SINGLE BLADE SUNSHADE



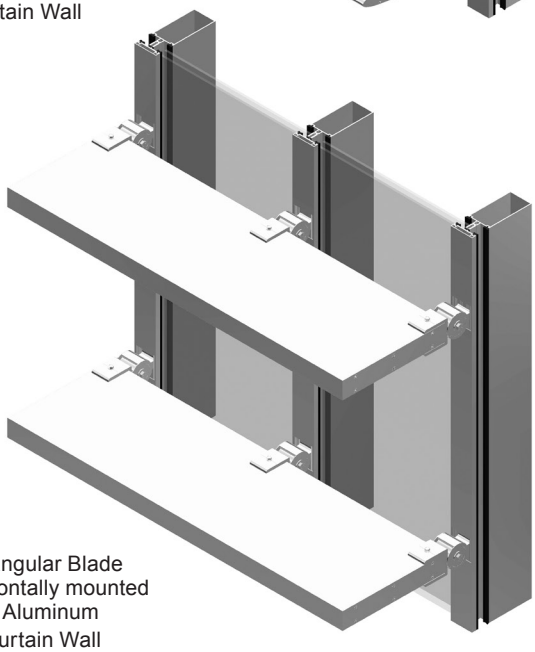
12" Airfoil Blade
shown vertically mounted
to U.S. Aluminum
451 Storefront



12" Airfoil Blade
shown horizontally mounted
to U.S. Aluminum
3250 Curtain Wall



12" Rectangular Blade
shown vertically mounted
to U.S. Aluminum
451 Storefront



12" Rectangular Blade
shown horizontally mounted
to U.S. Aluminum
3250 Curtain Wall

TABLE OF CONTENTS

HANDLING, STORAGE, AND PROTECTION OF ALUMINUM

The following precautions are recommended to protect the material against damage. Following these precautions will help ensure early acceptance of your products and workmanship.

A. HANDLE CAREFULLY.
All aluminum materials at job site must be stored in a safe place, well removed from possible damage by other trades. Cardboard wrapped or paper interleaved materials must be kept dry.

B. CHECK ARRIVING MATERIALS.
Check for quantities and keep records of where various materials are stored.

C. KEEP MATERIALS AWAY FROM WATER, MUD, AND SPRAY.
Prevent cement, plaster or other materials from damaging the finish.

D. PROTECT THE MATERIALS AFTER ERECTION.
Protect erected frame with polyethylene or canvas splatter screen. Cement, plaster, terrazzo, other alkaline solutions, and acid based materials used to clean masonry are harmful to the finish. ***If any of these materials come in contact with the aluminum, IMMEDIATELY remove with water and mild soap.***

IMPORTANT: READ THIS MANUAL THOROUGHLY BEFORE BEGINNING INSTALLATION

GENERAL INSTALLATION NOTES

Recommended Guidelines for All Installations:

1. **REVIEW CONTRACT DOCUMENTS.** Check shop drawings, installation instructions, architectural drawings, and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Note any ***field verified*** notes on the shop drawings prior to installing. The installation instructions are of a general nature and cover most conditions.
2. **INSTALLATION.** All materials are to be installed plumb, level, and true.
3. **BENCH MARKS.** All work should start from bench marks and/or column lines as established by the architectural drawings and the general contractor with guaranteed accuracy. Working from these datum points and lines determine:
   a) The plane of the wall in reference to offset lines provided on each floor.
   b) The finish floor lines in reference to bench marks on the outer building columns.
   c) Mullion spacing from both ends of masonry opening to prevent dimensional build-up of daylight opening.
4. **FIELD WELDING.** All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Results will be unsightly and/or structurally unsound. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.
5. **SURROUNDING CONDITIONS.** Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.
6. **ISOLATION OF ALUMINUM.** Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint.
7. **SEALANTS.** Sealants must be compatible with all materials with which they have contact, including other sealant surfaces. Consult with sealant manufacturer for recommendations relative to joint size, shelf life, compatibility, cleaning, priming, tooling, adhesion, etc. It is the responsibility of the ***Glazing Contractor*** to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established. This is required on every project.

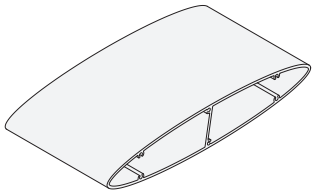
GENERAL INSTALLATION NOTES (CONTINUED)

8. **FASTENING.** Within the body of these instructions "fastening" means any method of securing one part to another or to adjacent materials. Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements, perimeter and anchor fasteners are not specified in these instructions. For perimeter and anchor fasteners refer to the shop drawings or consult the fastener supplier.
9. **BUILDING CODES.** Due to the diversity in state/provincial, local, and federal laws and codes that govern the design and application of architectural products, it is the responsibility of the individual architect, owner, and installer to assure that products selected for use on projects comply with all the applicable building codes and laws. U.S. Aluminum exercises no control over the use or application of its products, glazing materials, and operating hardware, and assumes no responsibility thereof.
10. **EXPANSION JOINTS.** Expansion joints and perimeter seals shown in these instructions and in the shop drawings are shown at normal size. Actual dimensions may vary due to perimeter conditions and/or difference in metal temperature between the time of fabrication and the time of installation. Gaps between expansion members should be based on temperature at time of installation.
11. **WATER HOSE TEST.** As soon as a representative amount of the wall has been glazed (500 square feet or 46.5 m^2) a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. On all jobs the hose test should be repeated every 500 square feet (46.5 m^2) during the glazing operation.
12. **COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor any sequence with other trades which offset curtain wall installation (i.e. fire proofing, back-up walls, partitions, ceilings, mechanical ducts, converters, etc.)
13. **CARE AND MAINTENANCE.** Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA 609.1 for anodized aluminum and 610.1 for painted aluminum.
14. **SEALANTS.** Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with all sealants referenced in these instructions, which must be a one part elastomeric acetic or neutral cure silicone and must be applied according to the silicone manufacturer's recommendations.
15. **APPLICATION.** Structural silicone must be applied from the interior, and weather seal from the exterior, after the interior structural silicone has fully cured.
16. **MAXIMUM ALLOWABLE STRESS ON SILICONE.** The maximum allowable size of the glass lite is controlled by the width and depth of the silicone joint combined with the specified design windload (PSF or Pa). The stress on the structural silicone must not exceed 20 PSI (137 KPa) for a 6:1 safety factor. Check Structural Silicone Chart in the Architectural Design Manual for this product series.
17. **ARCHITECT.** It is the responsibility of the architect to secure approval of the system and request from the Glazing Contractor the compatibility and adhesion test reports described below.
18. **GLAZING CONTRACTOR.** It is the responsibility of the glazing contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established. This is required on every project.
19. **U.S. ALUMINUM.** It is the responsibility of U.S. Aluminum to supply a system to meet the architect's specifications.

PARTS IDENTIFICATION

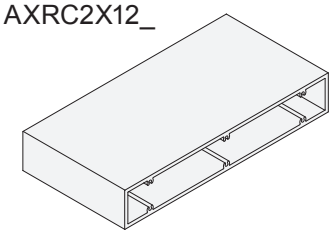
BLADES

AX012_



12" Airfoil Blade

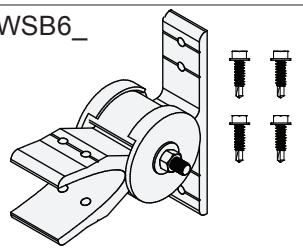
AXRC2X12_



12" Rectangular Blade

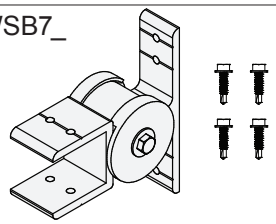
CURTAIN WALL/STORE FRONT BRACKETS

AWSB6_



12" Airfoil Bracket

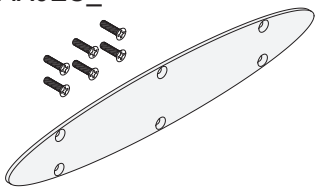
AWSB7_



12" Rectangular Bracket

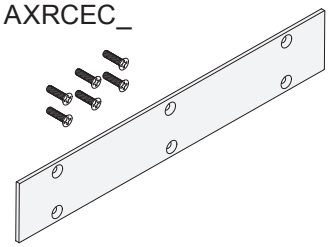
END CAPS

AX0EC_



12" Airfoil Blade End Cap

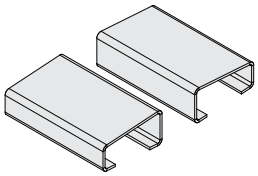
AXRCEC_



12" Rectangular Blade End Cap

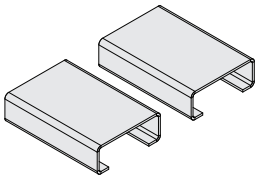
SPLICE PLATES

AWSB6CSM



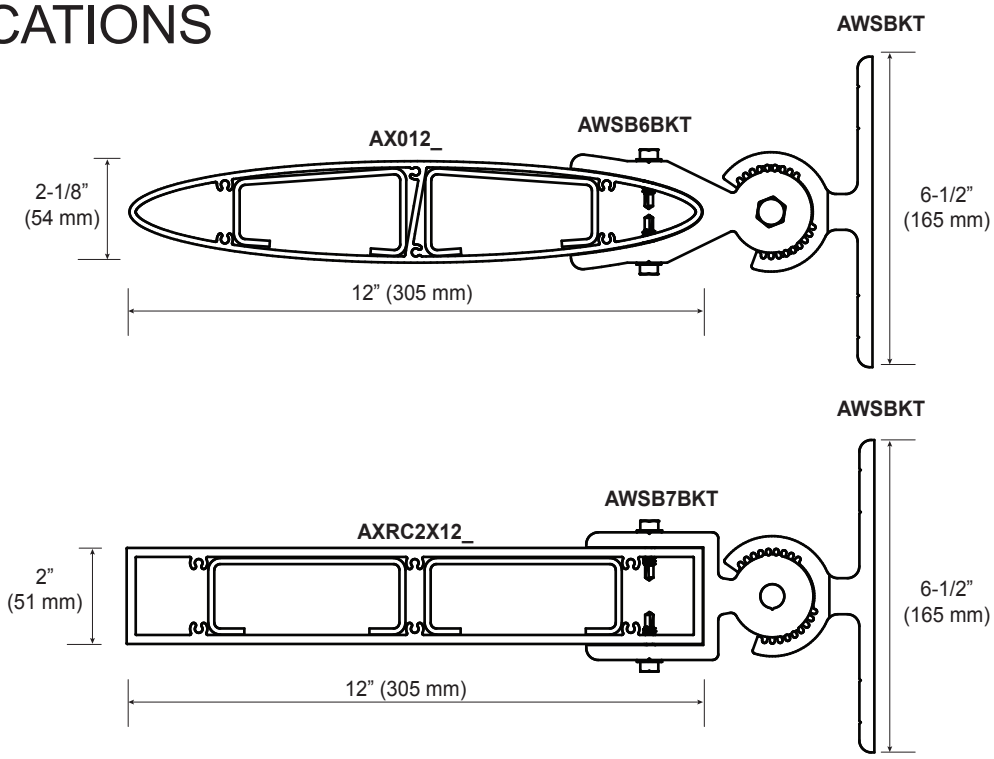
6" Airfoil Blade
Splice Connector

AWSB7CSM



6" Rectangular Blade
Splice Connector

SPECIFICATIONS

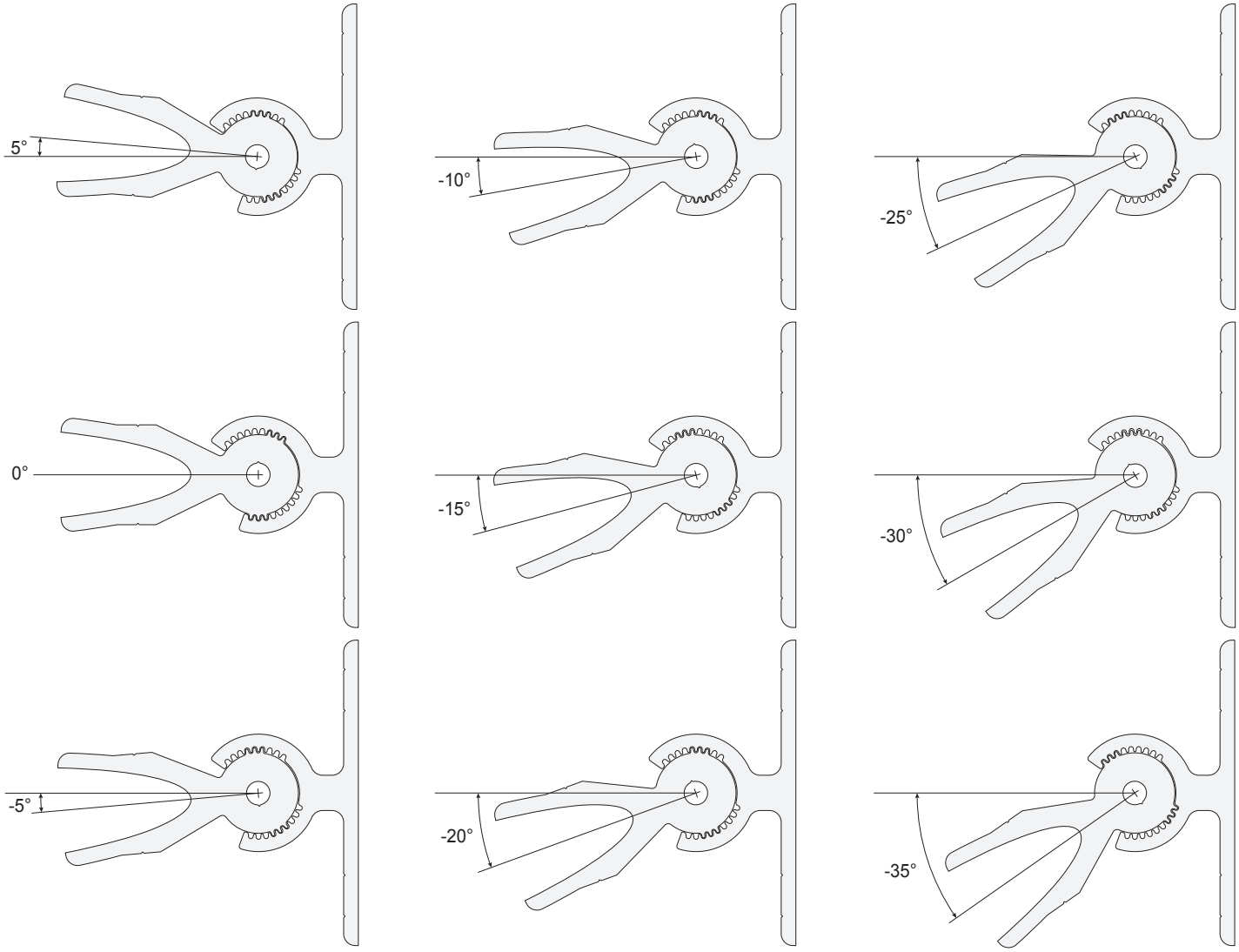


BLADE ANGLE CONFIGURATIONS

Horizontal Blade Angle Range

Mount AWSBKT Bracket Base to structure and then insert AWSB6BKT or AWSB7BKT Bracket to set angle. Blade angle can be set from +5 to -35 degrees in 5 degree intervals. Flip AWSB6BKT and AWSB7BKT Blade Mount horizontally for full range. AWSB6BKT Airfoil Blade Mount shown, AWSB7BKT Rectangular Blade Mount similar.

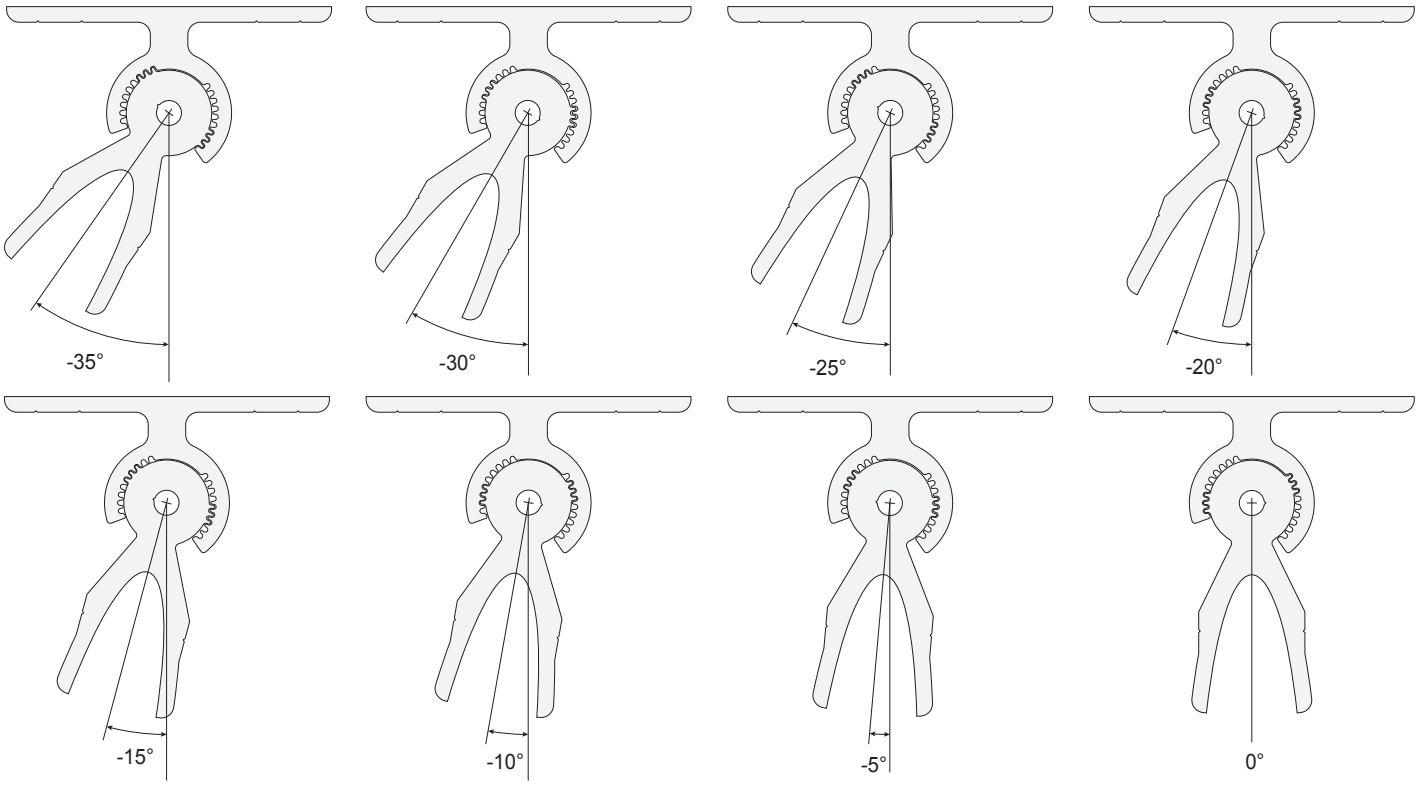
NOTE: AWSBKT Bracket Base is installed with lip on top as shown below.



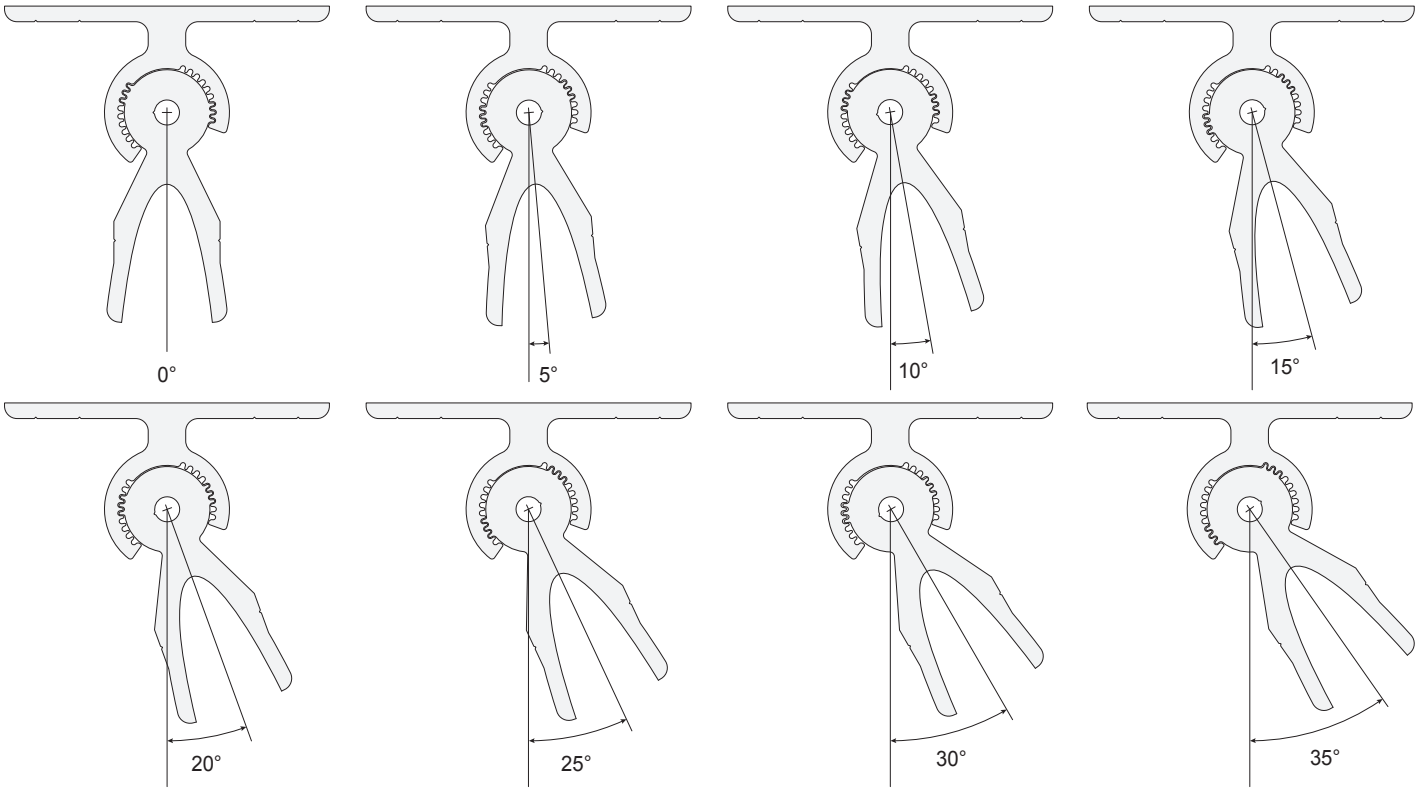
BLADE ANGLE CONFIGURATIONS (CONTINUED)

Vertical Blade Angle Range

-35° to 0° ROTATION



0° to 35°ROTATION

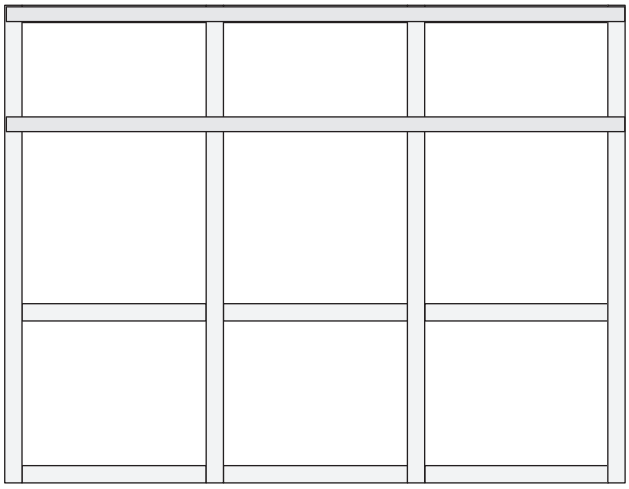


TYPICAL ELEVATION

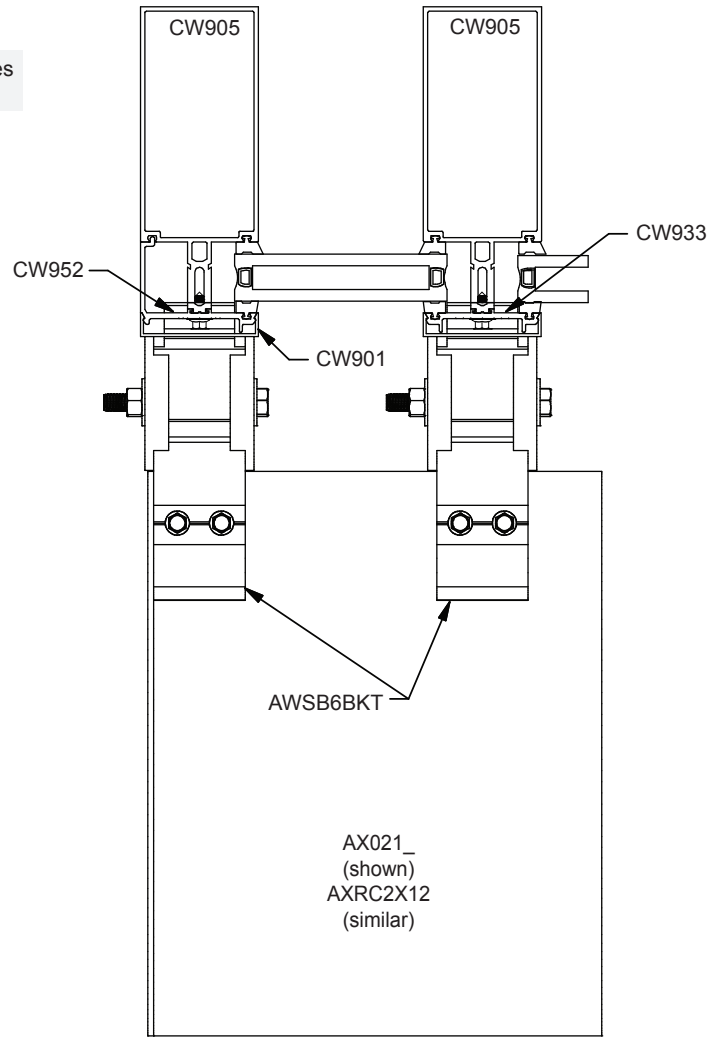
Horizontal Blade with Curtain Wall

NOTE: Horizontal sunshades are not recommended directly over entrances and walkways to eliminate any risk of injury due to falling ice or snow.

TYPICAL ELEVATION
HORIZONTAL BLADE WITH U.S. Aluminum
3250 CURTAIN WALL
(3252 CURTAIN WALL SIMILAR)

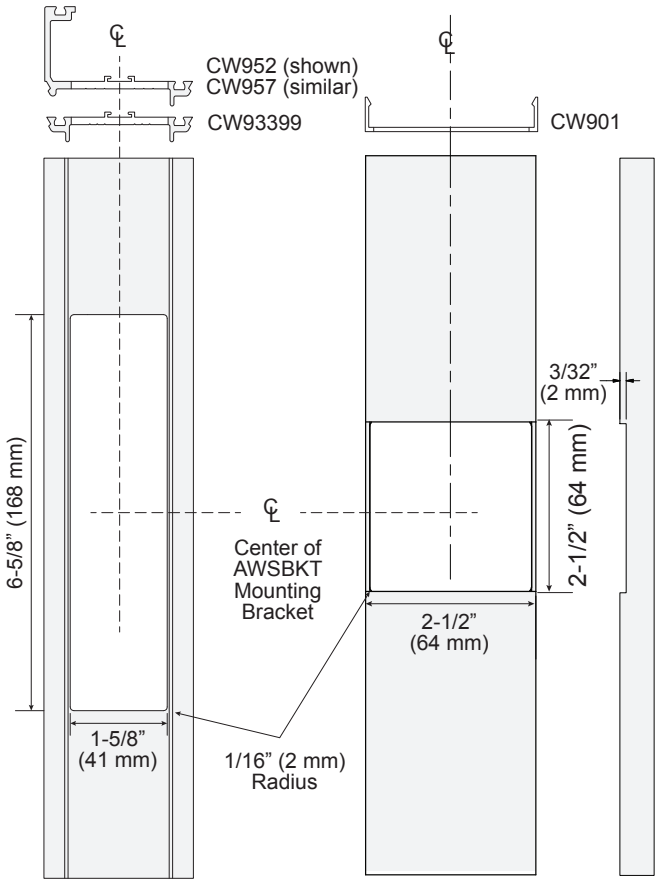


PLAN VIEW

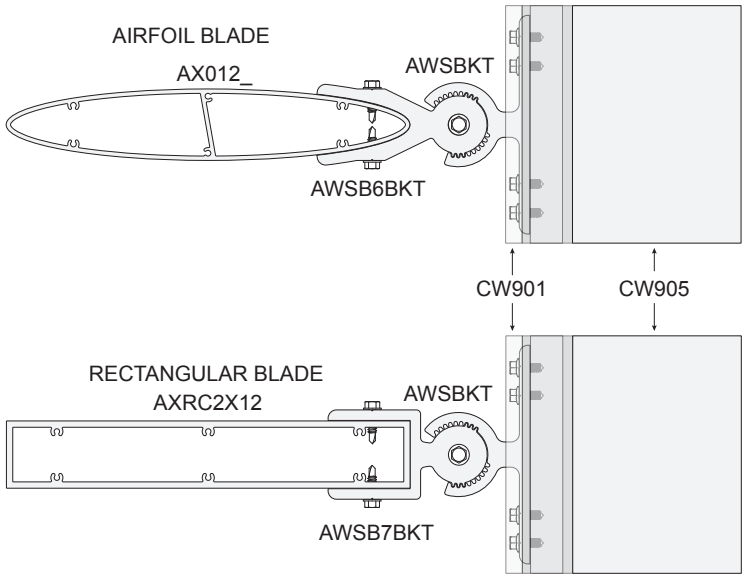


FRAME FABRICATION

VERTICAL PRESSURE BARS AND FACE PLATES



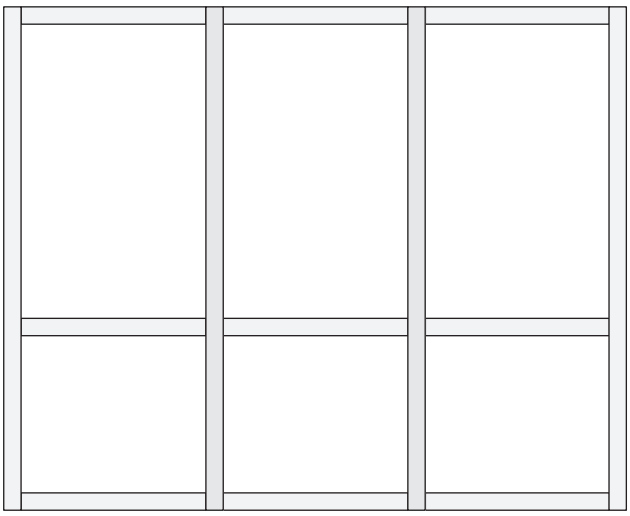
SECTION VIEW OPTIONS



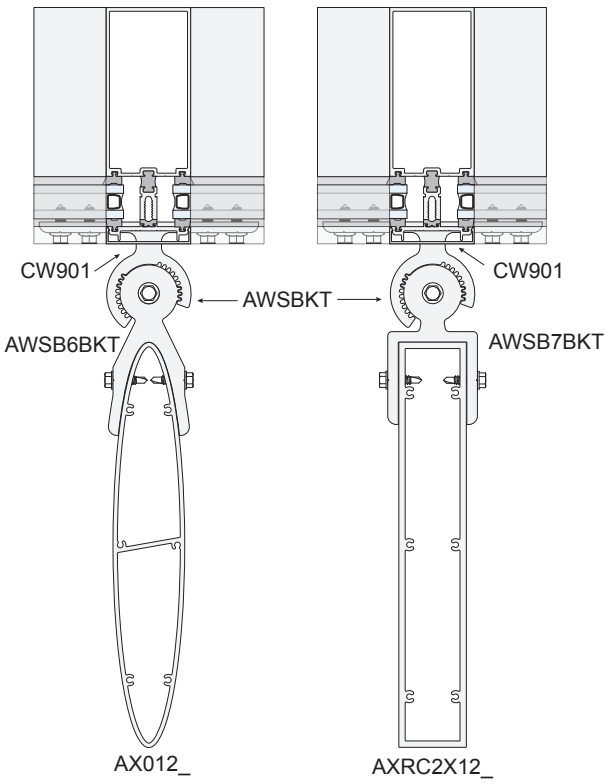
TYPICAL ELEVATION (CONTINUED)

Vertical Blade with Curtain Wall

TYPICAL ELEVATION
VERTICAL BLADE WITH U.S. Aluminum 3250
CURTAIN WALL(3252 CURTAIN WALL SIMILAR)

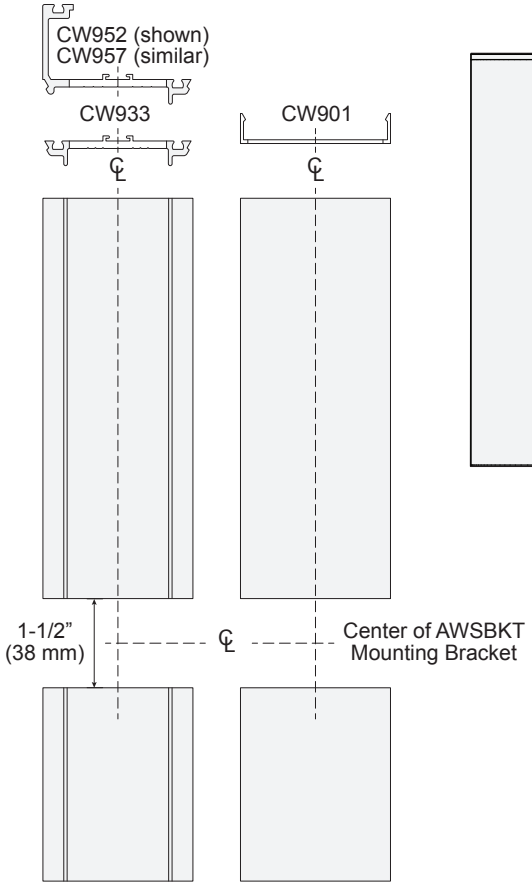


PLAN VIEW OPTIONS

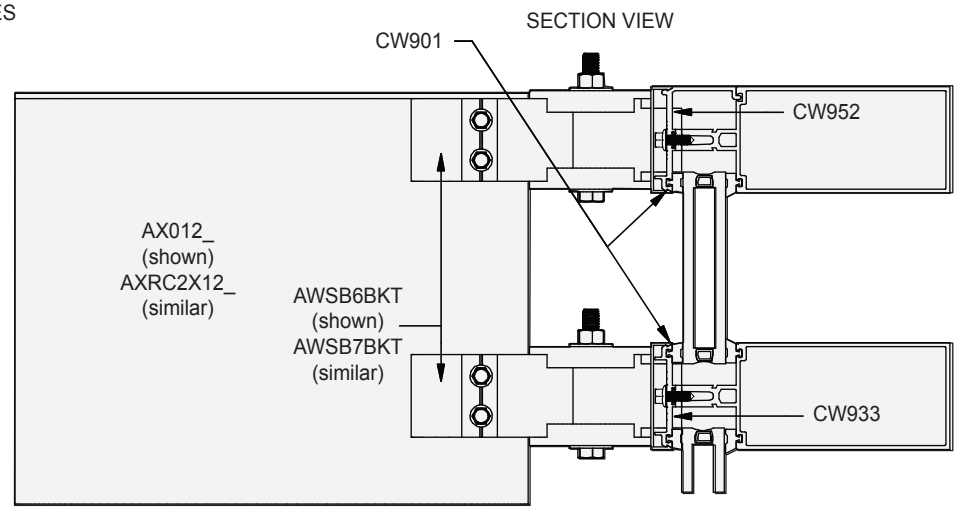


FRAME FABRICATION

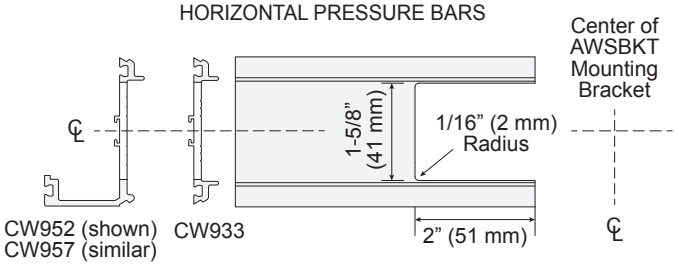
VERTICAL PRESSURE BARS AND FACE PLATES



SECTION VIEW



HORIZONTAL PRESSURE BARS

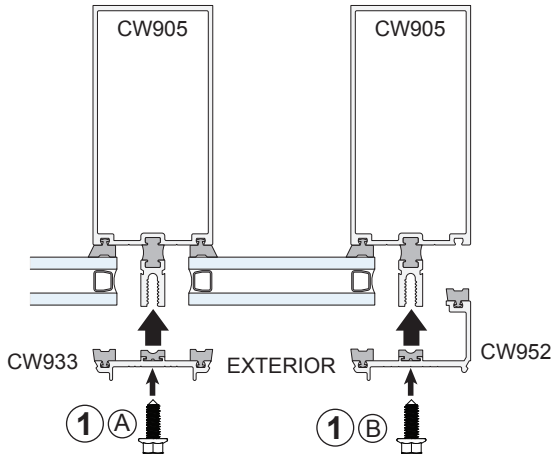


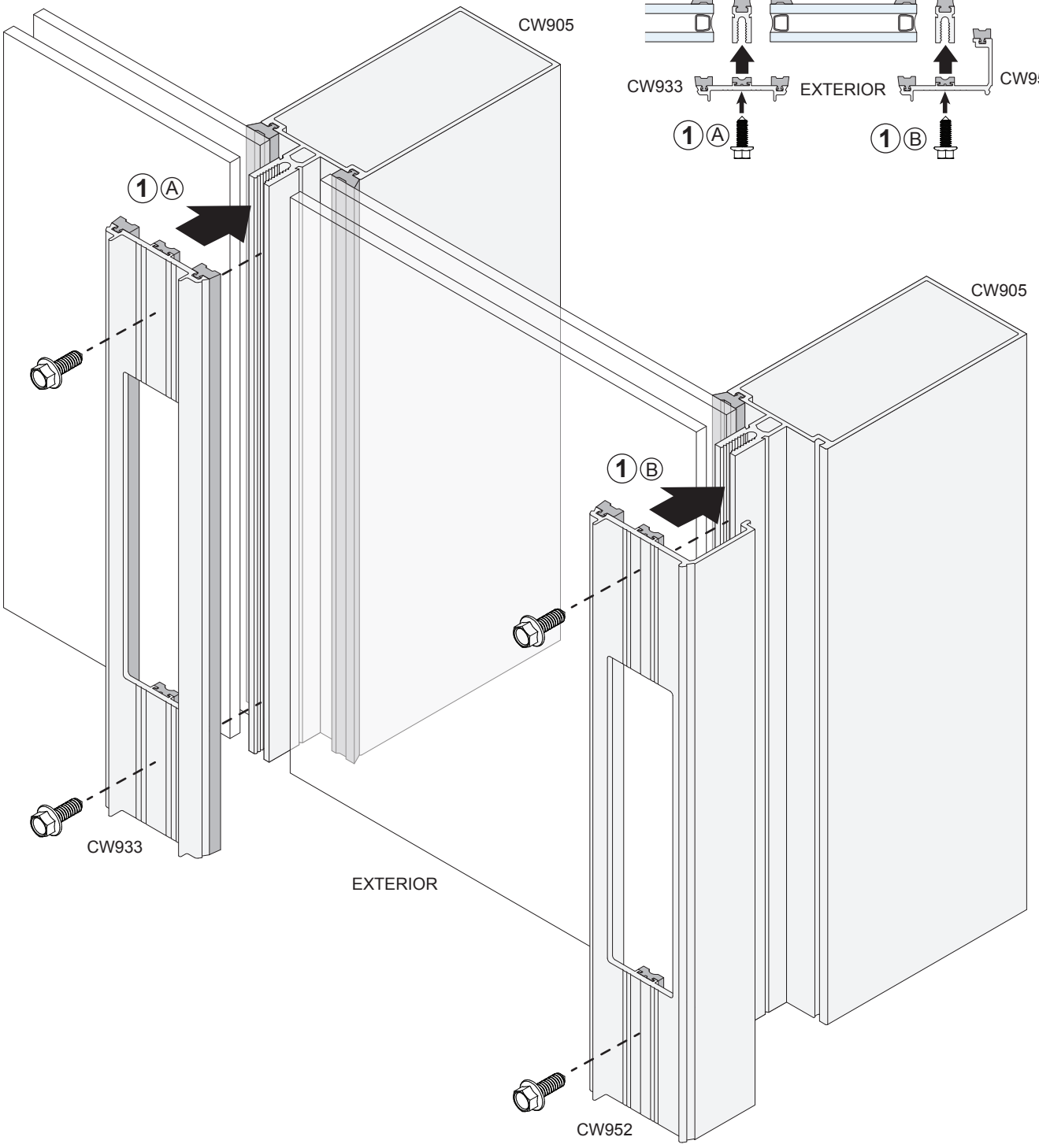
INSTALLATION WITH CURTAIN WALL

Install and Glaze Curtain Wall

1. Install and glaze the U.S. Aluminum 3250 or 3252 Curtain Wall system as directed in the Installation Manual.

NOTE: Vertical Pressure Bars require cut out for Mounting Bracket installation. Refer to Pages 8 and 9 for fabrication.

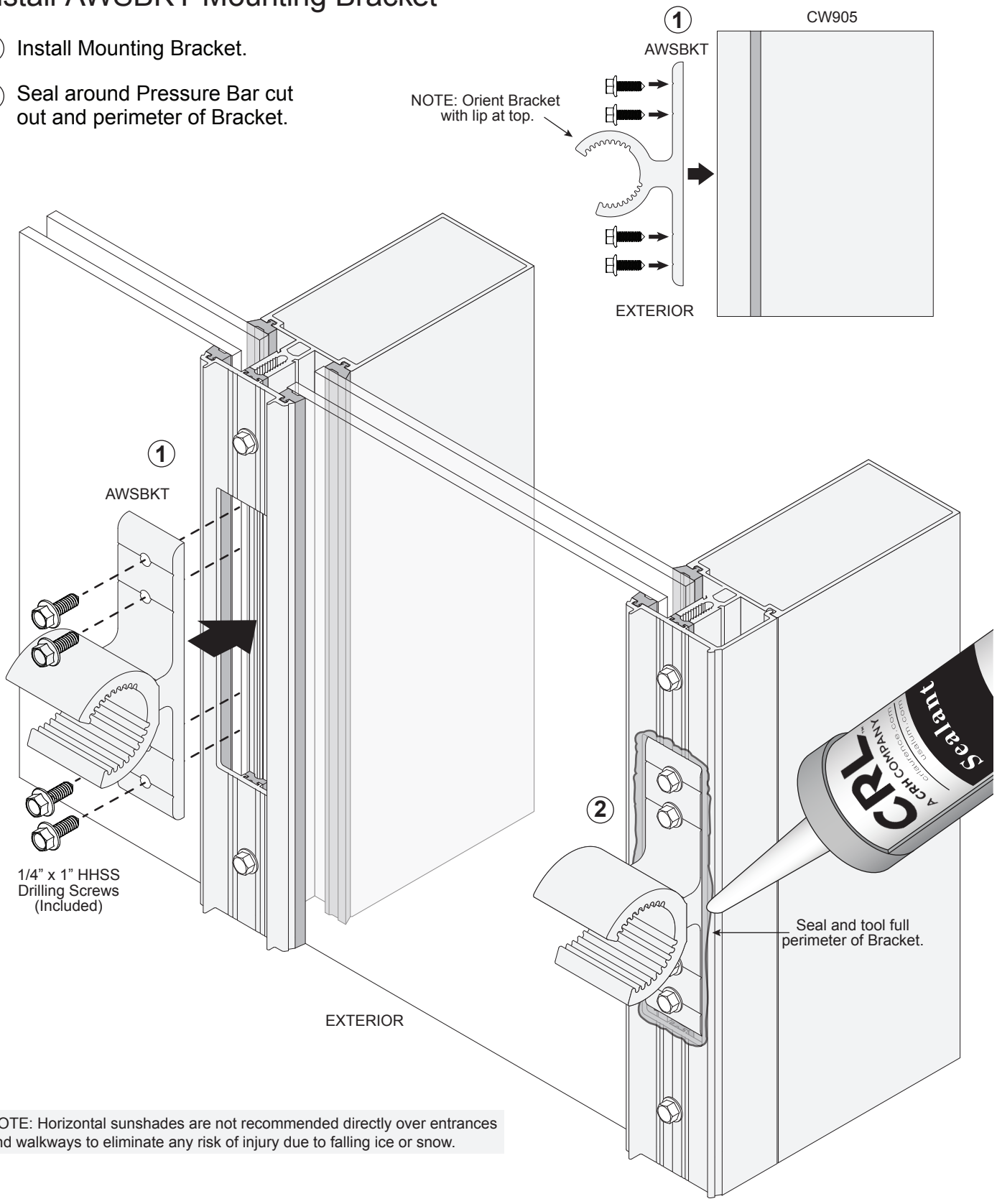




INSTALLATION WITH CURTAIN WALL (CONTINUED)

Install AWSBKT Mounting Bracket

1. Install Mounting Bracket.
2. Seal around Pressure Bar cut out and perimeter of Bracket.



NOTE: Horizontal sunshades are not recommended directly over entrances and walkways to eliminate any risk of injury due to falling ice or snow.

INSTALLATION WITH CURTAIN WALL (CONTINUED)

Install Curtain Wall Face Plates

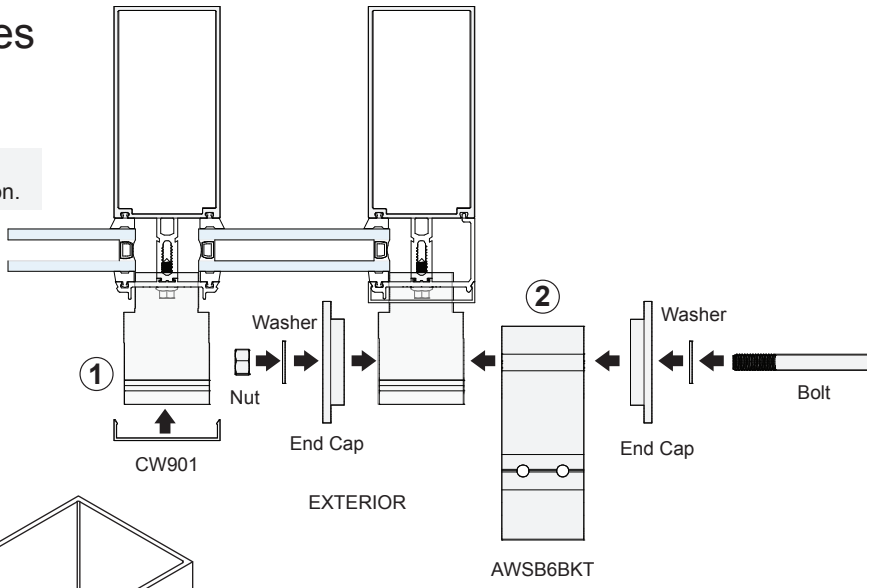
① Fit Face Plate over Mounting Bracket and snap into place.

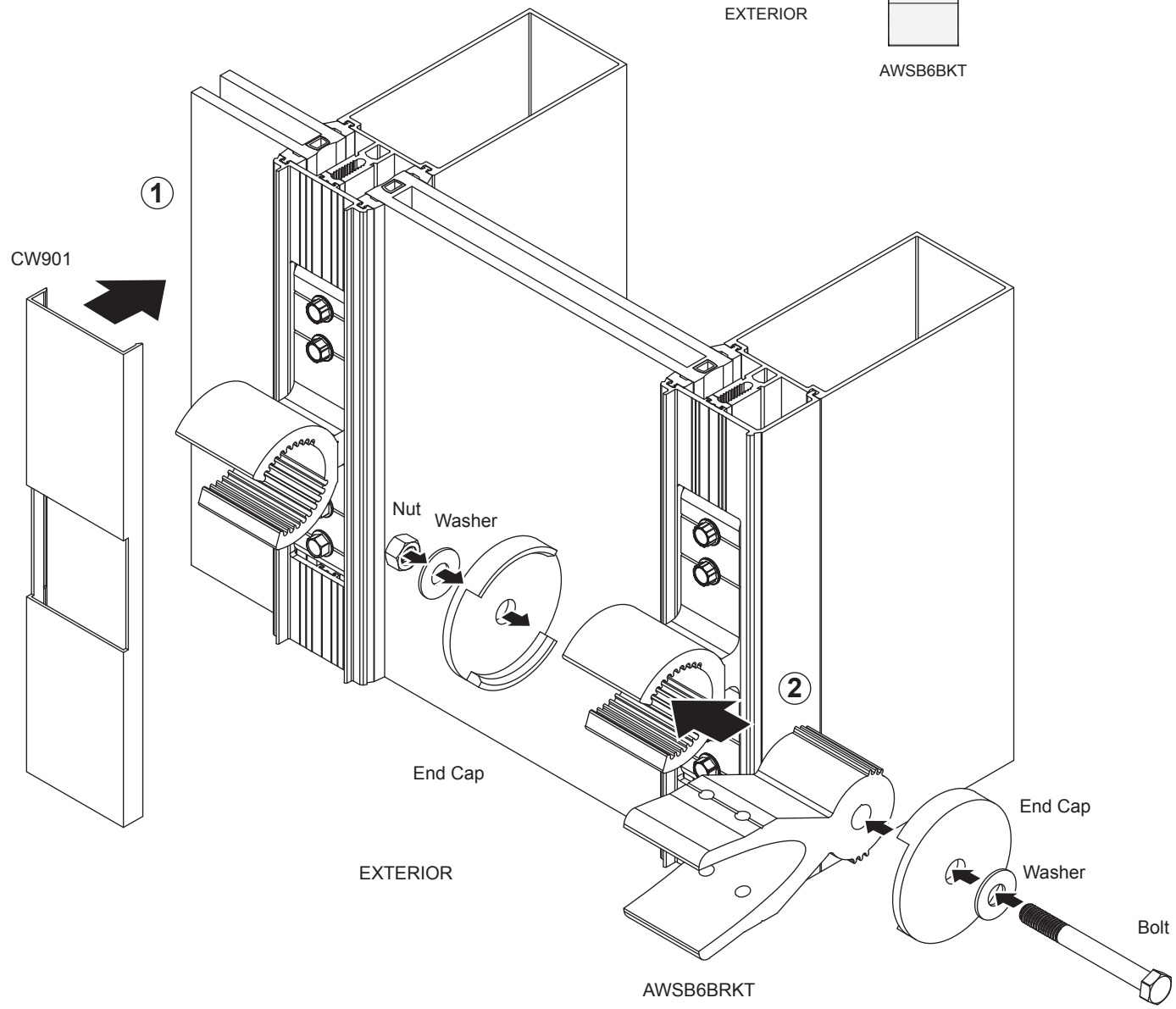
NOTE: Vertical Face Plates require cut out for Mounting Bracket installation. Refer to Pages 8 and 9 for fabrication.

Assemble Bracket

② Assemble Bracket at desired angle.

NOTE: Refer to Page 6 for angle range. AWSB6BKT shown, AWSB7BKT similar.



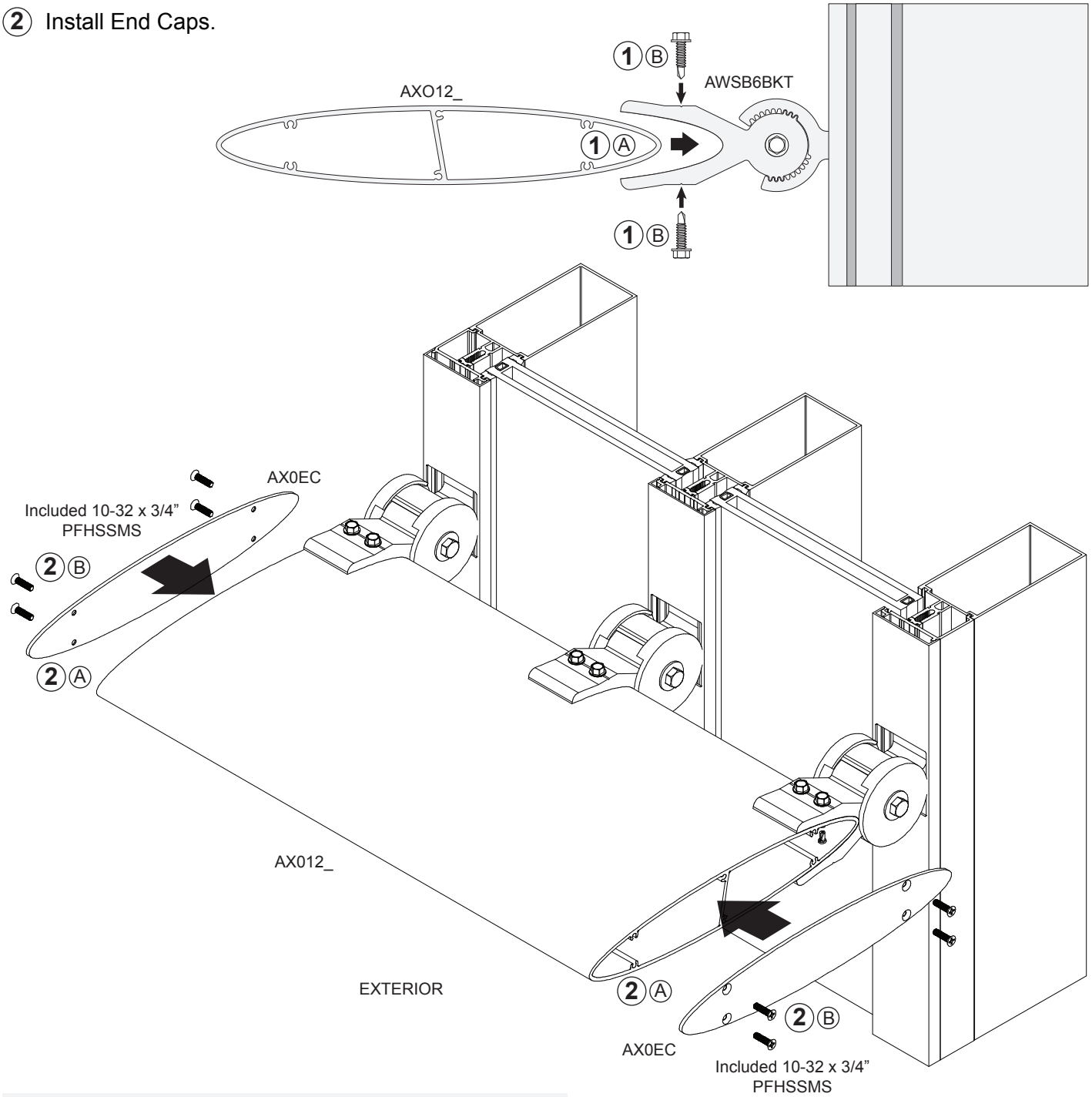


INSTALLATION WITH CURTAIN WALL (CONTINUED)

Install Blade and Blade End Caps

NOTE: AX012_ Airfoil Blade with AX0EC End Cap shown. AXRC2X12 Rectangular Blade with AXRCEC End Cap similar.

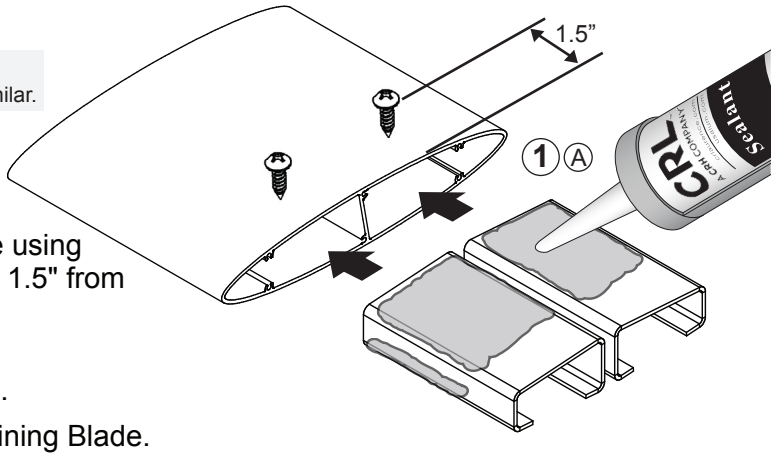
1. Install Blade and secure with included Hex Head Drilling Screws.
2. Install End Caps.



NOTE: Horizontal sunshades are not recommended directly over entrances and walkways to eliminate any risk of injury due to falling ice or snow.

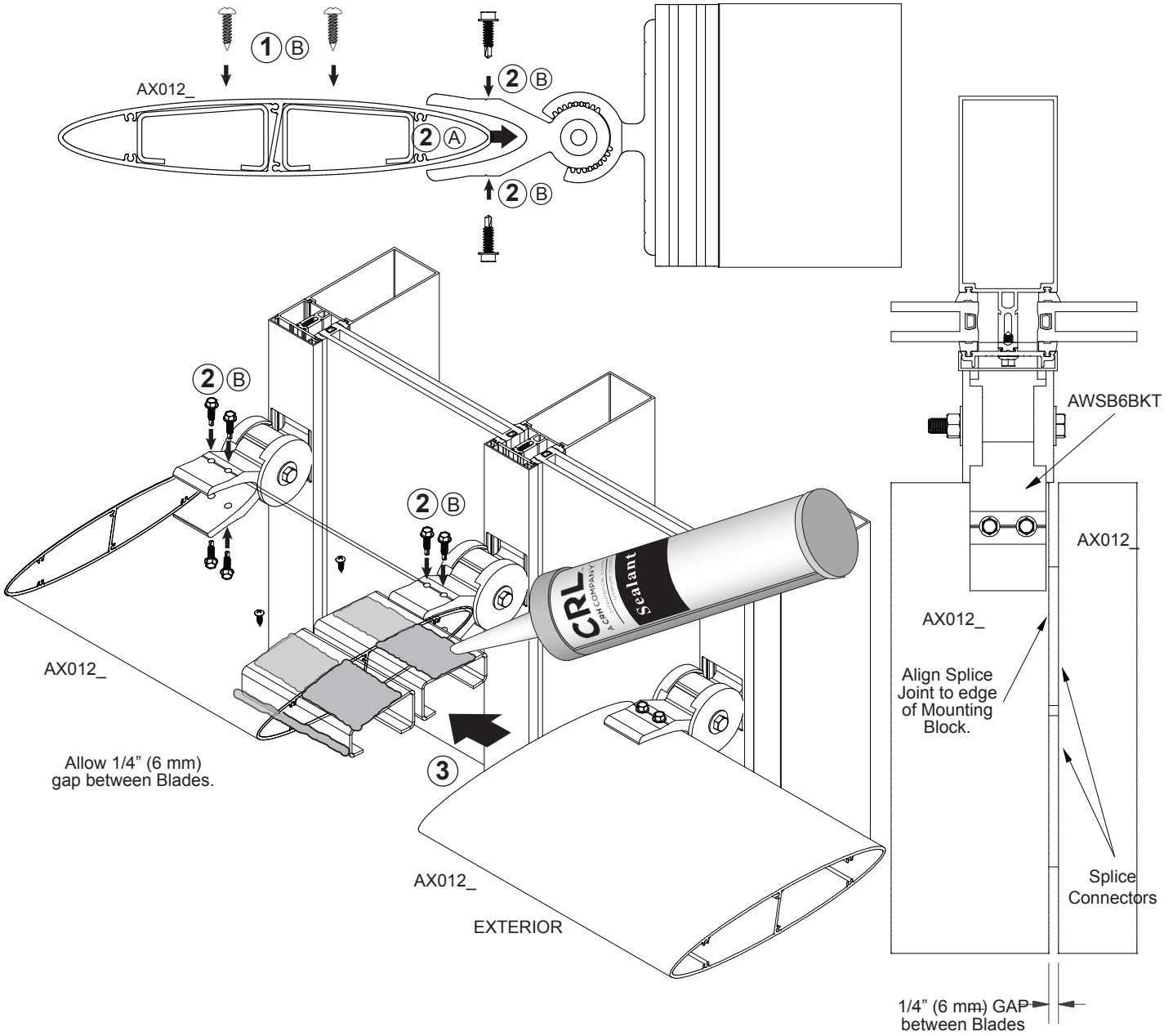
SPLICE INSTALLATION

NOTE: AX012_ Airfoil Blade with AX0EC Splice Connector shown.
AXRC2X12 Rectangular Blade with AXRCEC Splice Connector similar.



1. Seal and tool Splice Connectors and install Connector with opening towards the bottom. Insert connector midway into shade.Securely fasten each splice connector to the sunshade using a (2) #10 sheet metal screw. Place the screw 1.5" from the end of the sun shade.
2. Install Blade with Splice Joint at edge of Mounting Bracket and secure with (4) screws.
3. Seal and tool Splice Connector and install joining Blade.

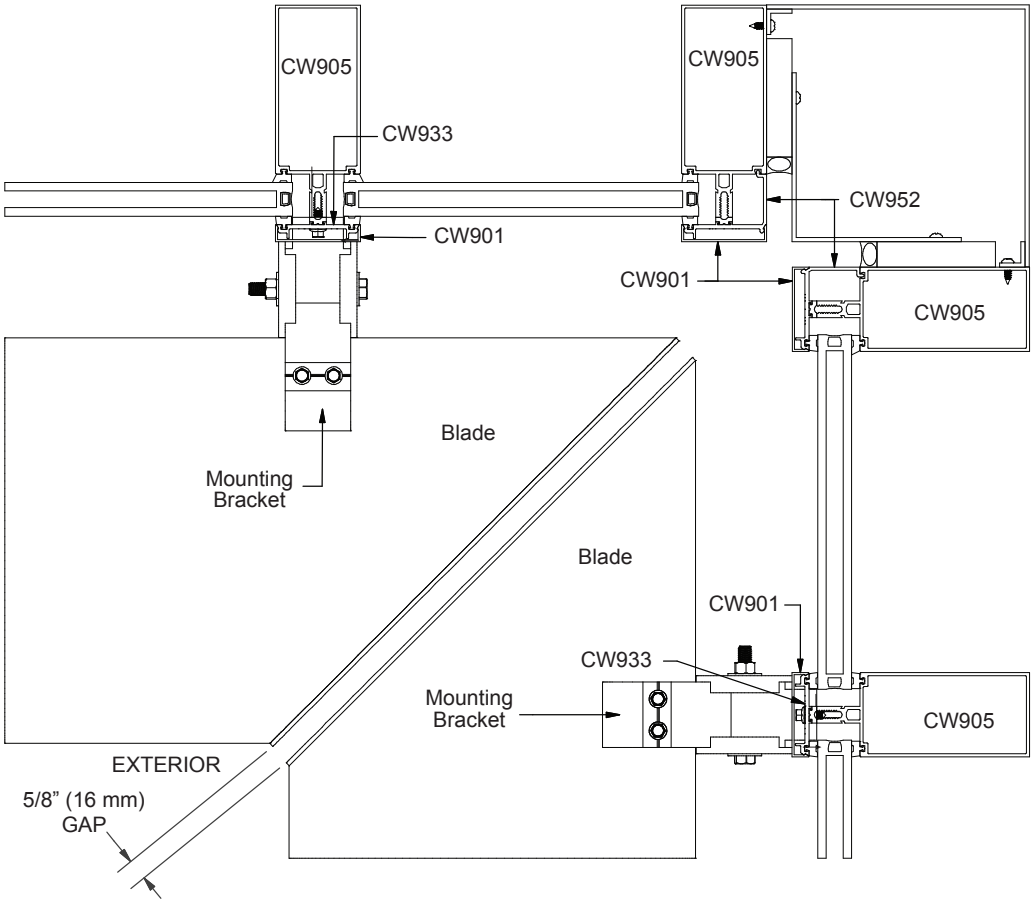
NOTE: Position Splice Joint at Mounting Bracket. Create 1/4" (6 mm) gap between blades.



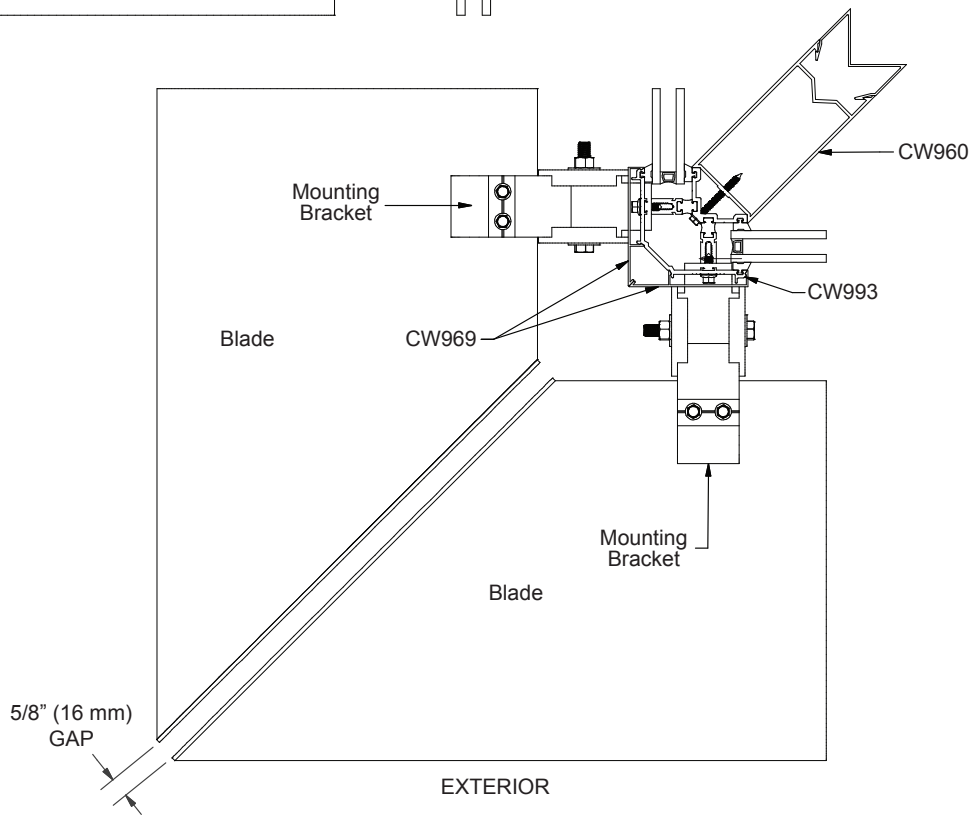
CORNER DETAILS FOR CURTAIN WALL INSTALLATION

Horizontal Blade 90º Inside Corner

NOTE: U.S. Aluminum 3250 Curtain Wall System shown, 3252 Curtain Wall System similar.



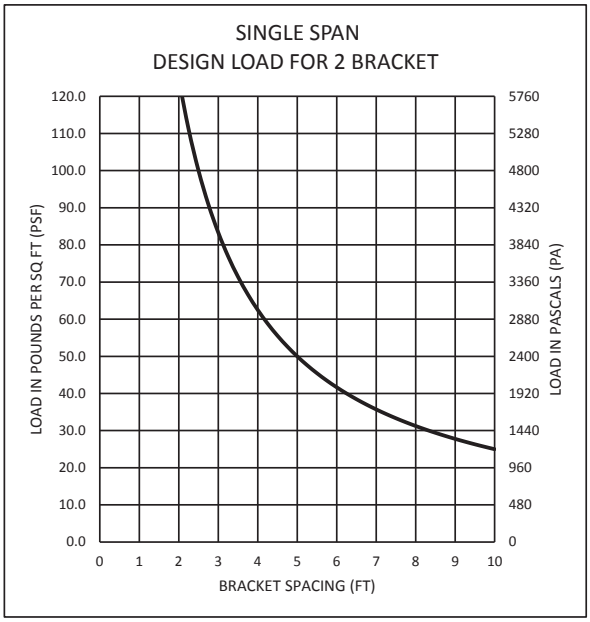
Horizontal Blade 90º Outside Corner

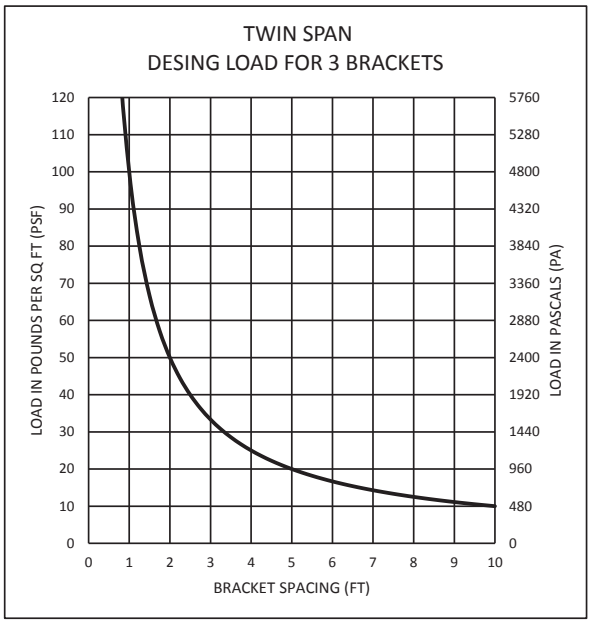


LOAD CHARTS

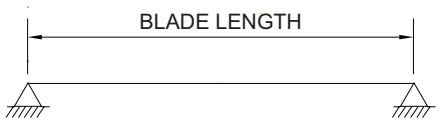
Load is a combination of all applied loads, such as wind, snow, ice, etc. acting perpendicular to the blade. Charts have been adjusted to account for the dead loads of the blades. Therefore dead loads do not need to be included in load determination. Charts are based on a maximum load on the anchor bracket (including dead load) of 250 lbs (113 kg). Charts do not include deflection or stresses of support members.

Installation with Curtain Wall





SINGLE SPAN
HORIZONTAL AND VERTICAL



TWIN SPAN
HORIZONTAL AND VERTICAL