

# DESIGNFlex™ Shapes – LYRA®, CALLA®, OPTIMA®, ULTIMA®, METALWORKS™ Panels

## Design and Installation Considerations

This system is unique to the ceilings industry. These considerations only apply to Armstrong® DESIGNFlex™ Shapes panels and grid components. Please completely read all instructions before beginning installation to avoid potential re-work.

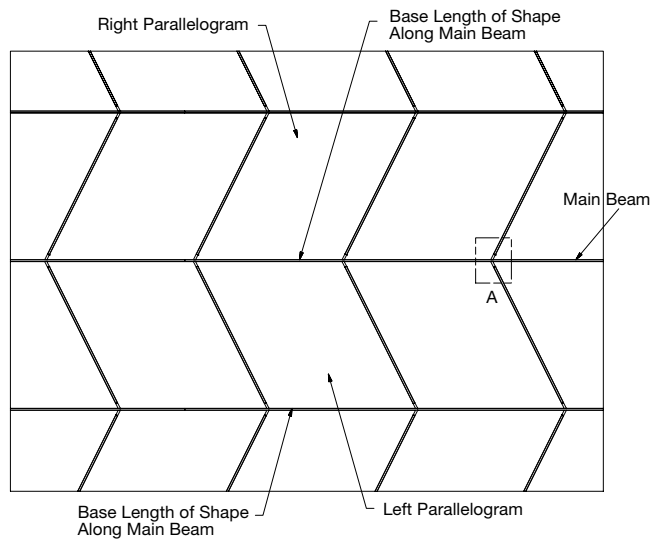
Installation videos for this system are available at: [www.armstrongceilings.com/shapesinstallation](http://www.armstrongceilings.com/shapesinstallation). Contact TechLine for additional questions.

### 1. GENERAL

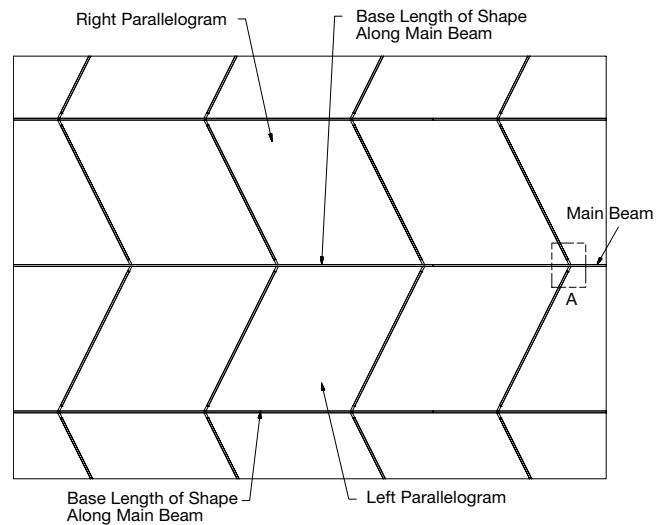
#### 1.1 Terminology

##### 1.1.1. Panels

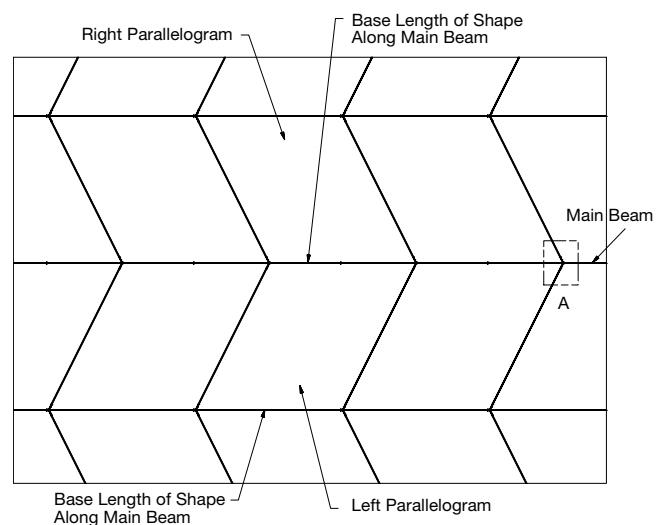
Panel descriptions and corresponding item numbers are based on a ceiling face view of the panel while looking up at the ceiling (not a reflected view), with the base length running horizontal across the bottom of view.



When viewing a Reflected Ceiling Plan (RCP), Left and Right panels are the opposite of their appearance due to the reflected view.



When viewing a ceiling plan view, looking down at the back side of an installed ceiling, Left and Right panels are the opposite of their appearance due to the view showing the back of the panel instead of the finish face.



### 1.1.2. Brackets

Left and Right Angle Bracket descriptions and corresponding item numbers are based on a ceiling face view of the bracket while looking up at the ceiling (not a reflected view), with the bracket attached to a main running horizontal across the bottom of view. These brackets coordinate with Left and Right panels (e.g. Left Angle Bracket works with Left Parallelogram panel). Refer to drawings in section 1.1.1 for examples of brackets in each view.

## 1.2 Layouts

**1.2.1.** Ceiling Plan Drawing and Bill of Materials (BOM) from the pattern gallery are drawn in ceiling plan view and are not Reflected Ceiling Plans (RCPs). The naming terminology of panels and brackets is based on viewing the face of the product while looking up at the ceiling.

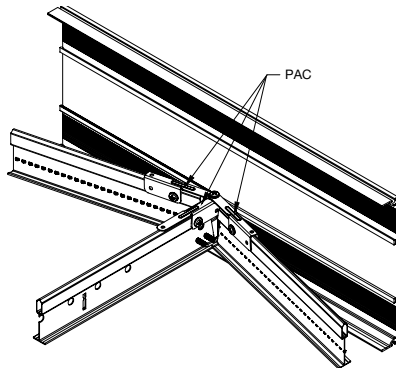
**1.2.2.** Angle measures are communicated as nominal. Ceiling plan drawings must use Armstrong's nominal 45°, 60°, and 75° panels and brackets that align with the 6" On Center (O.C.) rout hole spacing of the mains.

## 1.3 Wall-to-Wall Installations

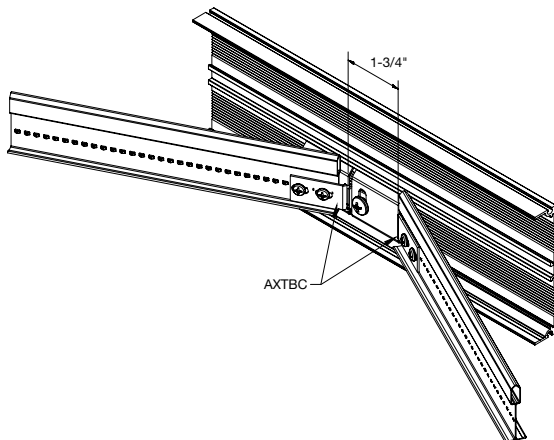
Due to variability of wall conditions, installing full-size panels at the borders is not recommended.

## 1.4 Floating Perimeters/Trim for Discontinuous Ceilings

**1.4.1** When a pattern interfaces with Axiom/floating trim, it must be laid out so that grid intersections occur directly at the perimeter utilizing Perimeter Angle Clips (PAC).



Or so that there is at least 1-3/4" between single grid connections to the trim utilizing AXTBC's.



**1.4.2** 4" Axiom® or taller is recommended to prevent interference with the upper flange of the Axiom and the installation of the Perimeter Angle Clip, and for ease of panel installation along the perimeters.

**1.4.3** Layouts that have grid connecting to the trim at an angle change (corner) will require the Axiom Perimeter Corner Clip (PCC). The PCC is only compatible with the AX4SPLICEB Axiom Splice Plate, and cannot be used in conjunction with Corner Posts.

**1.4.4** If creating DESIGNFlex Shapes clouds with full size modules (grid intersections at the perimeters), it is recommended that the Axiom be ordered as custom to fit the cloud. This will help ensure the proper dimensions of the grid and trim interface for full-size panels.

**1.4.5** When ordering custom Axiom for full-size panels or full-size modules (2' or 4' O.C.) it must be specified at time of order that the Axiom is for DESIGNFlex Shapes so that the proper adjustments can be made to the shop drawings.

**1.4.6** Based on the pattern chosen and the layout of where the grid interfaces the trim, independent support of the Axiom may be recommended for installation purposes.

## 2. PANELS

### 2.1. Panel Fit

- DesignFlex Shapes panels are specifically designed and manufactured for proper fit into DesignFlex Shapes grid openings. Cutting panels or other materials to fit into the grid openings is not recommended and not warranted.
- DesignFlex Shapes panels and integration partner components are the only materials that can be installed within the Shapes grid openings.

### 2.2 Panel Directionality

- All panels must be installed in a specific orientation in order to match the openings of the grid. The specified layout design will dictate the direction of the panels.
- Panels have a "base" side that runs parallel with the main beams. Because of this, all panels that are not right triangles, can only be installed in one orientation in relation to the main beam direction
- Right triangle panels are the only shapes for which layouts can be designed with the panels quarter turned so that the "base" side is perpendicular to the mains.

### 2.2.1 Color/Finish Directionality Consideration

Panels such as Lyra®, Calla®, and Wood grain products have a directional finish that runs parallel with the mains. When using these products, use care when combining DESIGNFlex™ Shapes panels with square and rectangular panels.

### 2.3. Panel Installation

#### 2.3.1. Plenum

A minimum of 6" of clearance above the grid is recommended for all installations and will allow all panel sizes and shapes to be installed without interference.

**NOTE:** MEP fixtures may require more space and may determine the minimum plenum height for the installation.

#### 2.3.2. Cut Panels within the Field

Only full-size panels should be used within the field of the installation. Only perimeter panels can be field-cut to size.

## 2.4. Panel Installation

Full-size panels without penetrations are accessible. Border panels may not be accessible based on the perimeter interface and the installation method.

## 3. FIXTURE INTEGRATION

Due to the non-standard grid openings that are created for the DESIGNFlex™ Shapes system, standard fixtures may not be compatible. The recommendation for fixture integration is to utilize Armstrong integrated solution partners with TechZone layouts or DESIGNFlex Shapes integration partners.

### 3.1 TechZone®

**3.1.1** All TechZone layouts require technical zones that run parallel with main beam direction.

**3.1.2** The TechZone® Yoke (TZYK) is not compatible with DESIGNFlex Shapes grid layouts. Main beams must be directly supported with hangers. Continuous fixture layouts requiring the TechZone Yoke (TZYK) are not compatible with this system.

**3.1.3** Consider directionality when combining TechZone panels that have a directional finish and DESIGNFlex Shapes panels that have a directional finish (Lyra®, Calla®, and Woodgrain products).

### 3.2 Lights

**3.2.1** Troffer lay-in light fixtures can be integrated into Right Triangle designs which use Corner Brackets and perpendicular XL® cross tees to create 2'x 2', and 2'x 4' modules.

**3.2.2** 45°, 60°, and 75° Shapes do not use grid components that create 2'x 2', 2'x 4' modules that are traditionally used to support certain fixtures. Reference the fixture manufacturer's instructions for installation details.

**3.2.3** Pendant lighting, sprinklers, and other mechanical items must be independently supported.

## 4. SLOPES

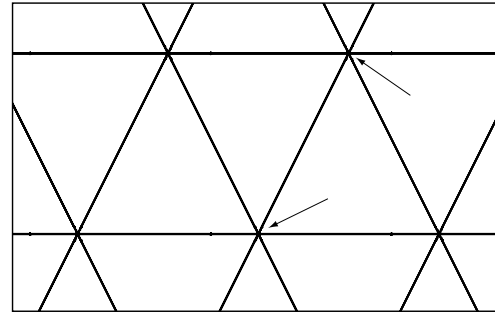
Sloped installations of DESIGNFlex Shapes are not recommended or warranted.

## 5. SITE CONDITIONS

DESIGNFlex Shapes cannot be installed in exterior spaces.

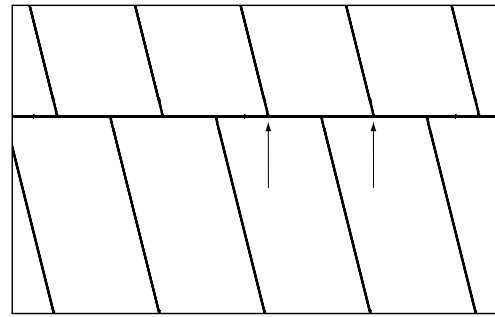
## 6. SEISMIC INSTALLATIONS

**6.1.1** For ceiling installation areas over 1,000 SF, layouts with back to back (opposing) bracket connections to the main beams can be braced following standard spacing guidelines.



Opposed Bracket Connection

If single bracket connections occur (no opposing bracket occupying the same route hole) consult a professional engineer for lateral force bracing placement.



Unopposed Bracket Connection

**6.1.2** Ceiling areas over 2,500 SF should have separation by bulkhead or partition wall braced to structure.

**6.1.3** Lyra® and Optima® panels with main beam spacing of 4' O.C. will require Maximum Hold Down Clips (PMHDC) over all field panels due to the weight of the panels. This will require a progressive install as the clips must be placed over the panels after they are installed. These panels will also no longer be accessible. For these reasons, it is recommended that Calla® or Ultima® panels be used in seismic installations when possible.

## MORE INFORMATION

For more information, or for an Armstrong Ceilings representative, call 1 877 276 7876.

For complete technical information, detail drawings, CAD design assistance, installation information, and many other technical services, call TechLine customer support at 1 877 276 7876 or FAX 1 800 572 TECH.

For the latest product selection and specification data, visit [armstrongceilings.com/shapes](http://armstrongceilings.com/shapes).

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