SYNTHETIC STUCCO GRID SYSTEMS

HANGING AND FRAMING EIFS/DIRECT APPLIED CEILINGS

Inspiring Great Spaces®

Armstrong
CEILING SOLUTIONS
FASTER. EASIER. BETTER.

Armstrong® Drywall Framing Systems install faster than traditional methods, which helps you complete jobs under cost and ahead of schedule.

Our Drywall Systems are manufactured to meet or exceed ASTM standards and code requirements and are engineered to provide economical alternatives to stud and track construction.

We provide pre-engineered solutions for direct-to-deck installations, vertical drops, and short spans. This makes Armstrong ShortSpan® Drywall Framing perfect for use in corridors, small room configurations, restrooms, and storage closets.

DRYWALL Grid Systems

Code Compliance You Can Trust
• Meets ASTM C645
• Meets ASTM C840
• Meets ASTM C754
• ICC Evaluation Report Number ESR-1289
• Department of State Architect – DSA
  PA105
• City of LA – RR
  25348
• Miami/Dade wind uplift – NOA #15-0127.04-03/17/015
• Miami/Dade Impact – NOA #14-1204.05-10/07/14
• Consult local codes for specific requirements

Performance
• PeakForm® patented profile increases strength and stability for improved performance during installation
• SuperLock™ main beam clip is engineered for a strong secure connection and fast accurate alignment confirmed with an audible click; easy to remove and relocate
• ScrewStop® reverse hem prevents screw spin-off on 1-1/2” wide face

For more information, call 1 877 276-7876
STUCCO/PLASTER GRID SYSTEMS

- **Rotary-stitched** – Greater torsional strength and stability
- **1-1/2” wide face** main beams and cross tees – Easy installation of screw applied gypsum wallboard
- **G40 AND G90 hot dipped galvanized coating** – Superior corrosion resistance for exterior applications
- **Heavy-duty load rating** – Minimum 16 lbs./LF on main beams and cross tees
- **Wind Load** construction available, including Miami Dade/Broward County, Florida
- **Pre-engineered** stucco products space tees to match lath dimensions

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**Corrosion Prevention**

Corrosion prevention is an essential factor in the economical utilization of galvanized sheet metal for ceiling grid. Armstrong provides G40 for standard construction per ASTM C645. When conditions include exposure to extreme moisture and salt water, G90 is available per ASTM A653.
## COMPONENTS

### MAIN BEAMS

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Length</th>
<th>Face Dimension</th>
<th>Profile Height</th>
<th>Duty Load</th>
<th>Fire Rated</th>
<th>Routs</th>
<th>L/360 wires at</th>
<th>L/240 wires at</th>
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† Type "F" fixture compatible

### CROSS TEES

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<tr>
<th>Item Number</th>
<th>Length</th>
<th>Face Dimension</th>
<th>Profile Height</th>
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<th>Routs</th>
<th>L/360 wires at</th>
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Note: All items available in High Recycled Content (HRC) as special order.

† Type "F" fixture compatible
### WALL MOLDING

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Length</th>
<th>Description</th>
<th>Profile</th>
<th>Perspective</th>
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<tr>
<td>7858</td>
<td>144&quot;</td>
<td>Reverse Angle Molding nominal 1-9/16&quot; x 15/16&quot;</td>
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<td>KAM10</td>
<td>120&quot;</td>
<td>Knurled Angle Molding nominal 1-1/4&quot; x 1-1/4&quot;</td>
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<td>KAM12</td>
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<td>Knurled Angle Molding nominal 1-1/4&quot; x 1-1/4&quot;</td>
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<td>KAM1510</td>
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<td>Knurled Angle Molding nominal 1-1/2&quot; x 1-1/2&quot; (KAM1510 &amp; KAM1512 - 25g.; KAM151020 - 20g.; KAM151020EQ - 22g)</td>
<td><img src="image4.png" alt="Perspective" /></td>
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<tr>
<td>KAM1512</td>
<td>144&quot;</td>
<td>Knurled Angle Molding nominal 1-1/2&quot; x 1-1/2&quot; (KAM1510 &amp; KAM1512 - 25g.; KAM151020 - 20g.; KAM151020EQ - 22g)</td>
<td><img src="image5.png" alt="Perspective" /></td>
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<td>KAM21020</td>
<td>120&quot;</td>
<td>Knurled Angle Molding nominal 2&quot; x 2&quot; (20 gauge) (KAM21020 - 20g.; KAM21025 - 25g.; KAM21020EQ - 22g)</td>
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<td>KAM21025</td>
<td>144&quot;</td>
<td>Knurled Angle Molding nominal 2&quot; x 2&quot; (20 gauge) (KAM21020 - 20g.; KAM21025 - 25g.; KAM21020EQ - 22g)</td>
<td><img src="image7.png" alt="Perspective" /></td>
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<td>LAM12</td>
<td>144&quot;</td>
<td>Locking Angle Molding nominal 1-1/4&quot; x 1-1/4&quot;</td>
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<td>LAM12G90</td>
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<td>LAM12HRC</td>
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<td>Locking Angle Molding nominal 1-1/4&quot; x 1-1/4&quot;</td>
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</tbody>
</table>

**NOTE:** All items available in High Recycled Content (HRC) as special order.

### WIRE LOAD DETAILS

#### 12 Gauge Wire Breaking Strength and Technical Data

- **12 Gauge Wire**
  - Diameter .105"
  - Galvanized Steel
  - 375 lbs. Maximum Safe Wire Load

- **3 Turns in 3**
  - Per ASTM C 636

- **450 lbs. Pullout**
  - Hanger Wire Hole

Note: Per ASTM C754 wires must be plumb and straight.
1 For wind speed less than 60 MPH, install main beams 48" on center. For wind speed over 60 MPH, see page 9 for main beam spacing.

2 Use either track positively attached, metal angle or main beam for isolation from wall. When located near salt water, use 9 gauge wire.

3 Install cross tees 16" on center.

4 Install vertical brace at required locations for wind loading on suspension system. See chart page 9.

5 Install substrate gypsum board (water resistant) with screw spacing 6" to 8" on center. Cement board can also be used on exterior. Use lower RPM (1,000-2,500) screw gun to install cement board screws with intermittent pressure.

6 Install finish system per manufacturers recommendation.

7 Use plastic vented starter, stops or casing beads with holes to allow moisture to escape from system.

8 Install vent strips where necessary in plenum to handle air pressure and moisture.

9 Install both control joints and expansion joints to control movement in system, in accordance with ASTM C840.

10 Synthetic bonding agents are the responsibility of each individual manufacturer of EIFS and is not the responsibility of the suspension system manufacturer.

11 The suspension system manufacturer’s responsibility is to furnish a smooth and level surface in accordance with C645 and C754 for the proper weight loading.

For further information, contact your local representative or TechLine at 1 877 276 7876.
STUCCO/PLASTER DETAILS

STUCCO/PLASTER GRID SUSPENSION INSTALLATION

Insulated

Uninsulated

Vent Strip

Control Joint

Non-Modular Cut and Screw

Exterior Wind Loaded (See chart on page 6)
STUCCO/PLASTER
INSTALLATION

DETAILS OF STUCCO/PLASTER SYSTEMS

Rock Lath and Plaster

Security Metal Lath and Plaster
Control Joints / Expansion Joints

Control joints minimize cracking caused by stresses in the surface material attached to a metal suspension system. Materials have different rates of expansion and control joints are placed 35’ to 50’ apart to control bucking and cracking of surface. Control joints are also used to minimize stresses in monolithic ceiling membrane that occur at columns, access doors, light fixtures, inside and outside corners and other unusual penetrations in ceilings.

Ceiling expansion joints are installed to separate the metal suspension system when expansion joints occur in buildings, ceiling span is over 100’ or when metal changes direction. Expansion joints are required to separate a system in T, H, L and U or Circle shaped buildings to eliminate cracking from expansion. Both expansion and control joints look similar but perform different functions.
Notes:

1. Positive attach with #10 -16 screw – clip to stud.
2. Positive attach with Clip to Bar Joist with 2.145” Dia. x 1/2” long.
3. Screws: #10 - 16 TEKS/ 3 Buildex or equal.
4. Power activated Fasteners: .145 Dia. x 1/2” long (X-DNI) Hilti pins.
5. Clips: All Clips to be made of 50 KSI material. Spans up to 70” use angle 2” x 5” x 12 gauge x 0-4” long. Spans 72” x 120” use angle 2” x 5” x 10 gauge x 0-5” long. For studs up to 4”, use 3” flange in lieu of 5”.
6. All spans based on single span.
7. Wind load – 75 PSF
8. Dead load – 10 PSF
9. Spans of 120” require bridging on top flange at midspan. Use 1-1/2 CRC 16 gauge attached with (1) #10 - 16 to top flange.
10. In some cases, angles may need to be welded to structure.
1 Positive attach with #10 -16 screw – clip to stud.
2 Positive attach with Clip to Bar Joist with .145" Dia. x 1/2" long.
3 Screws: #10 - 16 TEKS/ 3 Buildex or equal.
4 Power activated Fasteners: .145 Dia. x 1/2" long (X-DNI) Hilti pins.
5 Clips: All Clips to be made of 50 KSI material. Spans up to 70" use angle 2" x 5" x 12 gauge x 0-4" long. Spans 72" x 120" use angle 2" x 5" x 10 gauge x 0-5" long. For studs up to 4", use 3" flange in lieu of 5".

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7 Wind load – 75 PSF
8 Dead load – 10 PSF
9 Spans of 120" require bridging on top flange at midspan. Use 1-1/2 CRC 16 gauge attached with (1) #10 - 16 to top flange.
10 In some cases, angles may need to be welded to structure.
**Notes:**

1. Positive Attachment Top and Bottom.
2. 22 Gauge 2-1/2" Studs 2' O.C.
4. Hanger Wire 4" O.C.
5. Vertical Drop 0 - 6' Minimum 22 Gauge. Not shown on drawing. (See Chart)
Notes:

1. 1-1/2 #16 Gauge U Channel Bracing Required at Mid Span for 10’ – 15’ Vertical Drop.
2. Positive Attachment Top and Bottom.
3. 18 Gauge 2-1/2” Studs 2’ O.C.
5. Hanger Wire 4’ O.C.
Notes:

1 1-1/2 #16 Gauge U Channel Bracing Required at 1/3 Points.
2 Positive Attachment Top and Bottom.
3 18 Gauge 3-5/8" Studs 2' O.C.
4 Main Beams 2' O.C. / Cross Tees 16" O.C 2' Long.
5 Hanger Wire 4’ O.C.
**MAKING A TEMPLATE**

**ESTABLISHING AN ARC**

1. Draw radius on template (plywood, gypsum board, etc.).
2. Establish a center line.
3. Mark 2' increments on line perpendicular to center line.
4. At 2' marks, identify points of arc below perpendicular line (maintain consistent spacing of point). See radius charts on page 17.
5. Connect points to form a smooth arc.

**Example: 43° arc using chart on page 17**

![Diagram showing the establishment of an arc]

**COMPLETING THE TEMPLATE – OPTION 1**

1. Cut along the arc and remove section of template.
2. Cut main beam as required and position along the cut radius on the template (use chart on page 17).
3. Screw RC2 clips to faceted main beam at all knockout locations. *
4. On the template, mark a rout location reference point to maintain consistent rout location.

* RC2 Clip placement
  - Vaults – Cross tee placement in routs between cuts
  - Valleys – Cross tee locked into rout on RC2 clip (tight radius installations may require bending up of the flange at ends of cross tees)
  - Note: Screw RC2 to cavity side of web
MAKING A
TEMPLATE

COMPLETING THE TEMPLATE – OPTION 2

1-1/2” x 3” Plywood or Blocks
secured by 2 screws

12’

Clamp main beam to flex track

Main Beam

2-1/2” or 3-5/8”
flex track

RC2 Clip

Screw flex track to plywood

Stop

1. Draw radius on board.
2. Screw flex track to board along radius line.
3. Cut main beams as required and position along the flex track on the template.
4. Screw RC2* clips to faceted main beam at all knockout locations.
5. On the template, mark a rout location reference point to maintain consistent rout location.

Contractors’ efficiency and understanding of the suspended grid system construction provides performance benefits and cost savings.

- An unlimited range of vaults and valleys can be constructed using faceted main beams made on the job to meet design needs.
- Single and multiple curved ceilings can be framed quickly and easily.

*Screw RC2 on cavity side of web
## Radius Dimension

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