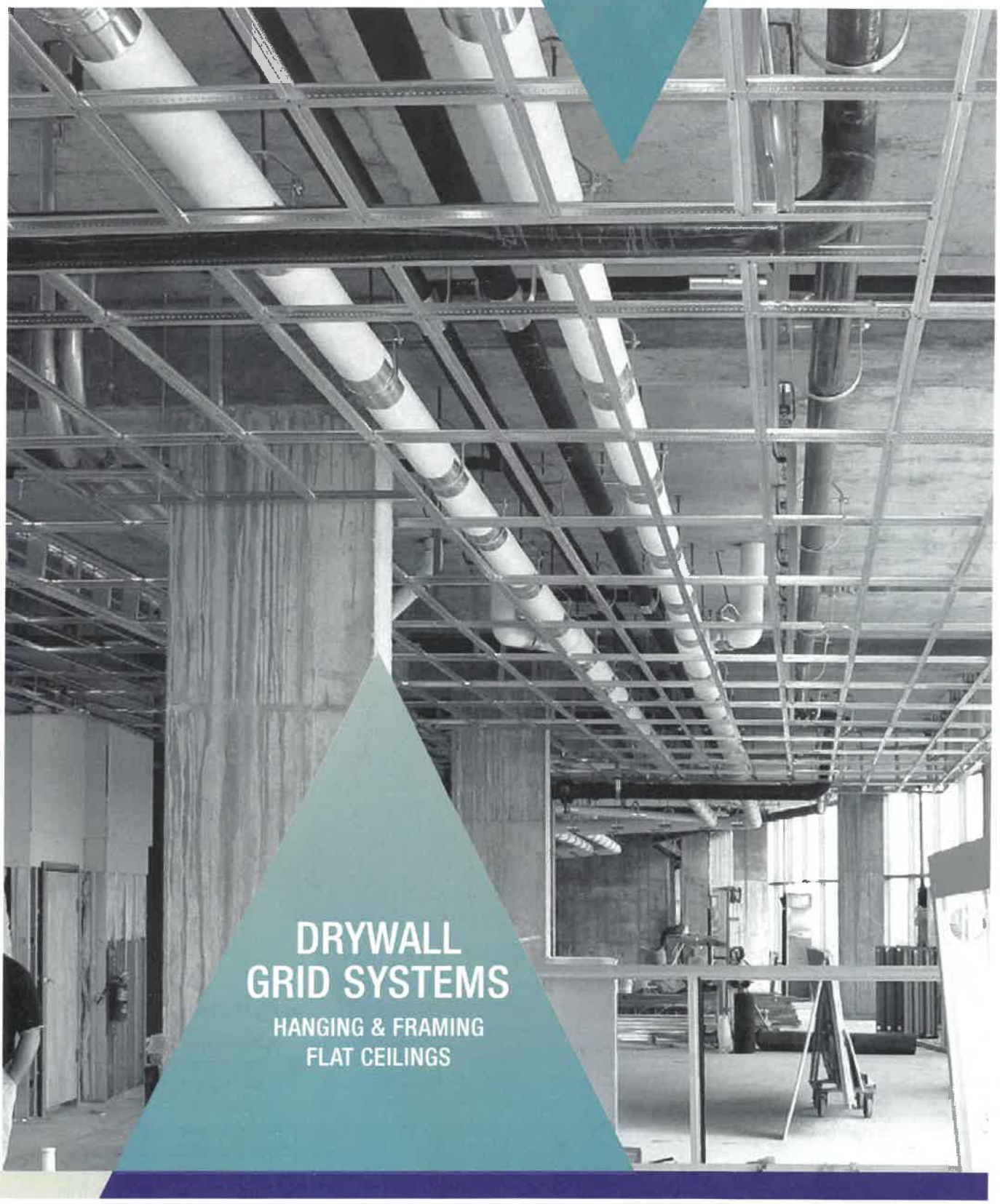
Inspiring Great Spaces®

Armstrong®
CEILING SOLUTIONS

May 3, 2018



DRYWALL GRID SYSTEMS

HANGING & FRAMING FLAT CEILINGS

Inspiring Great Spaces®

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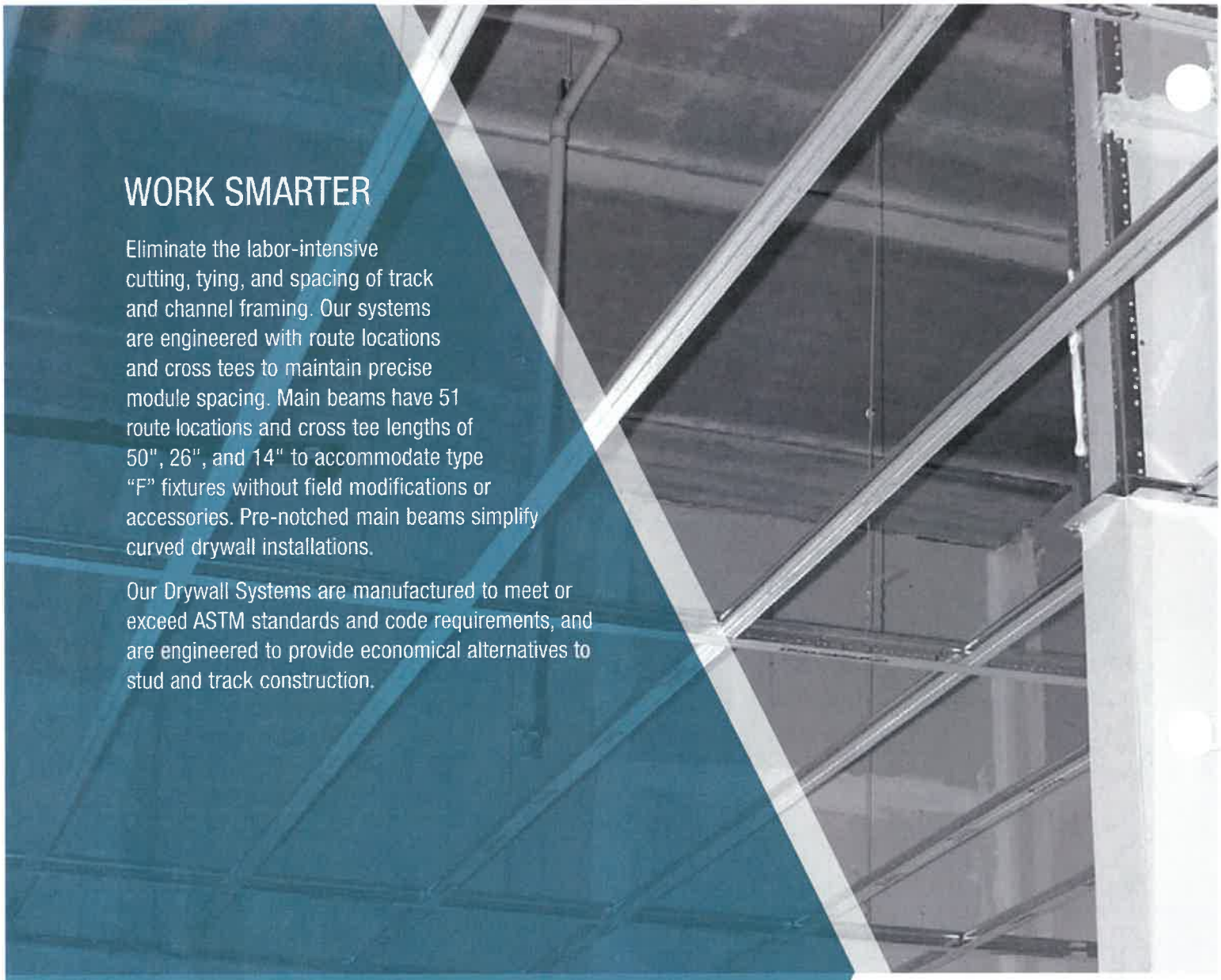


WORK SMARTER

Eliminate the labor-intensive cutting, tying, and spacing of track and channel framing. Our systems are engineered with route locations and cross tees to maintain precise module spacing. Main beams have 51 route locations and cross tee lengths of 50", 26", and 14" to accommodate type "F" fixtures without field modifications or accessories. Pre-notched main beams simplify curved drywall installations.

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.

DRYWALL Grid Systems

Code Compliance You Can Trust

Meets:

- ASTM C635
- ASTM C645
- ASTM C754
- ASTM C840
- ICC Evaluation Service Report ESR-1289
- City of LA – RR 25348
- IBC categories D, E, and F single layer drywall ceilings are exempt from lateral force bracing requirements, regardless of room size
- Miami-Dade County, Florida wind uplift – NOA No. 07-0119.02 – 03/17/2014
- Miami-Dade County, Florida impact testing – NOA No. 10-0126.04 – 03/17/2015
- 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

Flat Drywall Grid Installation

DRYWALL GRID SYSTEMS

TABLE OF CONTENTS

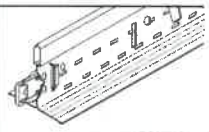
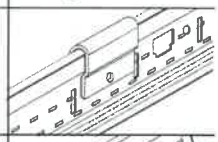
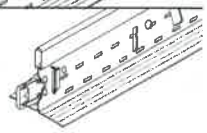
- **Rotary-stitched** – Greater torsional strength and stability
- **1-1/2" wide face** main beams and cross tees – Easy installation of screw-applied gypsum wallboard
- **G40, G90 hot dipped galvanized coating** – Corrosion resistance
- **G90 hot dipped galvanized coating** – Superior corrosion resistance for exterior applications
- **Heavy-duty load rating** – Minimum 16 Lbs/LF on main beams
- **Fire rated** – Applicable to 25 UL® Fire Resistant designs (D501, D502, G523, G524, G527, G528, G529, G553, J502, L502, L508, L513, L515, L525, L526, L529, L564, P501, P506, P507, P508, P509, P510, P513, P514, P516). Item XL7936G90 and XL8965 are not fire rated.

Wind uplift and impact testing construction available, including Miami Dade/Broward County, Florida

- **Cross tee spacing:**
  24" O.C. for 5/8" drywall
  16" O.C. for 1/2" drywall

COMPONENTS

MAIN BEAMS

Item Number	Length	Face Dimension	Profile Height	Duty Load	Fire Rated	Routes	Load Test Data (Lbs/LF) L/360 Simple Span 2'	3'	4'	L/240 Simple Span 2'	3'	4'	Perspective
HD8906 HD8906G90 HD8906HRC	144"	1-1/2"	1-11/16"	Heavy Duty	Yes	51 routes – starting 2-1/4" from each end†	95.5	43.19	18.66	143.00	57.30	28.14	
HD8906IIC	144"	1-1/2"	1-11/16"	Heavy Duty	Yes	51 routes – starting 2-1/4" from each end†	95.5	43.19	18.66	143.00	57.30	28.14	
HD890610	120"	1-1/2"	1-11/16"	Heavy Duty	Yes	51 routes – starting 2-1/4" from each end†	95.5	43.19	18.66	143.00	57.30	28.14	

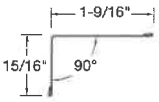
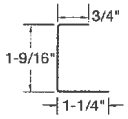
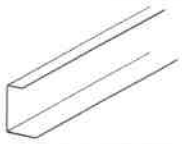
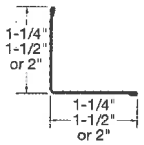
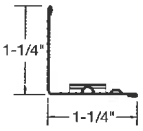
† Type "F" fixture compatible

CROSS TEES

Item Number	Length	Face Dimension	Profile Height	Fire Rated	Routes	Load Test Data (Lbs/LF) L/360 Simple Span			L/240 Simple Span			Perspective
						72"			72"			
XL8965 XL8965HRC	72"	1-1/2"	1-1/2"	Yes	6 routes – starting 24" from each end†	4.58			6.87			
						50"			50"			
XL8947P XL8947PG90	50"	1-1/2"	1-1/2"	Yes	8 routes – starting 10" from each end†	12.79			19.5			
						2'	3'	4'	2'	3'	4'	
XL8945P XL8945PG90 XL8945HRC	48"	1-1/2"	1-1/2"	Yes	9 routes – center route and starting 10" from each end†			14.27			22.5	
XL7936G90	36"	1-1/2"	1-1/2"	No	none		31.33			50.00		
XL8926 XL8926G90	24"	1-1/2"	1-1/2"	Yes	3 routes – center route and 10" from each end†	90.25			158.0			

NOTE: All items available in High Recycled Content (HRC) as special order.
† Type "F" fixture compatible

MOLDINGS

Item Number	Length	Description	Profile	Perspective
7858	144"	Reverse Angle Molding nominal 1-9/16" x 15/16"		
7838	120"	Unhemmed Channel Molding nominal 3/4" x 1-9/16" x 1-1/4"		
KAM10	120"	Knurled Angle Molding nominal 1-1/4" x 1-1/4" – 25g		
KAM12 KAM12**G90** KAM12**HRC**	144"	Knurled Angle Molding nominal 1-1/4" x 1-1/4" – 25g		
KAM1510 KAM1512 KAM151020 KAM151020**G90** KAM151020**EQ**	120" 144"	Knurled Angle Molding nominal 1-1/2" x 1-1/2" (KAM1510 & KAM1512 – 25g; KAM151020 – 20g; KAM151020G90 – 20g; KAM151020EQ – 22g)		
KAM21020 KAM21025 KAM21020**EQ**	120" 144"	Knurled Angle Molding nominal 2" x 2" (20g) (KAM21020 – 20g; KAM21025 – 25g; KAM21020EQ 22g)		
LAM12 LAM12**G90** LAM12**HRC**	144"	Locking Angle Molding nominal 1-1/4" x 1-1/4"		

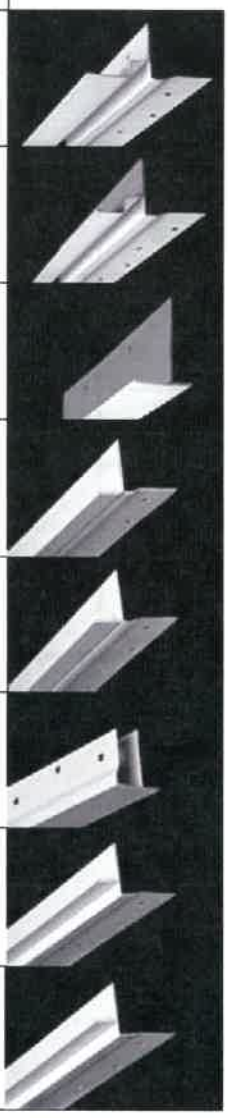
NOTE: All items available in High Recycled Content (HRC) as special order.

CORROSION PREVENTION

DRYWALL TRANSITION MOLDING

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

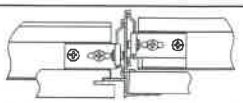
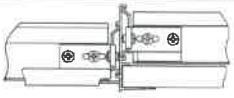
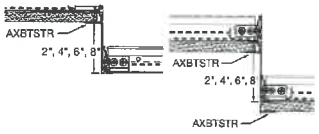
Material: Commercial-quality cold rolled hot dipped galvanized steel

Item Number	Length/Item Description	Face Dimension	Flange	Profile Height	
7901	120" Shadow Reveal Molding	3/8" shadow reveal	9/16"	1-1/4"	
7902	120" Shadow Reveal Molding	3/8" shadow reveal	15/16"	1-1/4"	
7903	120" Inverted T Molding	1" inverted T	–	1-1/2"	
7904 7904PF*	120" Flush Transition Molding	15/16" horizontal	15/16"	1-1/4"	
7905 7905PF*	120" Flush Transition Molding	9/16" horizontal	9/16"	1-1/4"	
7906	120" "F" Molding	120" vertical transition	–	1-7/16"	
7907	120" Tegular Transition Molding	9/16" horizontal	9/16"	1-1/4"	
7908	120" Tegular Transition Molding	15/16" horizontal	15/16"	1-1/4"	

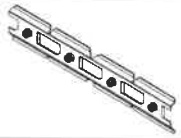
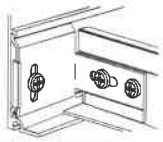
* 7904PF and 7905PF feature protective film on the acoustical wall angle flange for faster, easier finishing.

AXIOM® TRANSITIONS TRIM

Material: Extruded aluminum, alloy 6063

Item Number	Length/Item Description	Dimensions	
AXTRVESTR	Straight Transition for Vector® Ceiling	120 x 2-9/16 x 1-11/16"	 Axiom® – Transitions with Vector® panel to drywall perimeter (AXTRVESTR)
AXTRTECUR	Curved Transition for Tegular	120 x 2-9/16 x 1-11/16"	 Axiom® – Transitions with Tegular panel to drywall perimeter (AXTRTESTR, AXTRTECUR)
AXTR2STR	2" Straight Transition	120 x 2 x 1-1/2"	 Acoustical-to-Drywall Drywall-to-Drywall
AXTR2CUR	2" Curved Transition	120 x 2 x 1-1/2"	
AXTR4STR	4" Straight Transition	120 x 4 x 1-1/2"	
AXTR4CUR	4" Curved Transition	120 x 4 x 1-1/2"	
AXTR6STR	6" Straight Transition	120 x 6 x 1-1/2"	
AXTR6CUR	6" Curved Transition	120 x 6 x 1-1/2"	
AXTR8STR	8" Straight Transition	120 x 8 x 1-1/2"	
AXBTSTR	Drywall Bottom Trim	120 x 1-1/8 x 27/32"	

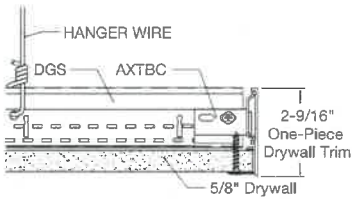
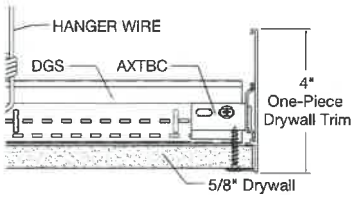
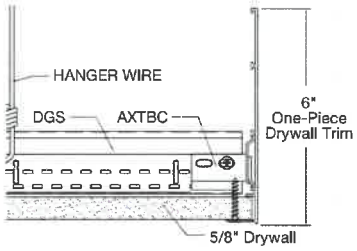
ACCESSORIES

AX4SPLICEB	Splice Plate	–	
AXTBC	T-Bar Connector Clip	–	

AXIOM® ONE-PIECE DRYWALL TRIM

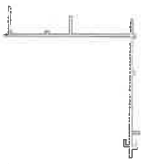
*For use with 5/8" drywall only

Material: Commercial-quality extruded aluminum alloy 6063

Item Number	Length/Item Description	
AX1PC2STR	2.5" One-Piece Straight Drywall Trim	
AX1PC2CUR	2.5" One-Piece Curved Drywall Trim	
AX1PC4STR	4" One-Piece Straight Drywall Trim	
AX1PC4CUR	4" One-Piece Curved Drywall Trim	
AX1PC6STR	6" One-Piece Straight Drywall Trim	
AX1PC6CUR	6" One-Piece Curved Drywall Trim	

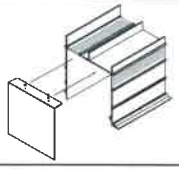
AXIOM® BUILDING PERIMETER TRIM

Material: Extruded aluminum

Item Number	Length/Item Description	Dimensions	
AXP355	3-Sided Perimeter Pocket, Acoustical/Drywall Transition	5 x 5 x 5"	
AXP355OSC	3-Sided Perimeter Pocket, Acoustical/Drywall Transition Outside Corner	12 x 5 x 12"	
AXP355ISC	3-Sided Perimeter Pocket, Acoustical/Drywall Transition Inside Corner	12 x 5 x 12"	
AXP355C	3-Sided Perimeter Pocket, Connection to Extension/Diffuser Piece	5 x 5 x 5"	
AXP355S	3-Sided Seismic Perimeter Pocket, Acoustical/Drywall Transition with 0.875 Flange	5 x 5 x 5"	 3-Sided Perimeter Pocket, Acoustical/Drywall Transition
AXP355SOSC	3-Sided Seismic Perimeter Pocket, Acoustical/Drywall Transition with 0.875 Flange, Outside Corner	12 x 5 x 12"	
AXP355SISC	3-Sided Seismic Perimeter Pocket, Acoustical/Drywall Transition with 0.875 Flange, Inside Corner	12 x 5 x 12"	 3-Sided Perimeter Pocket, Extension Connection
AXP355COSC	3-Sided Perimeter Pocket, Connection to Extension/ Diffuser Piece, Outside Corner	12 x 5 x 12"	
AXP355CISC	3-Sided Perimeter Pocket, Connection to Extension/ Diffuser Piece, Inside Corner	12 x 5 x 12"	
AXP3552	3-Sided Perimeter Pocket, Acoustical/Drywall Transition, 2 Sides	5 x 5 x 5"	
AXP255	2-Sided Perimeter Pocket, Acoustical/Drywall Transition	5 x 5"	 2-Sided Perimeter Pocket, Acoustical/Drywall Transition
AXP255OSC	2-Sided Perimeter Pocket, Acoustical/Drywall Transition Outside Corner	12 x 5 x 12"	
AXP255ISC	2-Sided Perimeter Pocket, Acoustical/Drywall Transition Inside Corner	12 x 5 x 12"	
AXP255C	2-Sided Perimeter Pocket, Connection to Extension/Diffuser Piece	5 x 5"	
AXP236	2-Sided Perimeter Pocket, Acoustical/Drywall Transition – Narrow Width	3 x 6"	 2-Sided Perimeter Pocket, Extension Connection
AXP255COSC	2-Sided Perimeter Pocket, Connection to Extension/ Diffuser Piece, Outside Corner	12 x 5 x 12"	
AXP255CISC	2-Sided Perimeter Pocket, Connection to Extension/ Diffuser Piece, Inside Corner	12 x 5 x 12"	
Material: Extruded aluminum, alloy 6063			
AXPEP4	Axiom Perimeter Extension 4"	–	
AXPEP6	Axiom Perimeter Extension 6"	–	
AXPEP8	Axiom Perimeter Extension 8"	–	
AXPEP4H	Axiom Perimeter Extension 4" Hook on Both Sides	–	 Perimeter Extension
AXPEPS6	Axiom Seismic Perimeter 6", 0.875 Flange	–	

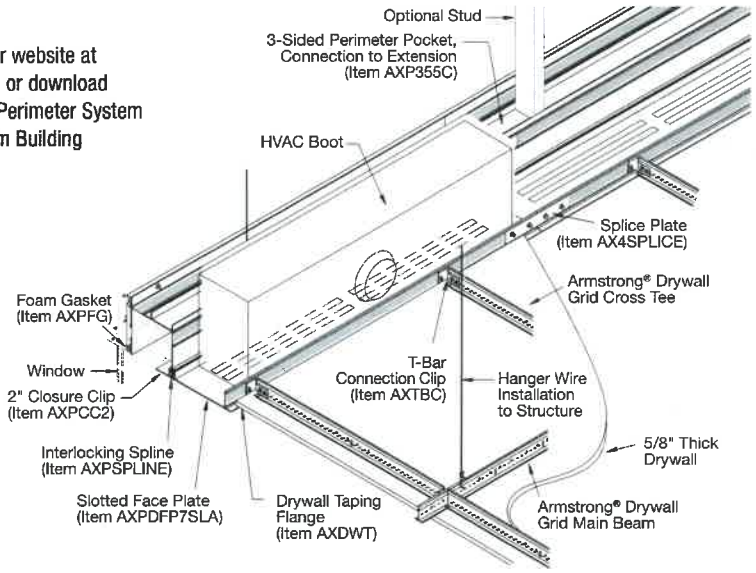
AXIOM® BUILDING PERIMETER TRIM (continued)

Material: Extruded aluminum, alloy 6063

Item Number	Length/Item Description	Dimensions	
AXPDFP4DT	Axiom® Perimeter Diffuser Face Plate 4" Drywall Transition (Unslotted)	–	 4" Diffuser Face Plate
AXPDFP4DTSLA	Axiom Perimeter Diffuser Face Plate 4" Drywall Transition (Slotted 3/4" x 23" / 2-Slot Pattern)	–	
AXPDFP4DTSLB	Axiom Perimeter Diffuser Face Plate 4" Drywall Transition (Slotted 2-3/4" x 23" / 1-Slot Pattern)	–	
AXPDFP7DT	Axiom Perimeter Diffuser Face Plate 7" Drywall Transition (Unslotted)	–	 7" Diffuser Face Plate
AXPDFP7DTSLA	Axiom Perimeter Diffuser Face Plate 7" Drywall Transition (Slotted 3/4" x 23" / 2-Slot Pattern)	–	
AXPDFP7DTSLB	Axiom Perimeter Diffuser Face Plate 7" Drywall Transition (Slotted 2-3/4" x 23" / 1-Slot Pattern)	–	
AXPDFP4DT	Axiom Perimeter Diffuser Face Plate Drywall Transition 4" (Unslotted)	–	
AXPCC2	2" Axiom Building Perimeter Closure Clip	–	
AXPCC3	3" Axiom Building Perimeter Closure Clip	–	
AXPDFPS7	Axiom Seismic Perimeter Diffuser Face Plate 7" with 0.875 Flange (Unslotted) (120" x 7-13/16")	–	
AXPDFPS7SLA	Axiom Seismic Perimeter Diffuser Face Plate 7" with 0.875 Flange (Slotted 3/4" x 23" / 2-Slot Pattern) (120" x 7-13/16")	–	
AXPDFPS7SLB	Axiom Seismic Perimeter Diffuser Face Plate 7" with 0.875 Flange (Slotted 2-3/4" x 23" / 1-Slot Pattern) (120" x 7-13/16")	–	
AXCPCI	Axiom Building Perimeter End Plate	–	

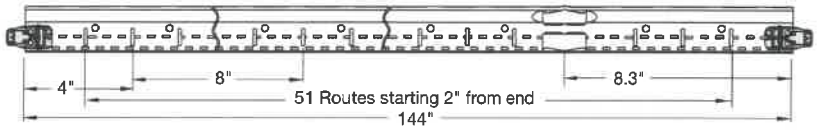
THREE-SIDED PERIMETER POCKET WITH FACE PLATE

For more information, visit our website at armstrongceilings.com/axiom or download BPCS-3911 Axiom® Building Perimeter System Brochure or BPCS-3923 Axiom Building Perimeter Data Page.



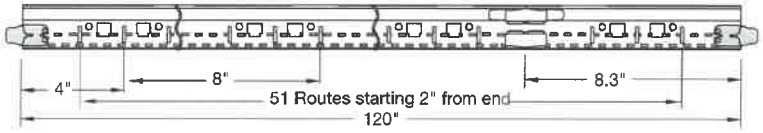
THREE-SIDED PERIMETER POCKET WITH DIFFUSER FACE PLATE

HD8906 (HRC)/HD890610*

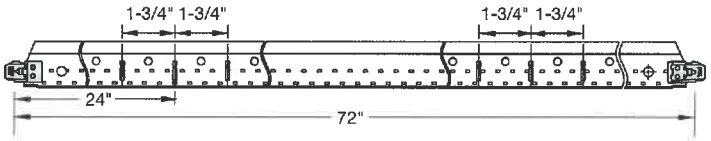


* HD890610 is 120" in length

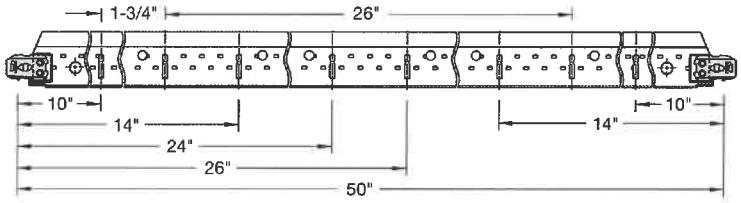
HD8906IIC



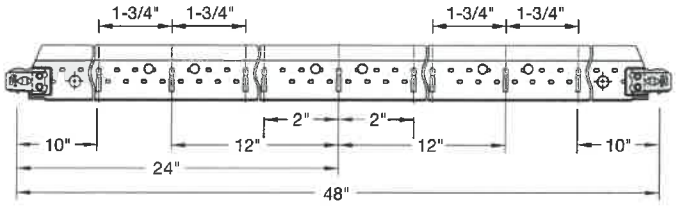
XL8965 (HRC) (Type "F" Compatible)



XL8947P (Type "F" Compatible)



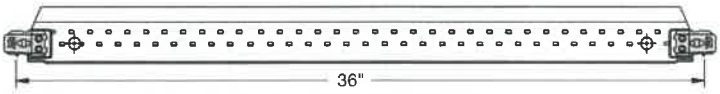
XL8945HRC/XL8945P (Type "F" Compatible)



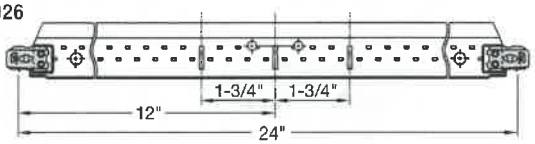
ROUTE LOCATIONS AND ACCESSORIES

ROUTE LOCATIONS

XL7936G90

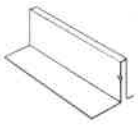
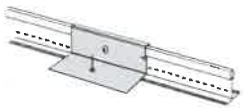
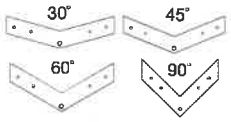
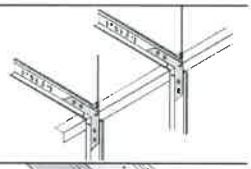
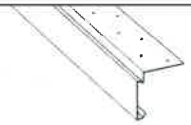
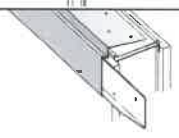


XL8926

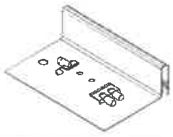
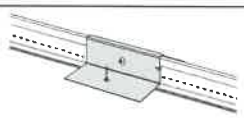
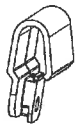
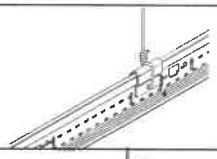
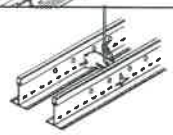
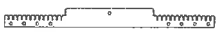
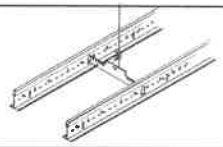
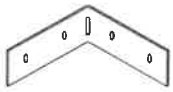
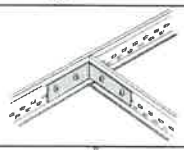
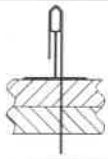
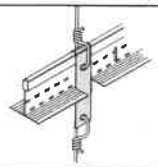
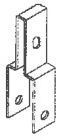
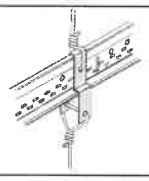
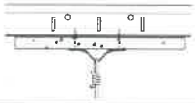
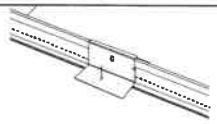


DRYWALL GRID ACCESSORIES

A variety of drywall grid accessories are available to provide problem-solving solutions that save time, labor, and money. For a complete list of accessories, request submittal BPCS-3082.

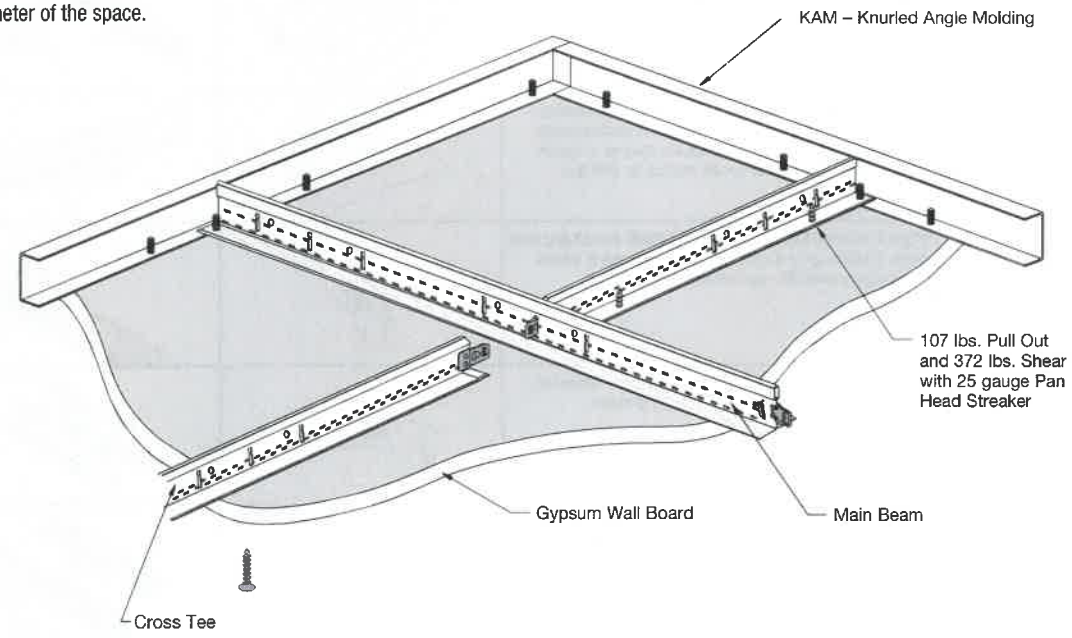
Item Number	Quantity	Description	Perspective	Application
DWACS	100	**Drywall Attachment Clip** facilitates transition from drywall to acoustical ceiling; locks under bulb of grid section to prevent upward movement and provide secure attachment surface on one side of exposed grid.		
DW30C DW45C DW60C DW90C	250 250 250 250	**30-, 45-, 60-, and 90-degree Drywall Angle Clips** are used to create positive and secure angles for drywall and ceiling installations on either main beams or cross tees.		
TT10	30	**Partition Top Trim** is used to finish the top of a drywall partition for a continuous drywall/acoustical ceiling interface.		

DRYWALL GRID ACCESSORIES (continued)

Item Number	Quantity	Description	Perspective	Application
DW58LT	125	**DW58LT – Transition Clip for 5/8" Drywall with Locking Tabs**; facilitates transition from drywall to acoustical ceiling; one-sided hold down clip; eliminates need for drywall bead. Locking tabs provide secure location for DGS tees.		
DW50LT	125	**DW50LT – Transition Clip for 1/2" Drywall with Locking Tabs**; facilitates transition from drywall to acoustical ceiling; one-sided hold down clip; eliminates the need for a drywall bead. Locking tabs provide secure location for DGS tees.		
IIC	36	**Impact Isolation Clip** for use with HD8906IIC drywall grid main beam. Provides up to 8 points of IIC improvement to ensure your project meets IBC requirements.		
MBSC2	200	**Main Beam Spacer Clip** (2" in length) is used to space two parallel main beams 2" O.C. for air supply or return.		
GSC9 GSC12 GSC16	100 100 100	**Adjustable Grid Spacer Clip** is used to space two parallel main beams for light fixtures, air diffusers, etc.; allows for 1/4" adjustments with three different clips.		
XTAC	100	**Cross Tee Adapter Clip** – Used to attach field-cut cross tees to main beams.		
DDC	250	**Double Drywall Clip** is used to hang suspension system below existing 1-1/2" grid face, transferring weight directly to hanger wire; may be used to preserve the fire rating of an existing ceiling and to support heavy accessories; allows for double layer of 5/8" gypsum board.		
DLCC	250	**Direct Load Ceiling Clip** is used to hang suspension system below existing 15/16" grid face, transferring weight directly to hanger wire; may be used to preserve the fire rating of an existing ceiling and to support heavy accessories.		
DWC	250	**Drywall Clip** allows for a "second" ceiling to be installed below a drywall ceiling; attach through installed drywall to supporting structure.		
MBAC	70	**Main Beam Adapter Clip** attaches to web of suspension system section; provides larger surface for screw attachments; used as a hold down clip for thin material (metal or plastic lay-in panels); fastens drywall track to underside of exposed suspension system with lay-in panels, leaving suspension system face free of screw holes.		

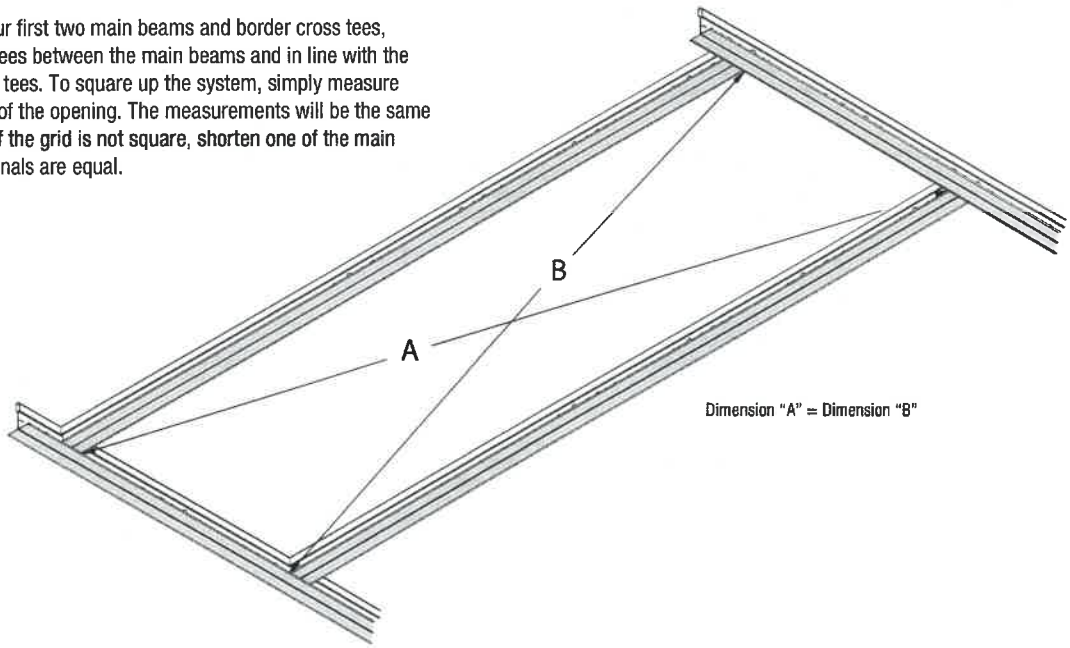
HANGING & FRAMING

The grid system is comprised of main beams and cross tees that are suspended by hanger wires to the structural deck. Sections of main beams lock together end-to-end while cross tees span between the main beams. The ends of the main beams and cross tees rest on the wall channel or angle molding that run around the perimeter of the space.



SQUARING UP THE SYSTEM

Once you've hung your first two main beams and border cross tees, install two full cross tees between the main beams and in line with the first two border cross tees. To square up the system, simply measure across the diagonals of the opening. The measurements will be the same if the grid is square. If the grid is not square, shorten one of the main beams until the diagonals are equal.

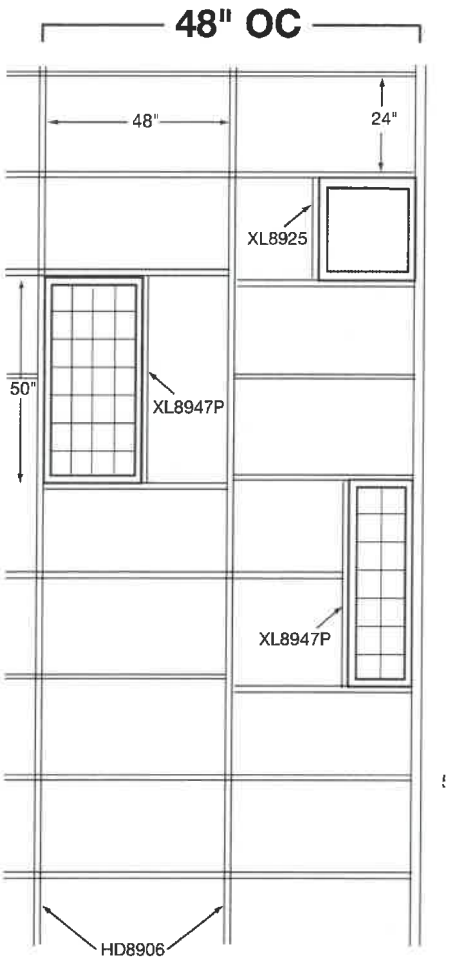


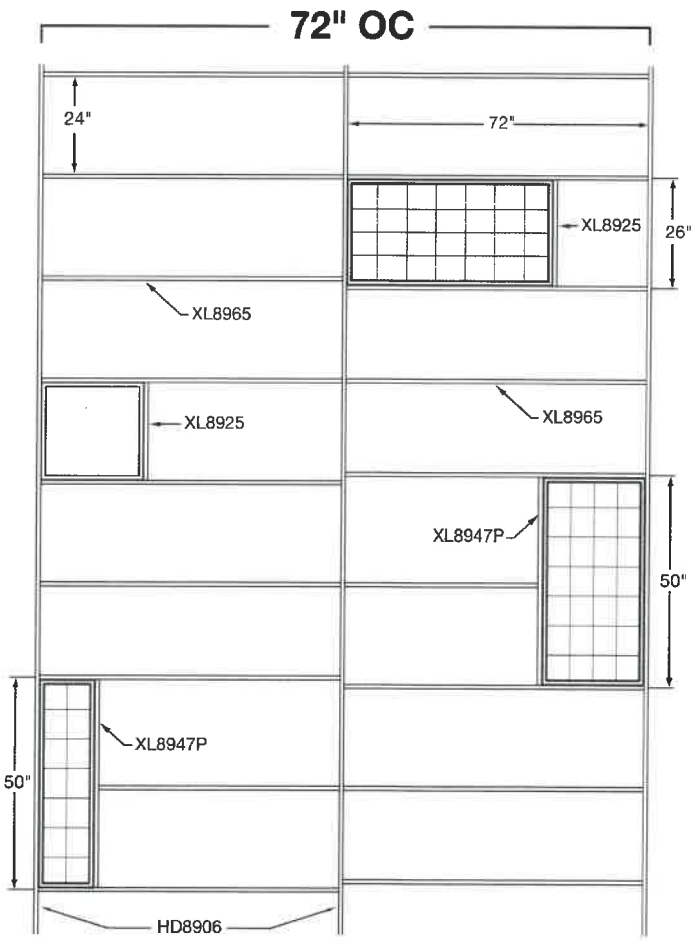
Type "F" fixtures, access panels, and air diffusers require a full 12", 24", or 48" opening dimension. The Armstrong® Drywall Grid System main beams and cross tees have additional routes in the web to accommodate this larger opening for type "F" fixtures. Using our 14", 26", 50", and 72" cross tees, type "F" fixtures fit perfectly without field cutting or special accessories.

When installing type "F" fixtures **parallel** to the main beams, use a 72" and 48" cross tee for easy placement of fixtures without field modifications.

When installing fixtures **perpendicular** to the main beams, use our 72" cross tees for virtually limitless fixture placement.

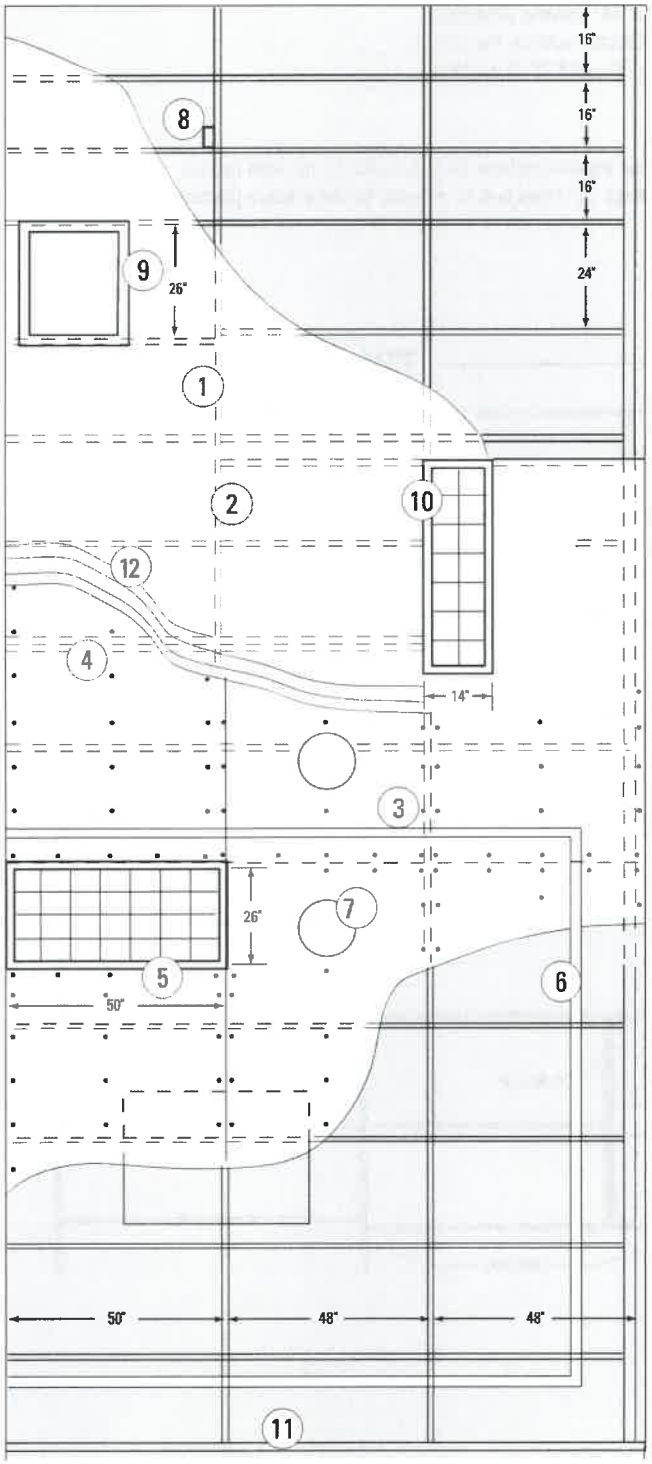
Main Beams

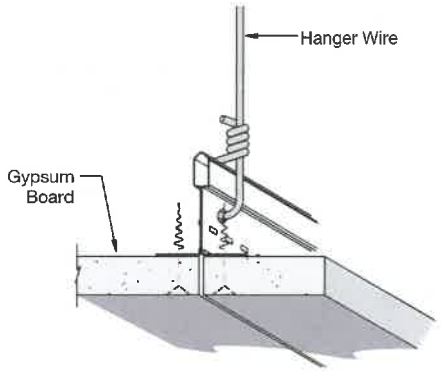




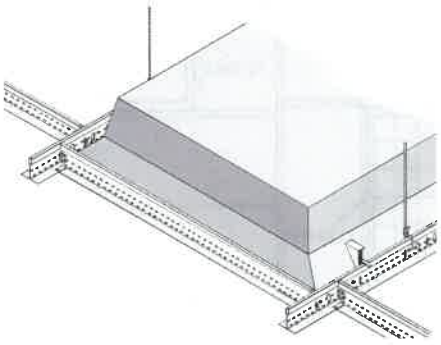
SUSPENDED DRYWALL GRID SYSTEMS

SUSPENDED DRYWALL GRID SYSTEM DETAILS

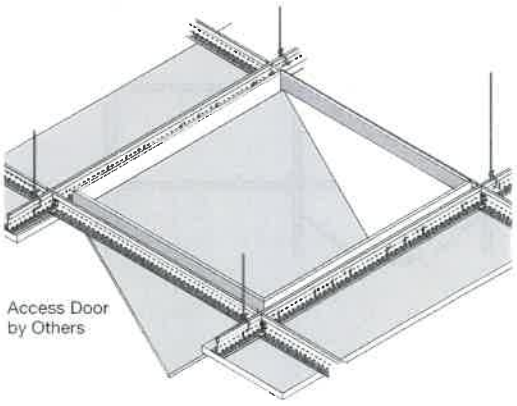




1 Butt Joint

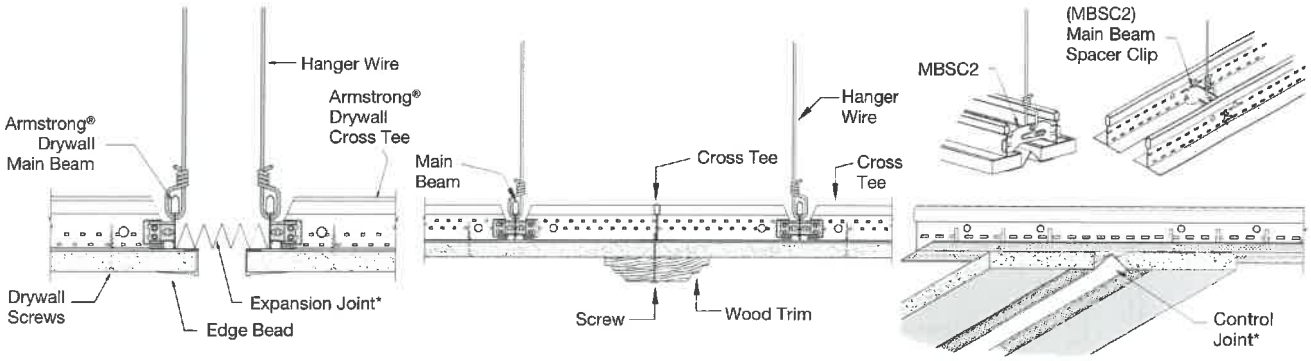


5 Type "F" Fixture

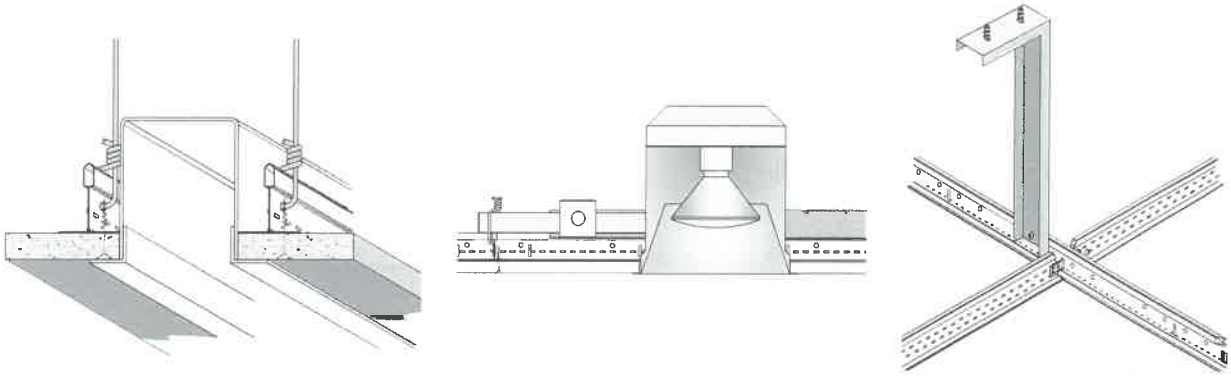


9 Access Door

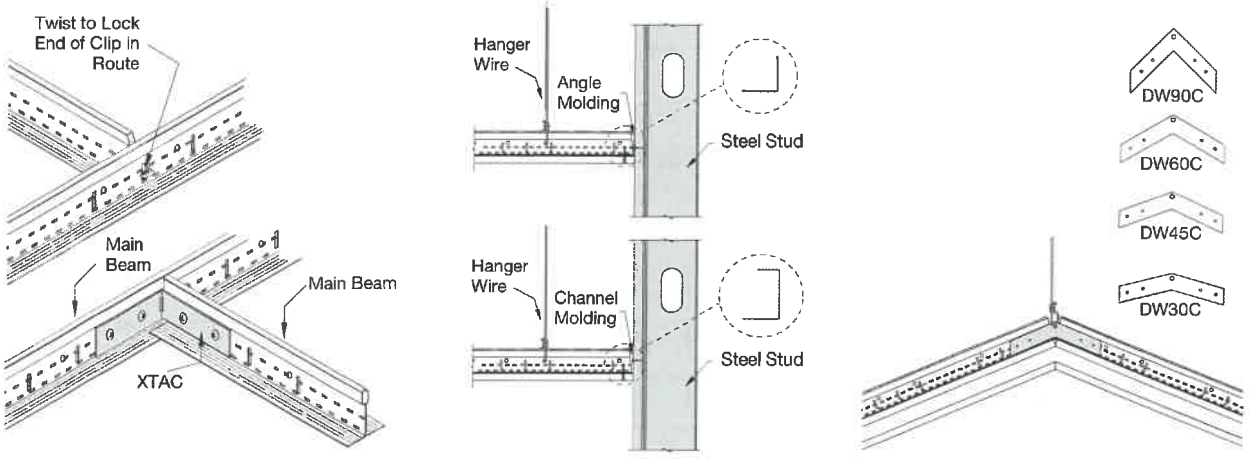
SUSPENDED DRYWALL GRID SYSTEM DETAILS



2 Expansion Joint* **3** Wood Trim **4** Control Joint



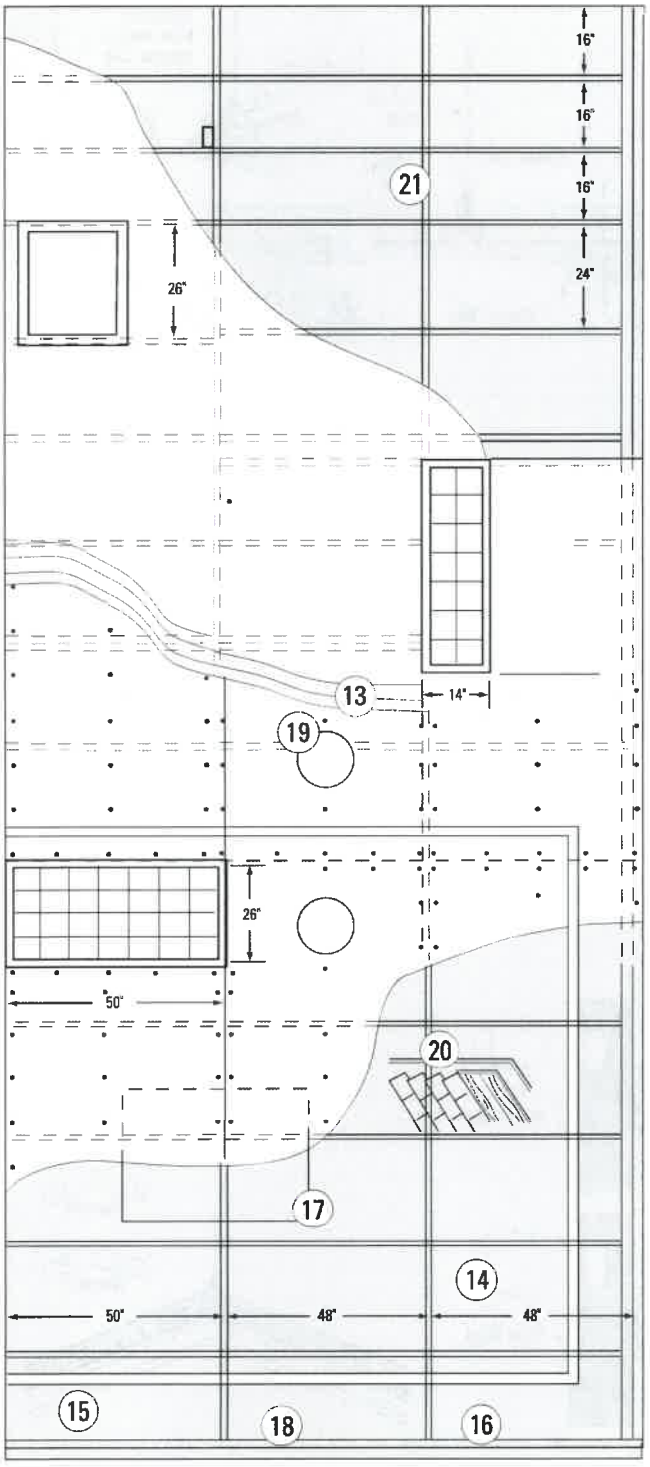
6 Air Bar **7** High Hat Fixture **8** Vertical Brace

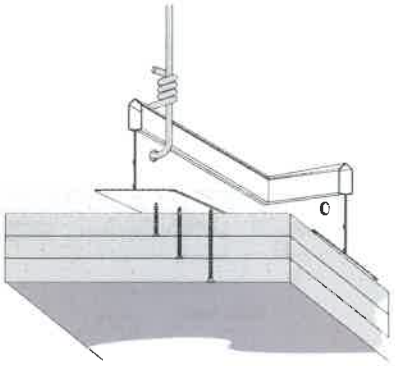


10 Securing a Single Cross Tee **11** Channel and Angle Molding **12** Angle Clip

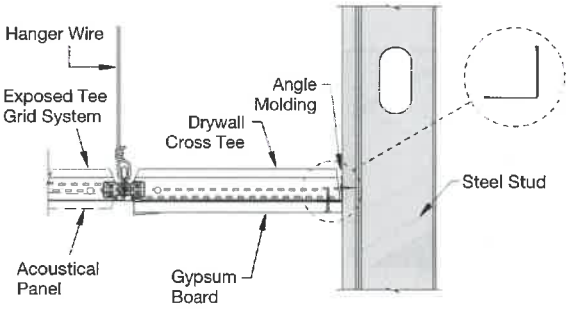
SUSPENDED DRYWALL GRID SYSTEMS

SUSPENDED DRYWALL GRID SYSTEM DETAILS

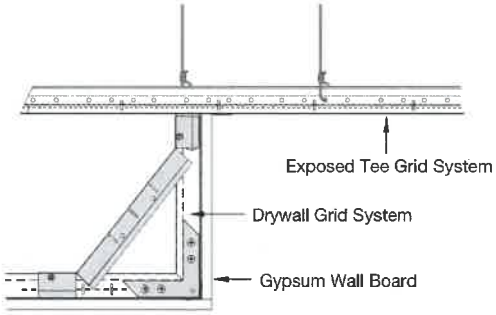




13 Triple Layer with Security Lath



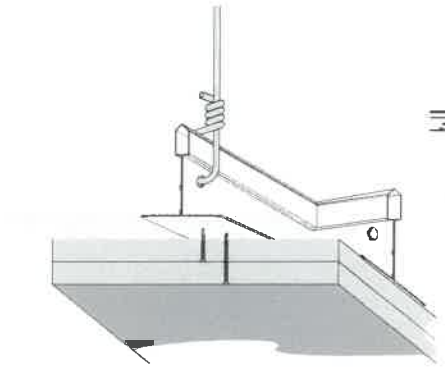
17 Transition



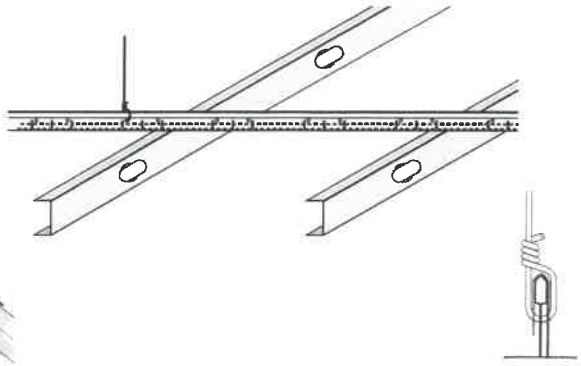
NOTE: Brace as required by code

20 Drywall Vertical

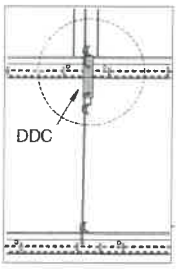
SUSPENDED DRYWALL GRID SYSTEM DETAILS



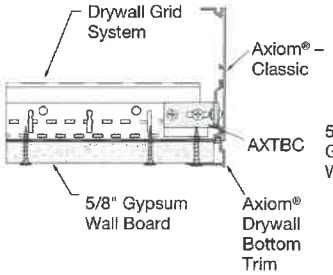
14 Double Layer with Security Lath

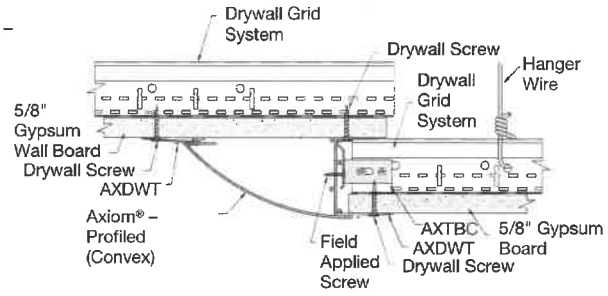


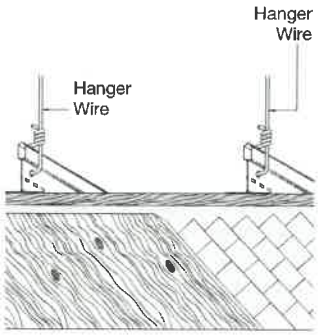
15 Main Beam Stabilizer



16 Double Hung Ceiling

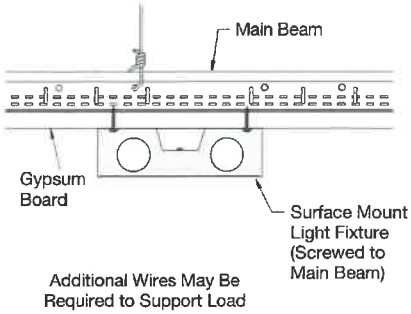


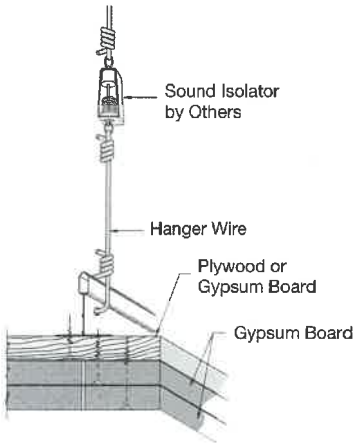


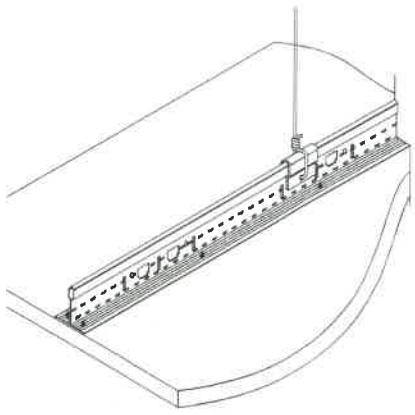


18 Axiom® Perimeter Trim

19 Alternate Finishes







21 Surface Mount Fixture

22 Triple Layer with Sound Isolators

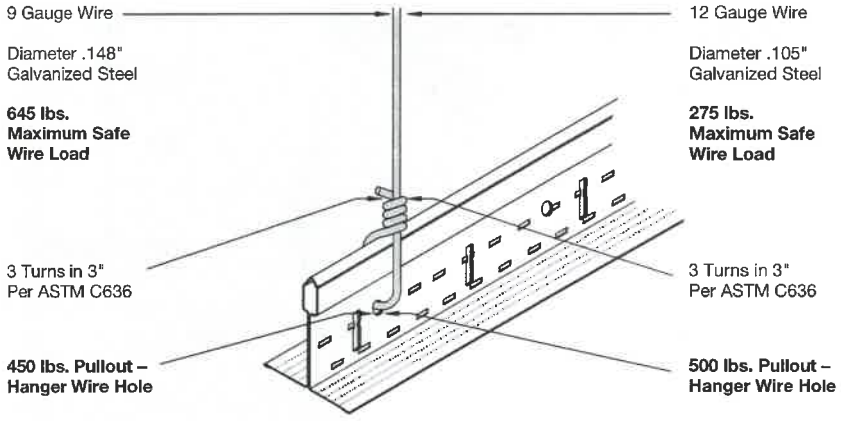
23 HD8906 with IIC Clip

WIRE LOADING

HANGING & FRAMING

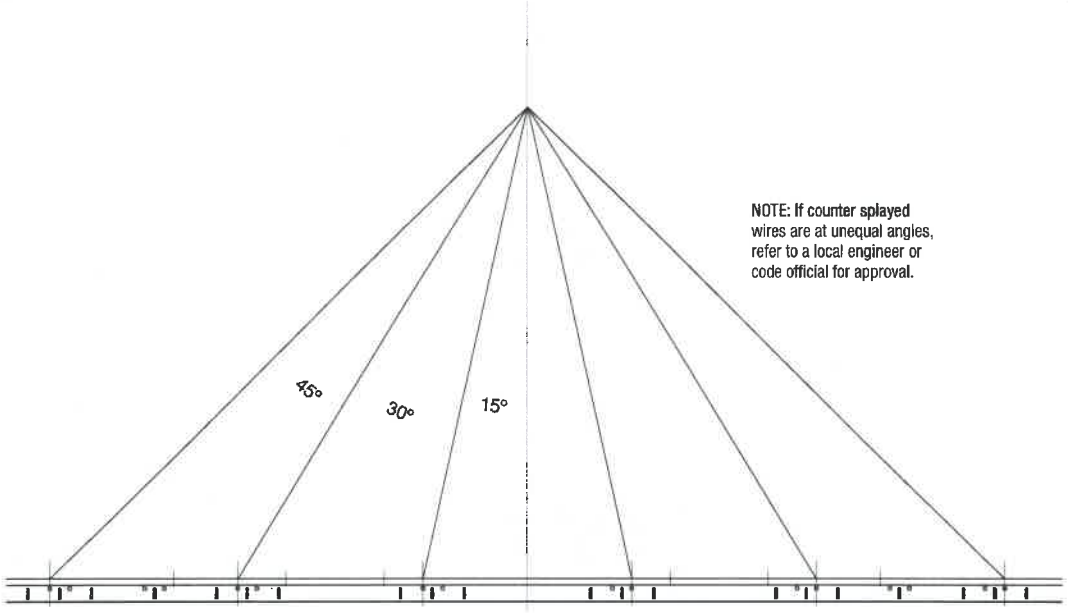
9 Gauge Wire Breaking Strength and Technical Data

12 Gauge Wire Breaking Strength and Technical Data



COUNTER SPLAYED WIRES

Objects in the plenum may obstruct placement of vertical hanger wires and require splayed wires to support the load. When this occurs, a second counter splayed wire must be added. Install counter splayed wires at an angle equal and opposite to the first wire, but not greater than 45° from vertical. The load capacity of the main beam remains unchanged (refer to ASTM C636).

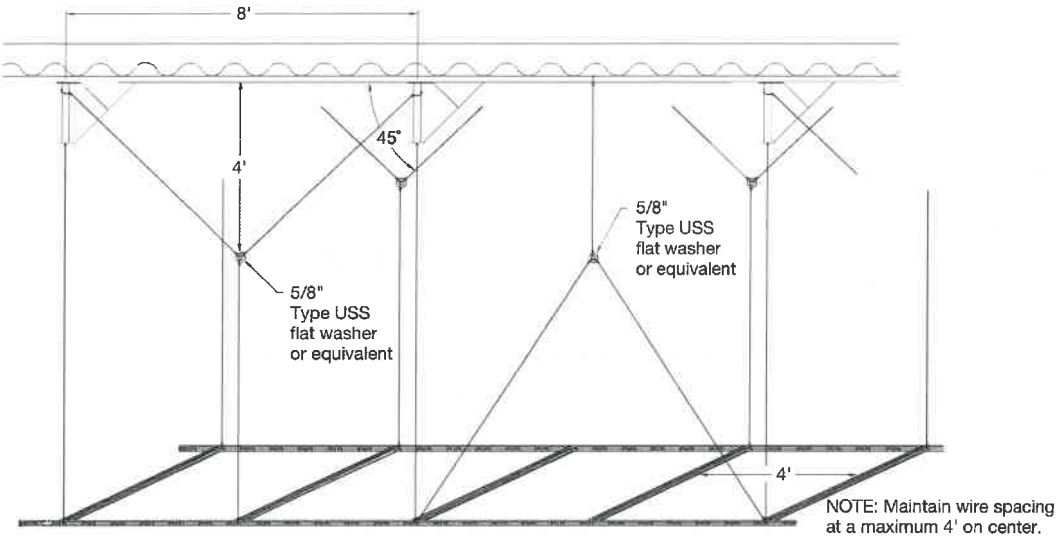


NOTE: If counter splayed wires are at unequal angles, refer to a local engineer or code official for approval.

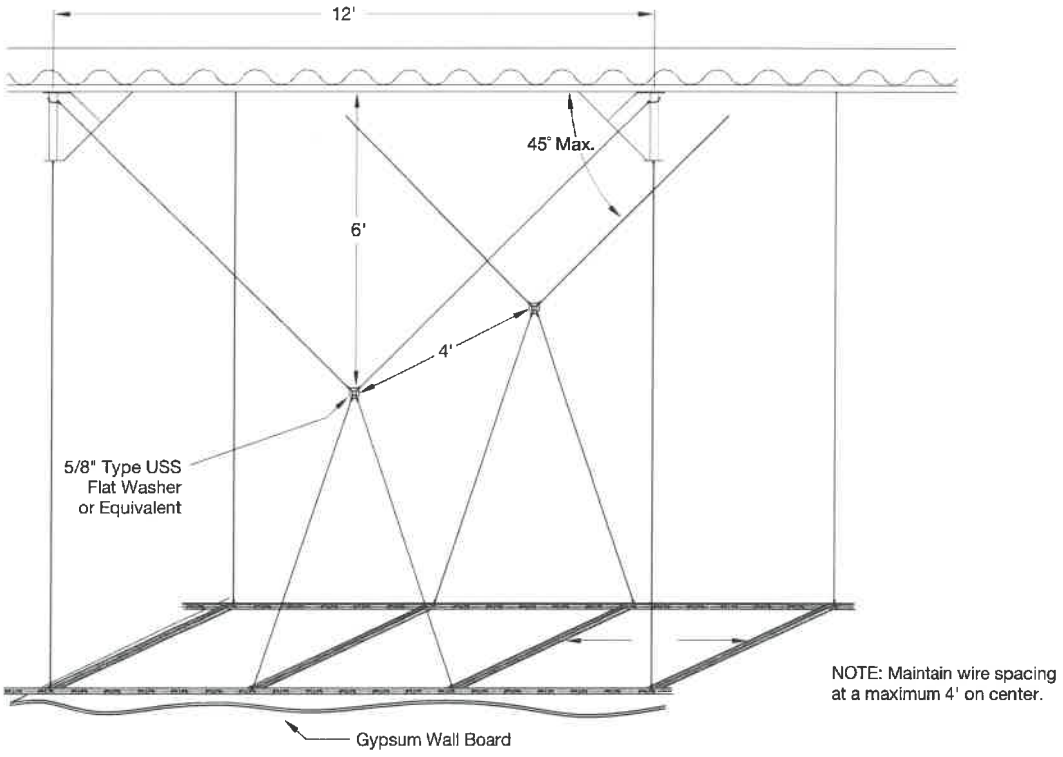
Another method to install hanger wires around an object in the plenum is to utilize a single or double yoke wire technique.

Rule: To form the 45-degree angle, the vertical location of the tension ring is always half the distance of the span at the structure.

Single Yoke



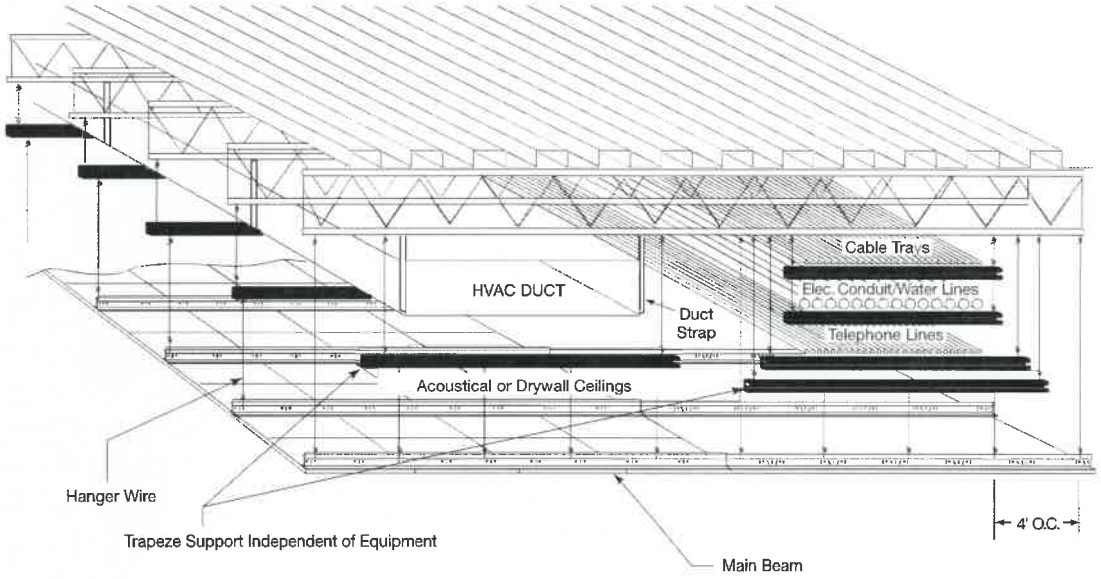
Double Yoke



TRAPEZE
SUPPORTED LOADS

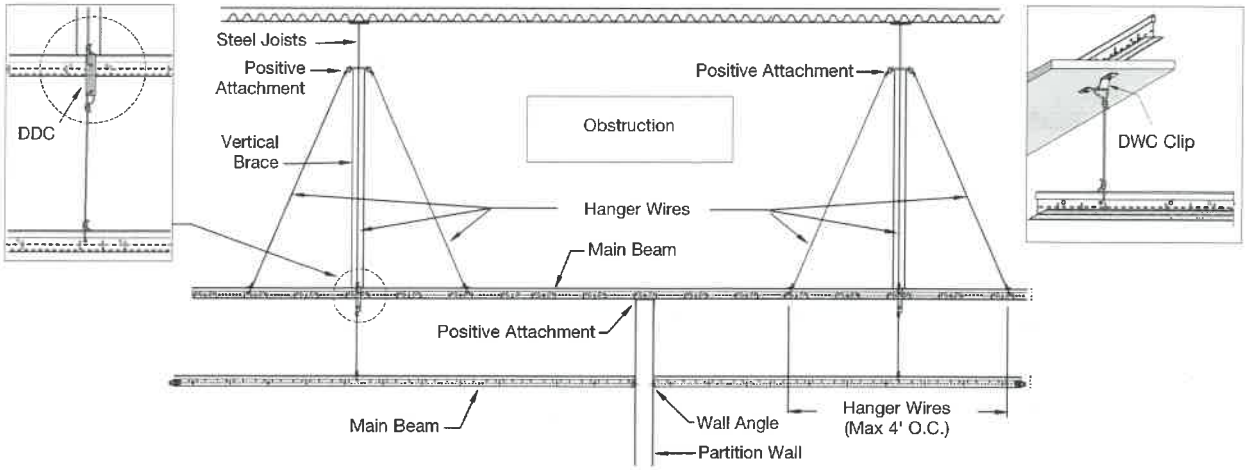
HANGING & FRAMING

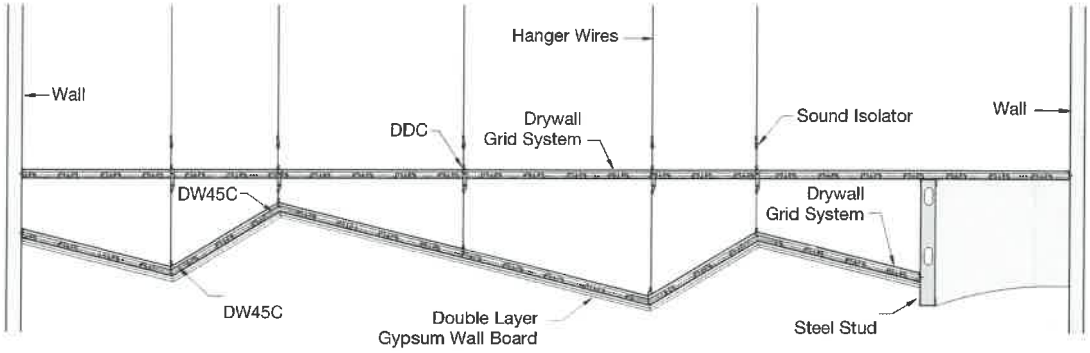
Installing a trapeze is a technique to support multiple hanger wires under obstructions, such as trunk lines, cable trays, or other objects in the plenum. In some cases, the trapeze may affect the ceiling height and must be kept small. In other cases, steel studs may be used to span the distance required.



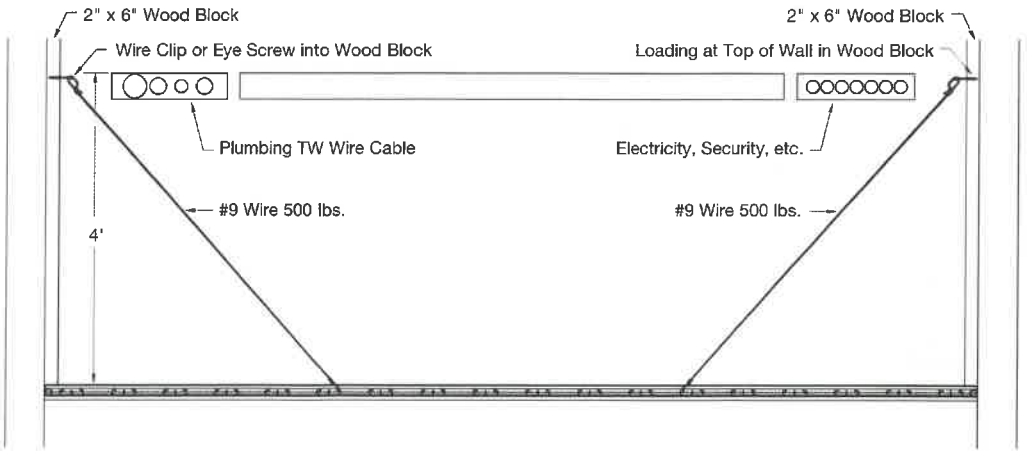
HANGING & FRAMING

A suspended ceiling not only carries the load of the applied finish, but can also act as a load carrying structure or membrane that supports another ceiling at a lower level. The DDC clip is used at hanger wire locations to allow for connecting the second and even third ceiling. This method of hanging and framing is used in multi-layer ceilings with long vertical drops – eliminating the use of long stud drops.



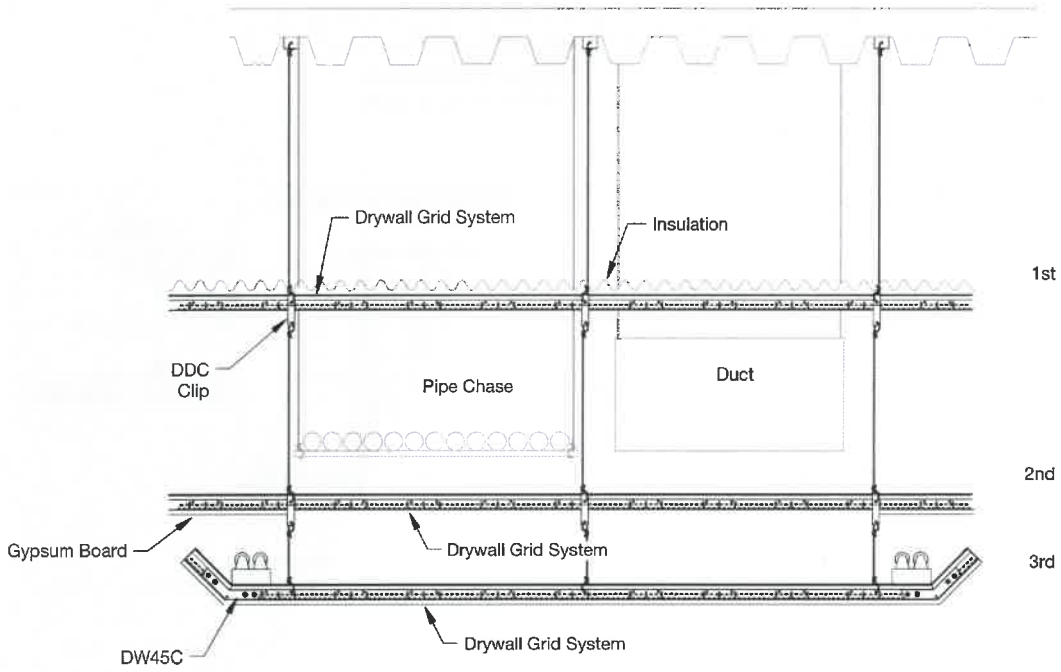


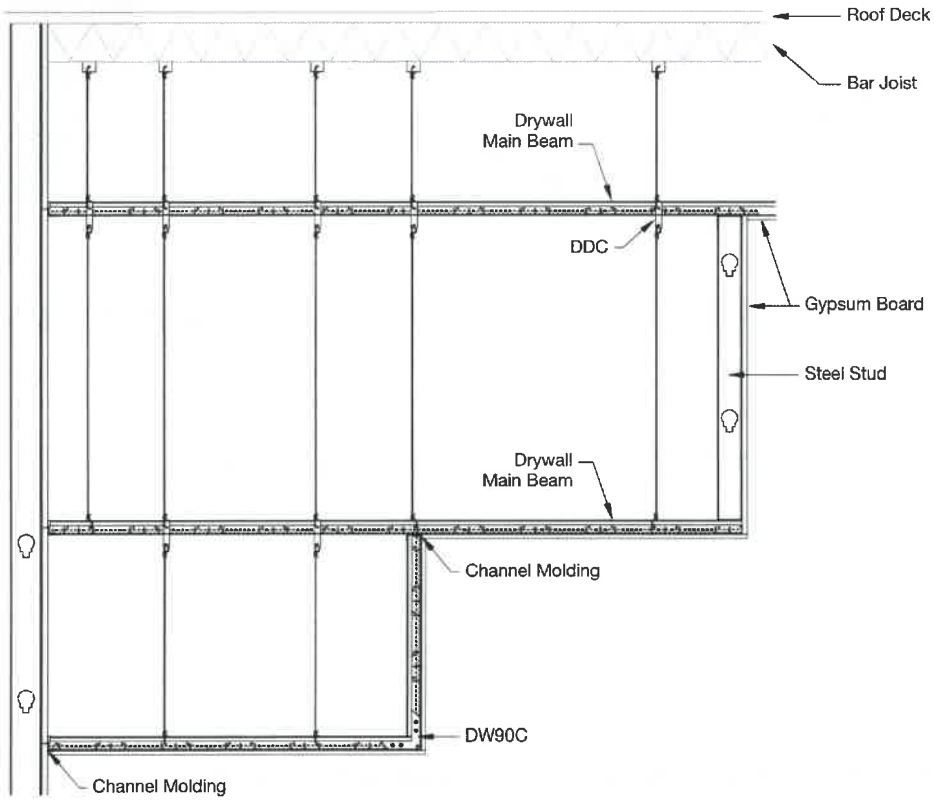
GUSSET HUNG CEILING



TRIPLE HUNG CEILINGS

HANGING & FRAMING





EXTERIOR WIND LOAD CEILING DESIGN FOR NORTH AMERICA

Plenum Height (ft.-in.)	Design Wind Velocity (MPH)	Design Wind Pressure (PSF)	Compression Post Size (Inch)	Compression Post Gauge (Ga. No.)	Sheathing Membrane Substrate 5/8" Drywall Sheet Densglass Gold G-P	Compression Post Spacing (ft.-in.)	Main Beam Spacing (Inch)	Cross Tee Spacing (Inch)	Hanger Wire Spacing (ft.-in.)	Cross Tee Length (Feet)	Compression Post Load Design Load (Lbs.)
0 ↓ 6' ***	15	5.07	2-1/2" CWN	20	5/8" G.P. Densglass & 1/4"-3/8" EIFS	4' 2"	48"	16"	4'	4'	18
	30	2.03	2-1/2" CWN	20	5/8" G.P. Densglass & 1/4"-3/8" EIFS	4' 2"	48"	16"	4'	4'	49
	45	4.56	2-1/2" CWN	20	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' 6"	48"	16"	4'	4'	96
	60	8.1	2-1/2" CWN	20	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' 6"	36"	16"	4'	3'	125
	90	18.24	2-1/2" CWN	20	5/8" G.P. Densglass & 1/4"-3/8" EIFS	2' 9"	36"	16"	3'	3'	229
	120	32.43	2-1/2" CWN	20	5/8" G.P. Densglass & 1/4"-3/8" EIFS	2' 8"	24"	16"	2' 6"	2'	266
	140	44.14	2-1/2" CWN	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	2' 4"	24"	16"	2' 6"	2'	331
	172	75	2-1/2" CSJ	18	See NOA 12-0314.05 Design	2'	24"	16"	2'	2'	445
	172	75	2-1/2" CSJ	18	See NOA 12-0314.04 Design	2' 6"	36"	16"	2' 6"	3'	565
6' 1" ↓ 10' 3" ****	15	5.07	2-1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	4' 2"	48"	16"	4'	4'	18
	30	2.03	2-1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' 10"	48"	16"	4'	4'	49
	45	4.56	2-1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' 6"	48"	16"	4'	4'	96
	60	8.1	2-1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' 6"	36"	16"	4'	3'	125
	90	18.24	2-1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' 4"	36"	16"	3'	2'	178
	120	32.43	2-1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	2' 8"	24"	16"	2' 6"	2'	266
	140	44.14	2-1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	2' 4"	24"	16"	2' 6"	2'	331
	172	75	2-1/2" CSJ	18	See NOA 12-0314.05 Design	2'	24"	16"	2'	2'	445
	172	75	2-1/2" CSJ	18	See NOA 12-0314.04 Design	2' 6"	36"	16"	2' 6"	3'	565
10' 4" ↓ 15' 0" ****	*15	5.07	2-1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	4' 2"	48"	16"	4'	4'	18
	*30	2.03	2-1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' 10"	48"	16"	4'	4'	49
	*45	4.56	2-1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' 6"	48"	16"	4'	4'	96
	*60	8.1	2-1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' 6"	36"	16"	4'	3'	125
	*90	18.24	2-1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' 4"	36"	16"	3'	2'	178
	*120	32.43	2-1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	2' 8"	24"	16"	2' 6"	2'	266
	*140	44.14	2-1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	2' 4"	24"	16"	2' 6"	2'	331
	*172	75	2-1/2" CSJ	18	See NOA 12-0314.05 Design	2'	24"	16"	2'	2'	445
	*172	75	2-1/2" CSJ	18	See NOA 12-0314.04 Design	2' 6"	36"	16"	2' 6"	3'	565
15' 1" ↓ 20' 0" ****	**15	5.07	3-5/8" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	4' 2"	48"	16"	4'	4'	18
	**30	2.03	3-5/8" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' 10"	48"	16"	4'	4'	49
	**45	4.56	3-5/8" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' 6"	48"	16"	4'	4'	96
	**60	8.1	3-5/8" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' 6"	36"	16"	4'	3'	125
	**90	18.24	3-5/8" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' 4"	36"	16"	3'	2'	178
	**120	32.43	3-5/8" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	2' 8"	24"	16"	2' 6"	2'	266
	**140	44.14	3-5/8" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	2' 4"	24"	16"	2' 6"	2'	331
	**172	75	3-5/8" CSJ	18	See NOA 12-0314.05 Design	2'	24"	16"	2'	2'	445
	**172	75	3-5/8" CSJ	18	See NOA 12-0314.04 Design	2' 6"	36"	16"	2' 6"	3'	565

* 1-1/2" 16 gauge U-Channel Bridging required at mid span for 10'4" up to 15'0"
** 1-1/2" 16 gauge U-Channel Bridging required at one-third points for 15'1" up to 20'0"
*** Compression Post and Ceiling System tested at the plenum design depth shown here for positive and negative wind speed pressure loads as listed
**** Compression Post Assemblies at this plenum design depth calculated by Dietrich Design Group
NOTE: For building heights over 20 feet, refer to ASCE 7-10 Chapter 6 Wind Loads

HANGING & FRAMING

Deck Construction Type	UL® Design Number	Concrete Thickness	# Drywall Layers	Minimum Drywall Thickness	Maximum Fixture Penetration (Ft^2/100 Ft^2)	Maximum Duct Penetration (In^2/100 Ft^2)	Drywall Grid System
FLOOR/CEILING DRYWALL ASSEMBLIES							
Concrete on Composite Flat Cellular, Fluted, or Blend Deck							
2-Hour	D501	2-1/2"	1	5/8"	None	None	DFR 8000
	D502**	2-1/2"	1	5/8"	24	144	DFR 8000
Concrete on Metal Lath, Corrugated, and Ribbed Deck							
3-Hour	G523**	3"	1	5/8"	24	144	DFR 8000
	G524***	3-1/2", 3-3/4"	1	1/2"	None	113	DFR 8000
	G529	3-1/4"	1	1/2"	24	57	DFR 8000
	G529	2-3/4"	1	5/8"	24	57	DFR 8000
2-Hour	G523	2-1/2"	1	1/2" or 5/8"*	24	144	DFR 8000
	G524***	3-1/2", 3-3/4"	1	1/2"	None	113	DFR 8000
	G527	2-1/2"	1	1/2" or 5/8"*	None	None	DFR 8000
	G529	2-1/2"	1	1/2"	24	57	DFR 8000
1-1/2-Hour	G528	2-1/2"	1	1/2" or 5/8"*	None	None	DFR 8000
	G524	2-3/4" – 3"	1	1/2" or 5/8"	***	***	DFR 8000
Precast Concrete Slab							
3-Hour	J502	2-3/4"	1	5/8"	None	None	DFR 8000
2-Hour	J502	2"	1	5/8"	None	None	DFR 8000
WOOD DECK/CEILING DRYWALL ASSEMBLIES							
Plywood 2 x 10 Wood Joists							
1-Hour	L502	NA	1	1/2"	None	None	DFR 8000
	L513	NA	1	5/8"	None	None	DFR 8000
	L515	NA	1	1/2"	None	None	DFR 8000
	L525	NA	1	1/2" or 5/8"*	24	57	DFR 8000
	L526**	NA	1	5/8"	24	114	DFR 8000
Plywood (2) 2 x 10 or (1) 4 x 10 Wood Joists							
1-Hour	L508	NA	1	5/8"	None	None	DFR 8000
Plywood with Wood Trusses							
1-Hour	L529	NA	1	5/8"	24	57	DFR 8000

HANGING & FRAMING

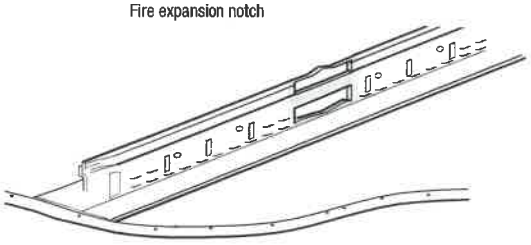
Deck Construction Type	UL® Design Number	Concrete Thickness	# Drywall Layers	Minimum Drywall Thickness	Maximum Fixture Penetration (Ft^2/100 Ft^2)	Maximum Duct Penetration (In^2/100 Ft^2)	Drywall Grid System
DEITRICK TRADEREADY® FLOOR SYSTEM/CEILING DRYWALL ASSEMBLIES							
1-Hour	L564	3/4" Cement Fiber Units	1	5/8"	None	None	DFR 8000
1-Hour Corrugated Decking	G553	3/4"	1	5/8"	None	None	DFR 8000
ROOF/CEILING DRYWALL ASSEMBLIES							
Standing Seam Exposed Metal Roof With Batts/Blankets							
1-Hour	P516	NA	2	5/8"	None	None	DFR 8000
Mineral Fiber, Foam on Cellular, Fluted, Corrugated Metal Deck							
2-Hour	P501	NA	1	5/8"	None	None	DFR 8000
	P514	NA	1	5/8"	24	255	DFR 8000
1-1/2-Hour	P507	NA	1	5/8"	24	57	DFR 8000
	P510	NA	1	5/8"	24	57	DFR 8000
	P513**	NA	1	5/8"	24	144	DFR 8000
1-Hour	P508**	NA	1	5/8"	24	144	DFR 8000
	P509**	NA	1	5/8"	24	144	DFR 8000
	P510	NA	1	1/2"	24	57	DFR 8000
Mineral Fiber/Laminated Gypsum Planks							
1-1/2-Hour	P506	NA	1	5/8"	24	57	DFR 8000

* Depends on rating, manufacturer.
** Optional acoustical tile may be glue-applied to gypsum board.
*** Concrete thickness depends on joist depth used.

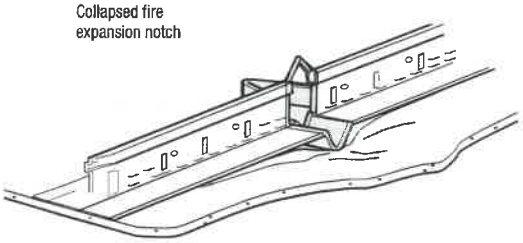
Armstrong® Drywall "Design To Fit" Items XL7936G90 and XL8965 cannot be used as part of a UL® Fire Resistive Design.
DFR 8000 – UL Designation, Fire Guard™ Drywall Grid System.
For fire-rated assemblies, use Type C gypsum board as noted in the UL fire-rated assembly designs.

FIRE RATED EXPANSION JOINT

Fire expansion notch



Collapsed fire expansion notch



LOAD DATA

MAIN BEAM—TECHNICAL LOAD TEST DATA

Item Number	Flange Width (in.)	Length (in.)	Web Height (in.)	Simple Span (Lbs/LF)					
				4'		3'		2'	
				L/240	L/360	L/240	L/360	L/240	L/360
HD8906	1-1/2"	144"	1-11/16"	28.14	18.66	57.3	43.19	143.0	95.5
HD8906IIC	1-1/2"	144"	1-11/16"	28.14	18.66	57.3	43.19	143.0	95.5
HD890610	1-1/2"	120"	1-11/16"	28.14	18.66	57.3	43.19	143.0	95.5

CROSS TEES – TECHNICAL LOAD TEST DATA

Item Number	Flange Width (in.)	Length (in.)	Web Height (in.)	Simple Span (Lbs./LF)									
				72"		50"		4'		3'		2'	
				L/240	L/360	L/240	L/360	L/240	L/360	L/240	L/360	L/240	L/360
XL8965	1-1/2"	72"	1-1/2"	6.87	4.58								
XL8947P	1-1/2"	50"	1-1/2"			19.5	12.79						
XL8945P	1-1/2"	48"	1-1/2"					22.5	14.27				
XL7936G90	1-1/2"	36"	1-1/2"							50.0	31.3		
XL8926	1-1/2"	24"	1-1/2"									158.0	90.25

NOTE: Allowable loads tested per ASTM C635 for deflection limited to L/360 and complies with ASTM C645 for deflection limited to L/240.
See standards for additional information.

MEMBRANE LOAD VALUES

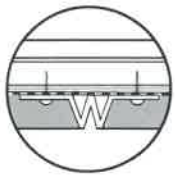
Component Combinations	Maximum Load in lbs./ft.² at Hanger Wire/Cross Tee Spacing					
	48 / 24		48 / 16		36 / 16	
Main Cross Tee	L/240	L/360	L/240	L/360	L/240	L/360
HD8906 – XL8965	3.20		4.66			
HD8906 – XL8947P	6.78	4.52	6.78	4.52	13.41	8.95
HD8906 – XL8945P	7.03	4.69	7.03	4.69	14.93	9.95
HD8901 – XL8945P	6.18	4.12	6.18	4.12	11.61	7.74
HD8906 – XL7936G90					21.77	14.51
HD8901 – XL7936G90					21.77	14.51
HD8906 – XL8926					26.13	21.77

BASIC PRODUCTS USED ON SUSPENSION SYSTEMS

Material	Weight Lbs/SF	Maximum Main Beam Spacing	Maximum Cross Tee Spacing	Maximum Wire Spacing	Load on Wire
OSB 1/4"	0.9	48"	8" – 16"	48"	14.4 Lbs.
3/8"	1.3	48"	16"	48"	20.8 Lbs.
1/2"	1.7	48"	16"	48"	27.2 Lbs.
5/8"	2.2	48"	24"	48"	35.2 Lbs.
3/4"	2.5	48"	24"	48"	40.0 Lbs.
Plywood 1/4"	.075	48"	8" – 16"	48"	12.0 Lbs.
3/8"	1.1	48"	16"	48"	17.6 Lbs.
1/2"	1.5	48"	16"	48"	24.0 Lbs.
5/8"	1.8	48"	24"	48"	28.8 Lbs.
3/4"	2.2	48"	24"	48"	35.2 Lbs.
Gypsum Board 1/4"	1.2	48"	8" – 16"	48"	19.2 Lbs.
3/8"	1.4	48"	16"	48"	22.4 Lbs.
1/2"	2.0	48"	16"	48"	32.0 Lbs.
5/8"	2.4	48"	24"	48"	38.4 Lbs.
3/4"	4.2	48"	16"	48"	67.2 Lbs.
Cement Board 1/2"*	3.0	48"	24"	48"	48.0 Lbs.
Cement Siding 5/8"*	1.9	48"	16"	48"	30.4 Lbs.
Hard Board Siding 1/2"	2.0	48"	16"	48"	32.0 Lbs.
Water-Resistant Gypsum Board 5/8"	3.42	48"	16" or 24"	48"	57.7 Lbs.
Water-Resistant Gypsum Board 1/2"	2.8	48"	16"	48"	44.8 Lbs.
Expanded Steel Lath	3.4	48"	16"	48"	54.4 Lbs.
12 Gauge Sheet Steel	4.5	24"	16"	48"	72.0 Lbs.

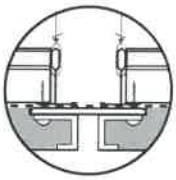
NOTES: All framing on the exterior should be 16" O.C. or less.
Some manufacturers make 1/2" gypsum board with special core to span 24" framing on interior ceiling installations (available on request).
All steel product on exterior made from G90 galvanized finish.
Data based on manufacturer's published data.
* Use lower RPM (1,000-2,500) screw gun to install cement board screws with intermittent pressure.

CONTROL JOINTS



Please refer to ASTM C840, Section 20.3.3 to 20.4 for Control Joint Requirements.

EXPANSION JOINTS



Ceiling expansion joints are installed to separate the metal suspension system when expansion joints occur in buildings or when metal changes direction. Expansion joints are required to separate a system in T-, H-, I-, and U-, or circle-shaped buildings to eliminate cracking from expansion.

SOUND CONTROL

HANGING & FRAMING

The IBC uses two sound classes to measure sound isolation performance in building construction:
Sound Transmission Class (STC) – sound transmitted through the air such as voices and music.
Impact Insulation Class (IIC) – sound transmitted through the building structure such as foot traffic and objects dropped on the floor.

A rating of 50 or above for both STC and IIC sound tests will satisfy the IBC's minimum requirements.

Understanding Sound Control Ratings

STC/IIC Ratings	Description
55	Excellent
50	Loud speech barely audible
45	Some loud speech audible – not understood
30	Loud speech audible – well understood
25	Regular speech audible and understood through walls

Changes in STC/IIC Ratings	Description
+/- 1	Almost perceptible
+/- 3	Just perceptible
+/- 5	Clearly Perceptible
+/- 10	Twice (or half) as loud

Satisfy IBC requirements with a rating of 50 or above for STC and IIC sound tests – without two layers of drywall using Armstrong® Drywall Grid.

Traditional Assembly – Field Tested Data

	Traditional Assembly	Building Structure	STC	IIC
	1-1/2" Black Iron / 7/8" Channel 3-1/2" Batt Insulation 5/8" Gypsum	Bare Concrete Base 3" Concrete Slab Fluted Steel Decking 8" Bar Joist, 24" o.c.	55	48

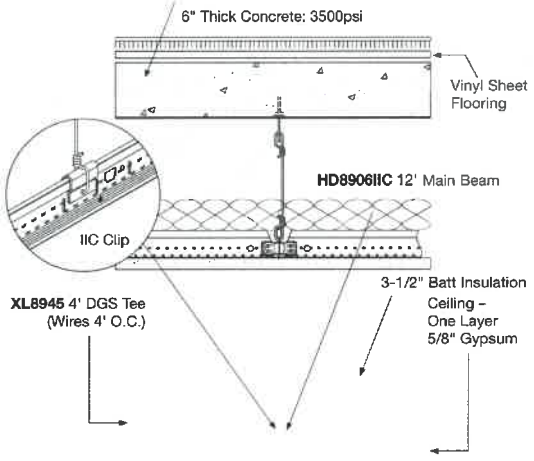
Armstrong® Standard Drywall Grid Assembly – Field Tested Data

Item Number	Armstrong Assembly	Building Structure	STC	IIC
HD8906 XL8945	12' Main Beam / 4' Cross Tee 3-1/2" Batt Insulation 5/8" Gypsum	Bare Concrete Base 3" Concrete Slab Fluted Steel Decking 8" Bar Joist, 24" o.c.	55	47

Armstrong® IIC Drywall Grid Assembly – Field Tested Data

Item Number	Armstrong® Assembly	Building Structure	STC	IIC
HD8906IIC XL8945 IIC Clip	12' Main Beam / 4' Cross Tee IIC Clip 3-1/2" Batt Insulation 5/8" Gypsum	6" Thick Slab Concrete Base with Vinyl Sheet Flooring	57	66

Armstrong® IIC Drywall Grid Assembly



ESTIMATING MATERIAL

Item Number	Length	Pcs/Ctn	LF/Ctn	Lbs./Ctn	Area of ceiling completed by one carton (SF) 8" O.C.	16" O.C.	24" O.C.	36" O.C.	48" O.C.	50" O.C.	72" O.C.
DRYWALL GRID MAIN BEAM											
HD8906/HD8906G90/HD8906IIC	144"	12	144	53			288	432	576	600	864
HD8906F08/HD8906F16	144"	12	144	53			Varies with radius				
HD890610	120"	12	120	49			288	432	576	600	864
DRYWALL GRID 1-1/2" FACE CROSS TEES											
XL8965	72"	36	216	78	144	288	432				
XL8947P/XL8947PG90**	50"	36	150	56	100	200	300				
XL8945P/XL8945PG90	48"	36	144	52	96	192	288				
XL7936G90	36"	36	108	39	72	144	216				
XL8926/XL8926G90	24"	36	72	26	48						

** Dimensions are nominal.

Item Number	Length	Pcs/Ctn	LF/Ctn	Lbs/Ctn
REVERSE MOLDINGS				
7857	120"	30	360	51
7858	120"	20	240	67
DRYWALL UNHEMMED CHANNEL MOLDING				
7838	120"	20	200	36
DRYWALL ANGLE MOLDING				
HD7801G90	120"	30	300	38
KAM-12	144"	20	240	39
KAM-10	120"	20	200	33
LAM-12	144"	20	240	39

Estimating Lineal Feet of Grid Based on Square Footage of Ceiling

On-center Spacing of Component	Percent of Square Footage
8"	108%
12"	100%
16"	76%
20"	60%
24"	50%
30"	40%
36"	33%
48"	25%
60"	20%

Example calculation based on 5,100 SF ceiling:

Main beam at 48" O.C.
5,100 SF x .25 = 1,275 LF
1,275 LF ÷ 144 LF/Ctn = 9 cartons needed

Cross tee at 16" O.C.
5,100 SF x .76 = 3,876 LF
3,876 LF ÷ 144 LF/Ctn = 27 cartons needed

Cross tee at 24" O.C.
5,100 SF x .50 = 2,550 LF
2,550 LF ÷ 144 LF/Ctn = 18 cartons needed

1 877 276 7876

Customer Service Representatives
7:45 a.m. to 5:00 p.m. EST
Monday through Friday

TechLine – Technical information, detail drawings, CAD design assistance, installation information, other technical services – 8:00 a.m. to 5:30 p.m. EST, Monday through Friday. FAX 1 800 572 8324 or email: techline@armstrongceilings.com

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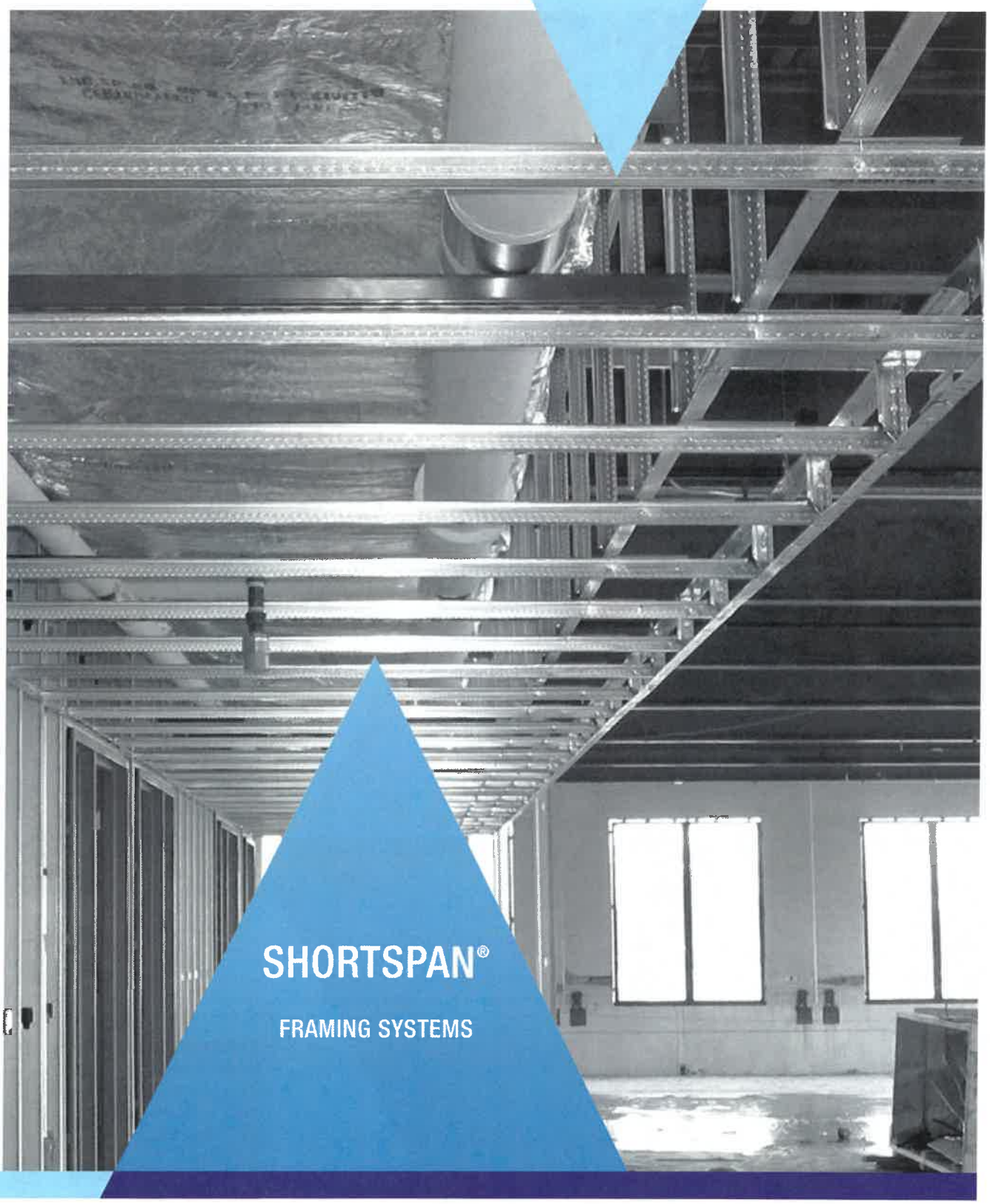

SHORTSPAN®

FRAMING SYSTEMS

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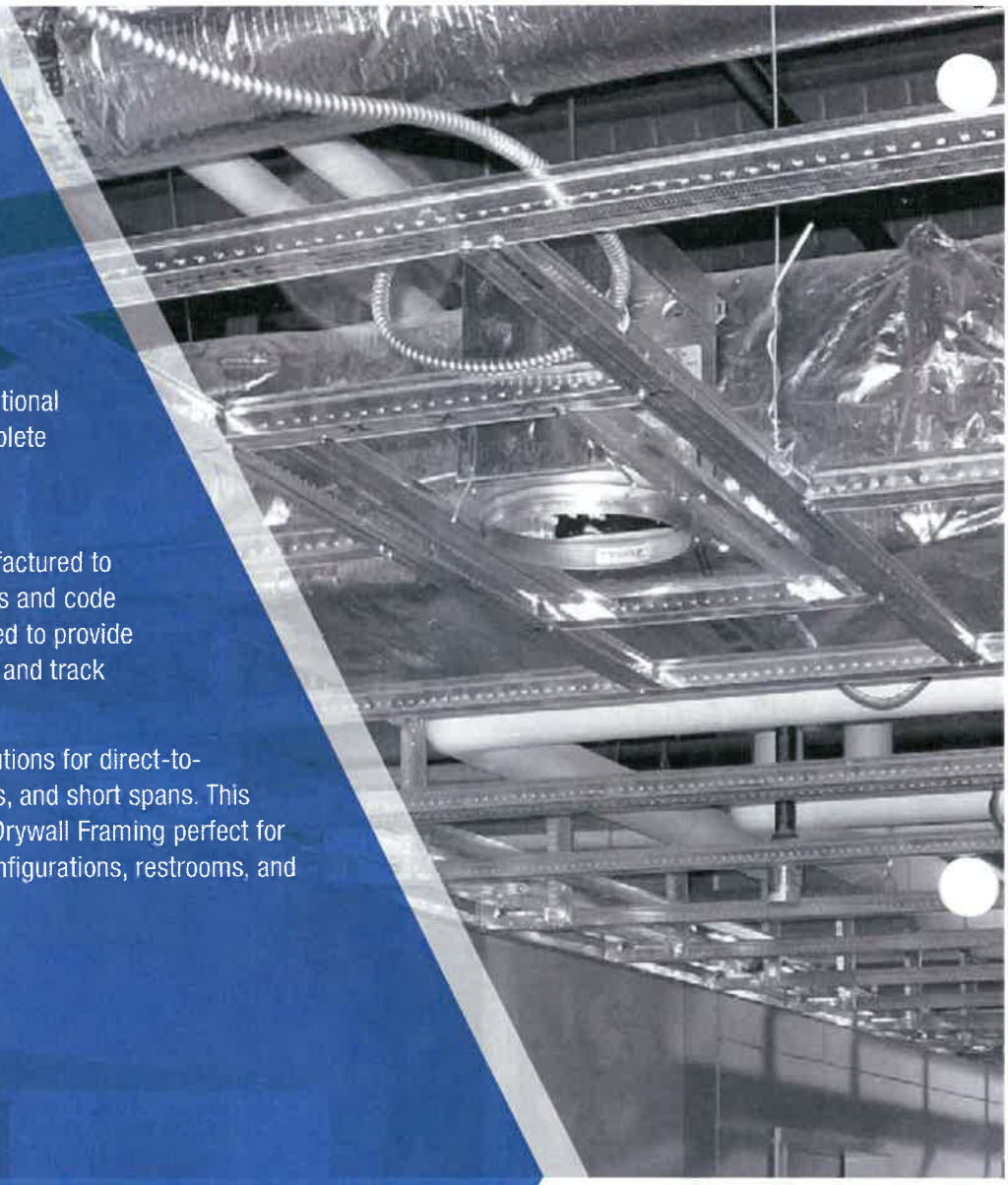


FASTER. EASIER. BETTER.

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

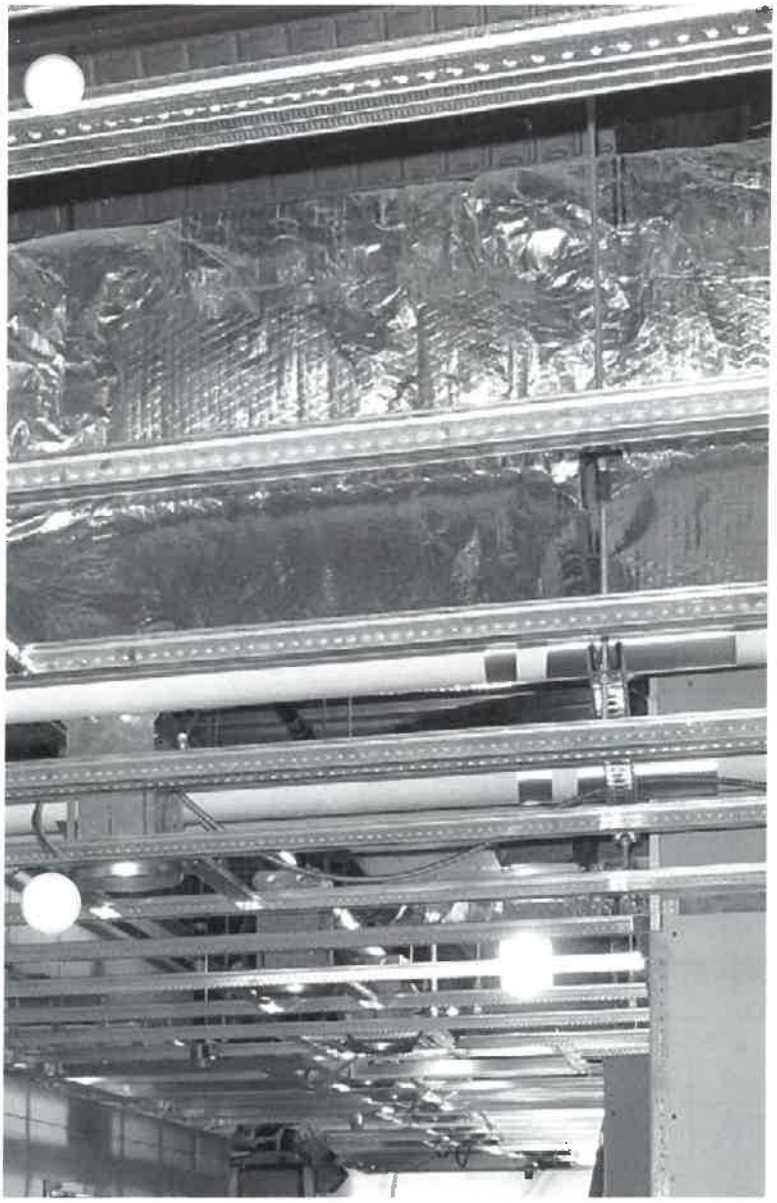
Code Compliance You Can Trust

Armstrong systems provide superior performance when compared to traditional methods. Our pre-engineered systems are tested for fit and finish and are engineered to be code compliant. When you specify Armstrong, you're assured a top quality product that reduces risk.

- ICC-ES: ESR-2311 Evaluation of Code Compliance
- ICC-ES: ESR-1289 Evaluation of Code Compliance
- IAPMO: ER-163: Evaluation of Code Compliance
- Department of State Architect – DSA PA105
- City of LA – RR 5348
- 26 UL Fire Resistant Designs
- Meets ASTM C635, C841, C926, C636, C754, C840,and C842
- Meets ASTM C645 requirement for minimum metal thickness to .0179" for screw pullout

Performance

- **PeakForm®** Eliminate hanger wires for spans up to 8' – 6"
- Select items available in High Recycled Content (HRC): 61% Total Recycled Content, 53% Post Consumer Content, 8% Pre-Consumer Content
- Non-HRC items have 30% recycled content
- Components meet broad range of UL design assemblies (ShortSpan® Tee, LAM, SB12)



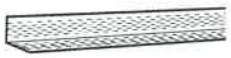
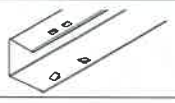
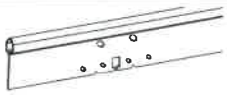
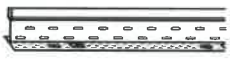
SHORTSPAN® FRAMING SYSTEMS

TABLE OF CONTENTS

- G40, 0.018" metal thickness meets ASTM C645
- G90 hot dipped galvanized coating available for interior high moisture areas.
- ScrewStop™ reverse hem prevents screw spin off
- Rotary stitching on double web adds strength and stability
- Deep knurled surface for easy screw insertion

COMPONENTS

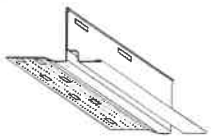
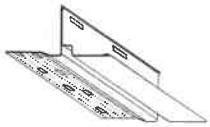
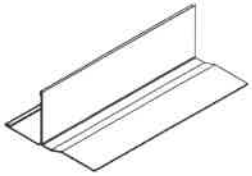
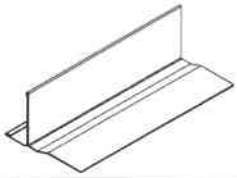
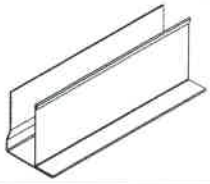
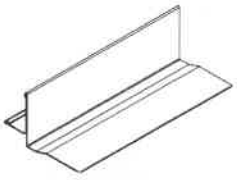
ShortSpan Item Details

Item Number	Length/Item Description	Face Dimension	Profile Height	Simple Span Uniform Load at L/240 (lbs./LF)	Fire Resistive	
S7708P	8' ShortSpan Tee	1-1/2"	1-13/16"	All items:		
S7710P	10' ShortSpan Tee	1-1/2"	1-13/16"	5ft. Span – 14.18		
S7712P	12' ShortSpan Tee	1-1/2"	1-13/16"	6ft. Span – 10.49		
S7714P	14' ShortSpan Tee	1-1/2"	1-13/16"	8ft. Span – 4.43		
KAM10	10' Knurled Angle Mold 0.018" Metal Thickness	1-1/4" x 1-1/4"	–	–	–	
KAM12	12' Knurled Angle Mold 0.018" Metal Thickness	1-1/4" x 1-1/4"	–	–	–	
KAM12G90	12' Knurled Angle Mold 0.018" Metal Thickness	1-1/4" x 1-1/4"	–	–	–	
KAM12HRC	12' Knurled Angle Mold 0.018" Metal Thickness	1-1/4" x 1-1/4"	–	–	–	
KAM1510	10' Knurled Angle Mold 0.018" Metal Thickness	1-1/2" x 1-1/2"	–	–	–	
KAM1512	12' Knurled Angle Mold 0.018" Metal Thickness	1-1/2" x 1-1/2"	–	–	–	
KAM151020E	10' Knurled Angle Mold 0.018" Metal Thickness	1-1/2" x 1-1/2"	–	–	–	
KAM151220E	12' Knurled Angle Mold 0.018" Metal Thickness	1-1/2" x 1-1/2"	–	–	–	
KAM151020	10' Knurled Angle Mold 0.018" Metal Thickness	1-1/2" x 1-1/2"	–	–	–	
KAM21025	10' Knurled Angle Mold 0.018" Metal Thickness	2" x 2"	–	–	–	
KAM21020EQ	10' Knurled Angle Mold 0.018" Metal Thickness	2" x 2"	–	–	–	
LAM12	12' Knurled Angle Mold (Locking tabs 8" o.c.) 0.018" Metal Thickness	1-1/4" x 1-1/4"	–	–		
LCM12	12' Locking Channel Molding 0.018" Metal Thickness	1-3/4" Face 1-1/4" Top Flange	1-3/4"	–	–	
SB12P	12' StrongBack Support (knockouts 8" o.c.) 0.018" Metal Thickness	–	2"	–		
QSLPM12	12' QuikStix Locking Pocket Main (Locking tabs 8" o.c.) 0.018" Metal Thickness	1-1/2"	1-1/2"	Vertical Supports @ 4' o.c. - 21.64 Vertical Supports @ 3' o.c. - 40.60	–	
QSUTC	QuikStix Uptight Clip (Pre-drilled screw holes)	1-3/4" wide	1-1/2" x 4-1/2"	–	–	
QS612	12' QuikStix Soffits Tee (Knockouts 6" o.c.)	1-1/2"	1-1/2"	4' Span - 3.79	–	
QS812	12' QuikStix Soffits Tee (Knockouts 8" o.c.)	1-1/2"	1-1/2"	4' Span - 4.41	–	

Note: All components are available with G90 hot dipped galvanized coating. Just add G90 suffix to end of Item #, Ex: LAM12G90.
"P" at the end of Item numbers means PeakForm bulb

Drywall Transitions Molding

Material: Commercial-quality, cold rolled, hot dipped galvanized steel

Item Number	Length/Item Description	Face Dimension	Flange	Profile Height	
7901	120" Shadow Reveal Molding	3/8" shadow reveal	9/16"	1-1/4"	
7902	120" Shadow Reveal Molding	3/8" shadow reveal	15/16"	1-1/4"	
7903	120" Inverted T Molding	1" Inverted T	–	1-1/2"	
7904 7904PF*	120", 15/16" Flush Transition Molding		15/16"	1-1/4"	
7905 7905PF*	120", 9/16" Flush Transition Molding		9/16"	1-1/4"	
7906	120", "F" Vertical Transition Molding		5/8"	1-7/16"	
7907	120", 9/16" Tegular Transition Molding		9/16"		
7908	120", 15/16" Tegular Transition Molding	1" Inverted T	15/16"		

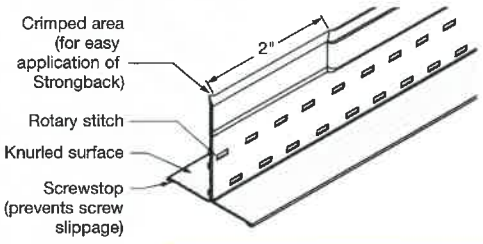
SHORTSPAN®
FRAMING SYSTEM –
INTERIOR DRYWALL CEILINGS

THE BEST CHOICE FOR FRAMING SHORT SPANS

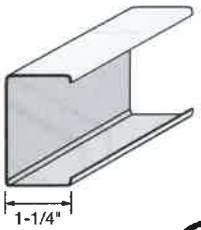
Reduce Labor Cost:	Eliminates screws, cross tees and hanger wire (in most applications)
Reduce Material Cost:	Economical price point on components
Reduce Waste:	Standard and custom lengths – and there are no cartons to throw away
Reduce Risk:	System was evaluated using full scale seismic testing and may be an acceptable solution on your next project. **Check with your local code official for approval prior to installations. For official test reports, please contact** TechLine at 877 276 7876.
Fire Rated:	**Up to 2-hour rating with one (1) layer of fire-rated gypsum board. (See pages 8 and 9 for drawing detail.) Resistive when used in applicable UL fire resistive designs. Fire Guard components meet UL Design Listings** D501, D502, G523, G524, G526, G527, G528, G529, G531, G553, J502, L502, L508, L513, L515, L525, L526, L529, L564, P501, P506, P507, P508, P509, P510, P513, P514.

SHORTSPAN FRAMING TEES ARE ENGINEERED FOR FASTER, EASIER INSTALLATION

- 1-1/2" wide face exceeds the minimum industry standard
- ScrewStop™ reverse hem prevents screw spin-off
- Balanced profile stays flat during installation
- Rotary stitching on double web adds strength and stability
- Deep knurled surface for easy screw insertion
- G40, .018" metal thickness meets ASTM C645



Traditional Method to Frame Short Spans



ShortSpan Framing and Locking Angle Molding make drywall framing faster and easier

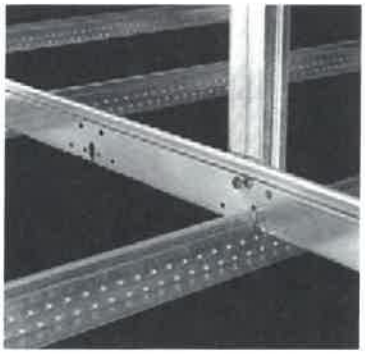
Corridor framing using traditional steel studs

NO CARDBOARD CARTONS

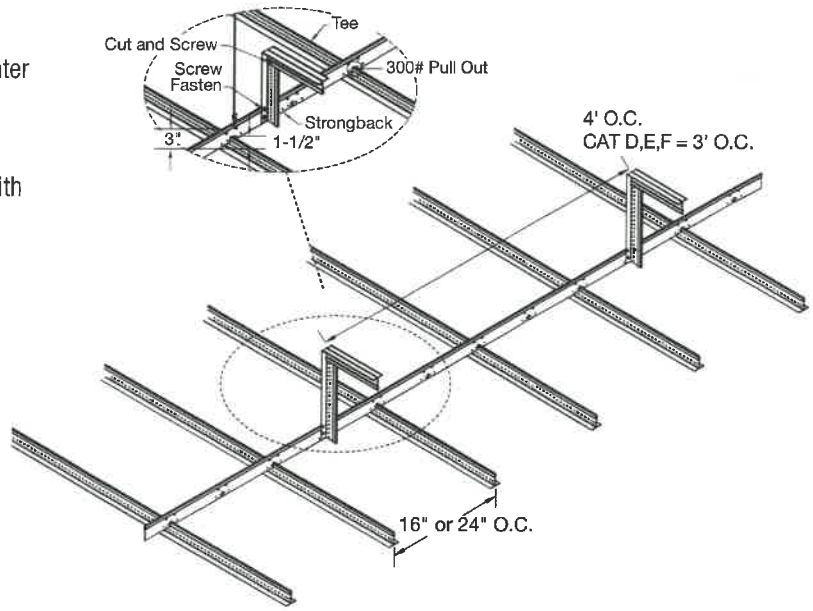
- Reduced clean-up and waste at jobsite
- Quick to open
- Chop saw to length

EASIER, PRE-ENGINEERED SOLUTION TO SUPPORT SPANS UP TO 8' – 6"

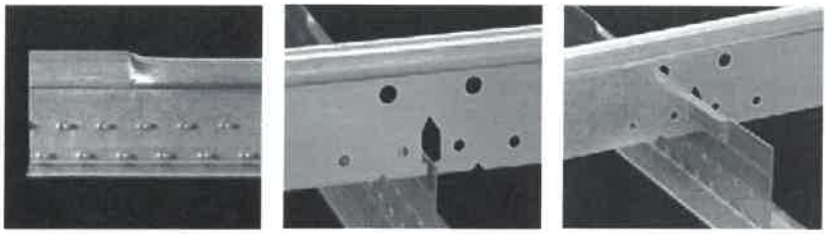
- Knockouts 8" on center eliminates measuring, screwing, and splicing
- Allows vertical supports at 4' on center instead of 24" or 16"
- Reduces lateral movement
- Resists upward movement if used with vertical tee post or stud
- Easier to level system compared to traditional framing



StrongBack support installed mid-span with vertical post at 4' on center.



INSTALLATION RECOMMENDATIONS*



1 Install Locking Angle Molding (LAM12) on walls

2 Lock in ShortSpan tees (577XXP) into LAM12

3 Flattened bulb allows StrongBack to slide over bulb

4 Slide StrongBack into place – no bending of tab required

*ALTERNATIVE METHOD TO INSTALL STRONGBACK

1 Open StrongBack (SB12P) lock tabs with pliers (easier if performed on floor)

2 Slide StrongBack over bulb of ShortSpan tee and engage by bending lock tabs back to original position

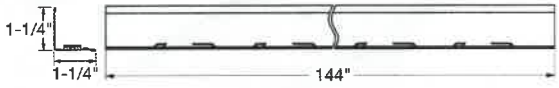
3 Support and level system to structure; attach vertical supports to StrongBack as required

4 To provide stability to StrongBack, it is recommended to bend first 4" to 90° and pin to wall

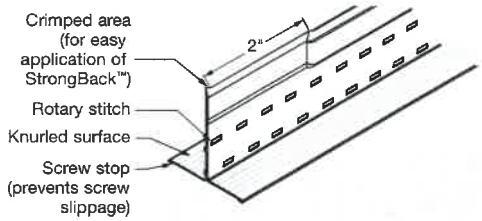
SHORTSPAN®
CORRIDOR SYSTEM

TIME SAVING SOLUTION FOR CONGESTED PLENUM INSTALLATIONS

- Eliminates the need for hanger wire
- Gussets and mounting rail provide alternative method of grid attachment when straight drops for hanger wire are not possible
- Reduced labor costs over conventional installation methods in congested plenum
- Alignment crimps at locking tabs for fast, easy alignment



12' Locking Angle Molding (LAM12) – Wall angle molding fabricated from hot dipped galvanized steel. The molding features patented locking details at 8" centers that lock and hold the ShortSpan framing tees.



ShortSpan Tee (S7708P, S7710P, S7712P, S7714P) – ShortSpan eliminates cross tees, screws, and hanger wire. Rotary stitching on double web adds strength and stability. G40. .018"metal thickness meets ASTM C645.

Load Test Data

		Hanger Spacing Uniform Load at L/240 (Lbs/LF)							
ShortSpan Cross Tees	**Web Height**	**3'**	**4'**	**5'**	**6'**	**7'**	**7'-6"**	**8'**	**8'-6"**
S77**P	1-13/16"	–	31.76	14.18	10.49	5.84	5.54	4.43	3.37
QuikStix Locking Pocket Main									
QSLPM12	1-1/2"	40.60	20.87	–	–	–		–	
StrongBack Support Hanger		Hanger Spacing Uniform Load at L/360 (Lbs/LF)							
SB12P	2"	27.53	17.76	–	–	–		–	

Maximum Load Test Data in Lbs./SF - L/240

									(10'-14' spans require a mid-span support)		
Item Number	**OC Spacing**	**4' Span Lbs./SF**	**5' Span Lbs./SF**	**6' Span Lbs./SF**	**7' Span Lbs./SF**	**7'-6" Span Lbs./SF**	**8' Span Lbs./SF**	**8'-6" Span Lbs./SF**	**10' Span Lbs./SF**	**12' Span Lbs./SF**	**14' Span Lbs./SF**
S77**P	16"	23.82	10.64	7.87	4.38	4.16	3.32	2.53	10.64	7.76	4.38
S77**P	24"	15.88	7.09	5.25	2.92	2.77	2.22	1.69	7.09	5.17	2.92

Note: 5/8" drywall weighs 2.4 lbs./SF (tees installed 16" or 24" on center)
1/2" drywall weighs 2.0 lbs/SF (tees installed 16" on center only)

INSTALLATION NOTES

ShortSpan:

1 ShortSpan tees **must** be cut within 1/8" of the vertical leg of the Locking Angle Moldings (for non-rated installations only).

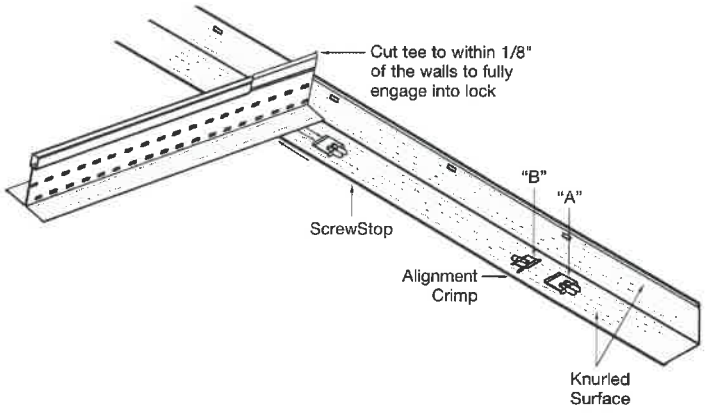
2 **Must** screw LAM to wall structure (#8 x 1-1/4" wafer head self drill sheet metal screws tested in 25- and 20- gauge steel studs).

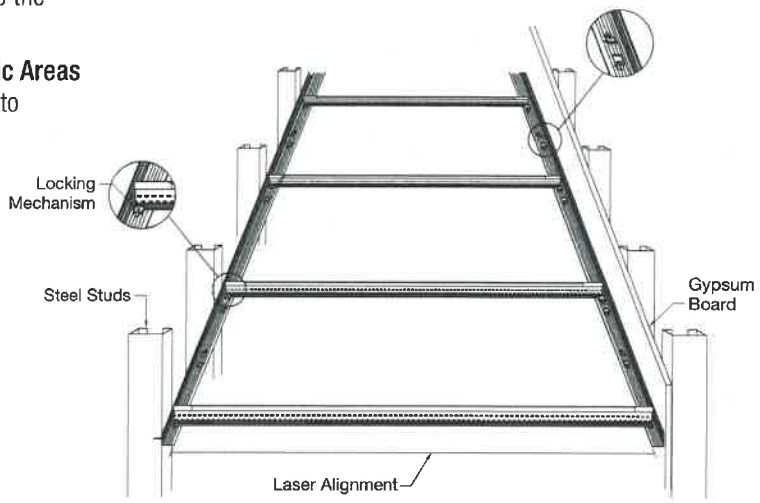
– Assembly tested to 200 lbs. for shear and screw pullout without failure (refer to Maximum Load chart on page 11

3 Insert right hand flange of tee into pocket "A" first and allow left flange to clear pocket "B" and rest on angle molding. Slide tee to the left to engage in pocket "B" (audible click)

No Additional Requirements For Seismic Areas
There's no need to screw ShortSpan Tees to Locking Angle Molding in Seismic Design Categories A-F (unless required by local code).

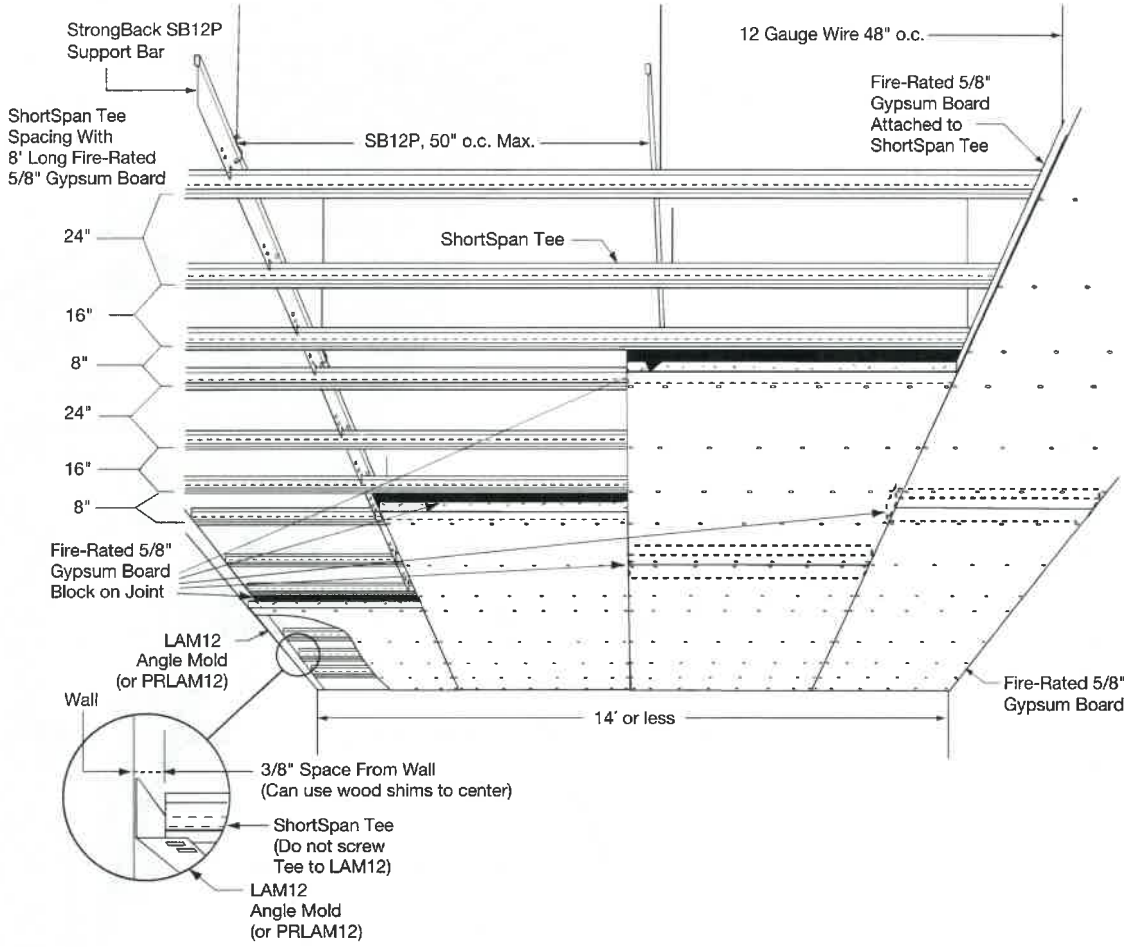
*Patent Pending





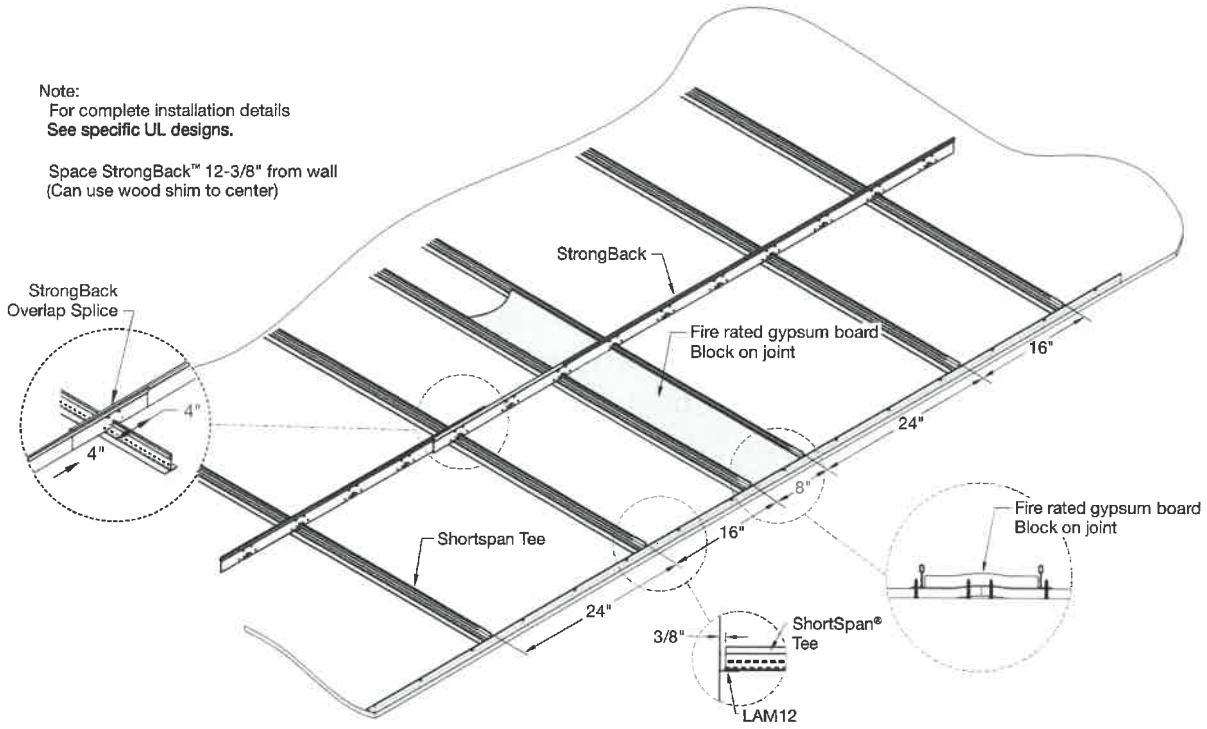
FIRE RATED
SHORTSPAN

FIRE RATED



Fire Rated: up to 2-hour rating with one (1) layer of fire-rated gypsum board. Resistive when used in applicable UL fire resistive designs. Fire Guard components meet UL Design Listings D501, D502, G523, G524, G526, G527, G528, G529, G531, G553, J502, L502, L508, L513, L515, L525, L526, L529, L564, P501, P506, P507, P508, P509, P510, P513, P514.

LOCKING ANGLE MOLDING:* A FASTER, MORE ACCURATE SOLUTION

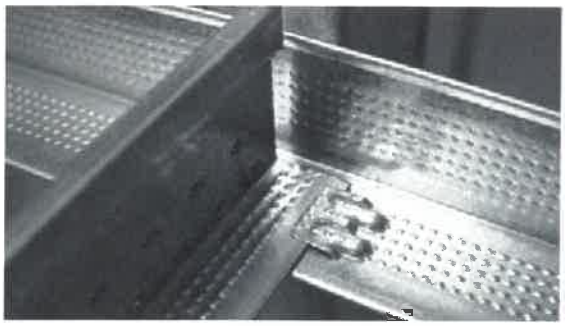


FIRE RATED

Fire Rated: up to 2-hour rating with one (1) layer of fire-rated gypsum board.
Resistive when used in applicable UL fire resistive designs. Fire Guard components meet UL Design Listings D501, D502, G523, G524, G526, G527, G528, G529, G531, G553, J502, L502, L508, L513, L515, L525, L526, L529, L564, P501, P506, P507, P508, P509, P510, P513, P514.

MOLDINGS

- Pre-engineered locking tabs punched 8" on center:
  - Eliminates measuring 16" or 24"
  - Locking tabs prevent lateral and upward movement
  - Eliminates screws, pop rivets, or crimpers needed to attach tees to molding
- Knurled surface on both flanges
- ScrewStop™ reverse hem prevents screw spin-off and provides safer handling
- Alignment crimp at locking tabs for fast, easy alignment
- Locking Angle Molding is designed to only work with Armstrong ShortSpan products



ShortSpan tee engaged in Locking Angle Molding

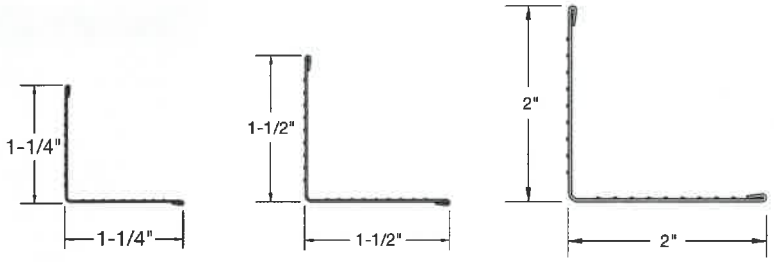
KNURLED
ANGLE MOLDING

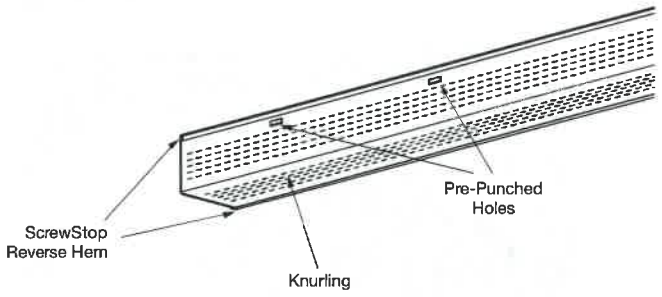
MORE INSTALLATION BENEFITS IN ENHANCED DRYWALL FRAMING SYSTEM WALL ANGLE

Knurled Angle Molding (KAM) for Drywall Framing has the time saving advantages of knurling, ScrewStop™, pre-punched holes, and no cartons to throw away.

Knurling:	Helps the screws to grab quickly
ScrewStop:	A reverse hem on the top and bottom flanges will catch the screw and prevent it from slipping off the wall angle. No sharp edges on the top or bottom of the angle.
Pre-punched Holes:	Located on the top edge to allow for faster insertion of the screws.
No Carton Packaging:	Eliminate time needed to open and throw away cartons. Just cut the plastic strap and go.

- Available with a 1-1/4", 1-1/2" or 2" face to meet your specific need
- 2" KAM is available in 0.030", 0.027", and 0.018" metal thickness
- 1-1/2" KAM is available in 0.030", 0.027", and 0.018" metal thickness
- 1-1/2" KAM is available in 10' or 12' lengths
- 1-1/4" KAM is available in 10' or 12' lengths
- Top and bottom flanges are hemmed for easy handling, unlike the sharp flanges on competitor moldings
- ScrewStop reverse hem catches screws, preventing them from slipping off the wall angle
- Pre-punched holes on the top edge (4" o.c.) allow for faster screw insertion

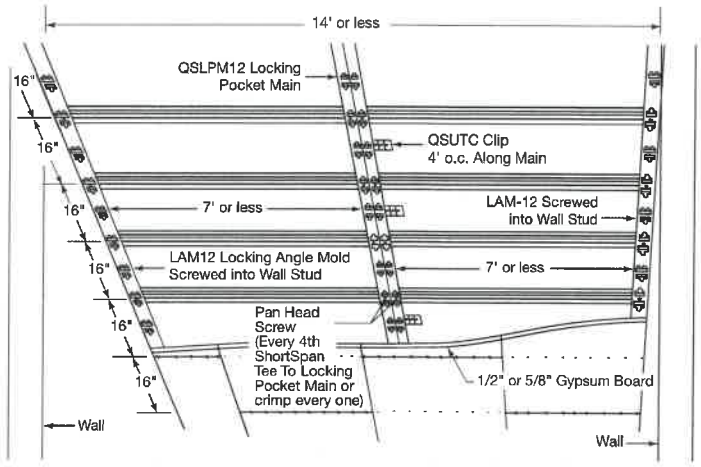




LOCKING POCKET MAINS*

- Reduces time and labor installing drywall ceilings in tight plenum conditions
- Uptight clip allows installation in 1-1/2" to 5-1/2" plenums
- Locking Pocket Main has the same characteristics as StrongBack™
- Locking Pocket Main allows uptight installation since it is installed at the same level as the ShortSpan tees
- ShortSpan Tees can span up to 8'-6" without vertical support (16" o.c.)
- Locking Angle Mold eliminates measuring, marking and screwing at perimeters

*Patent Pending



Maximum Load in Lbs/SF (L/240 per ASTM C645)

Main Beam o.c. Spacing	Vertical Support (Tee Post, Hanger Wire, or QSUTC) Spacing Along Main Beam	Max Load in Lbs/SF
QSLPM12 – 4' o.c.	4'	5.22
QSLPM12 – 5' o.c.	4'	4.17
QSLPM12 – 6' o.c.	4'	3.48
QSLPM12 – 7' o.c.	4'	2.98
QSLPM12 – 7'6" o.c.	4'	2.78
QSLPM12 – 8' o.c.	4'	2.61
QSLPM12 – 8'6" o.c.	4'	2.46

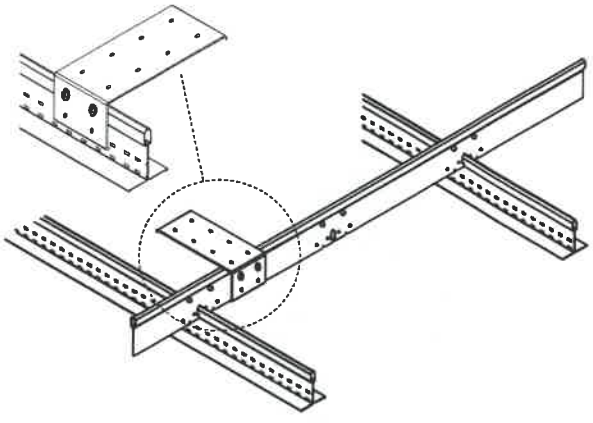
Main Beam o.c. Spacing	Vertical Support (Tee Post, Hanger Wire, or QSUTC) Spacing Along Main Beam	Max Load in Lbs/SF
QSLPM12 – 7' o.c.	3'	6.60
QSLPM12 – 7'6" o.c.	3'	6.16
QSLPM12 – 8' o.c.	3'	5.77
QSLPM12 – 8'6" o.c.	3'	5.43
QSLPM12 – 8'6" o.c.	3'	–

Note: 5/8" drywall weighs 2.4 lbs/SF or less
1/2" drywall weighs 2.0 lbs/SF or less
Fixtures should be independently supported
* For other combinations; consult TechLine at 1 877 276 7876

INSTALLATION RECOMMENDATIONS

1. Vertical supports to structure should be either QuikStix Uptight Clips or stiff legs using scrap metal. Wire is NOT recommended for hanging this system.
2. ShortSpan tees must be cut within 1/8" of vertical leg of the Locking Angle Moldings and Locking Pocket Mains.
3. To engage ShortSpan tees into Locking Pockets: insert right hand flange of tee into long pocket first and allow left flange to clear short pocket; rest flat. Slide tee to the left to engage in short pocket (audible click).

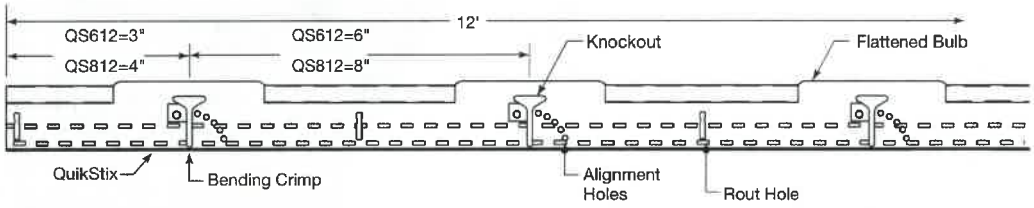
Uptight Clip (QSUTC): Saves Time in Tight Plenum Areas and is Adjustable to Uneven Surfaces

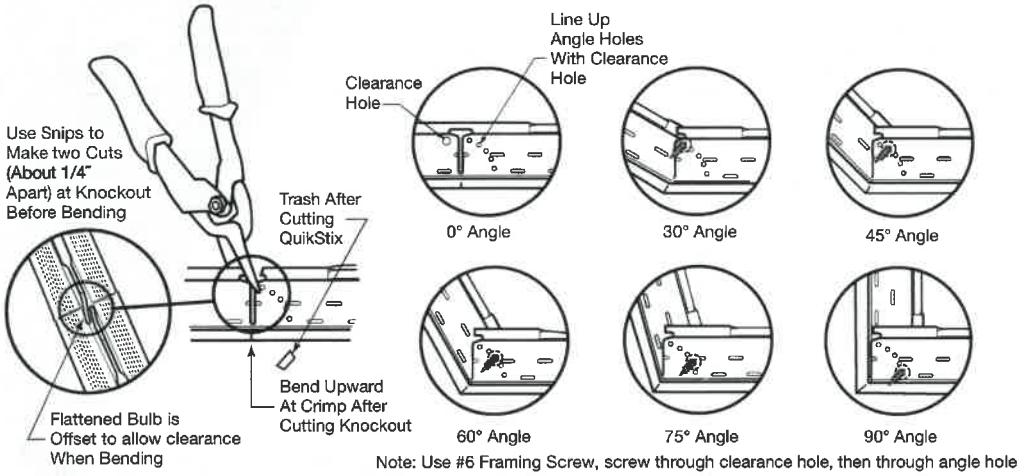


QUIKSTIX
SOFFITS

REDUCES TIME AND LABOR WHEN INSTALLING VERTICAL DROPS

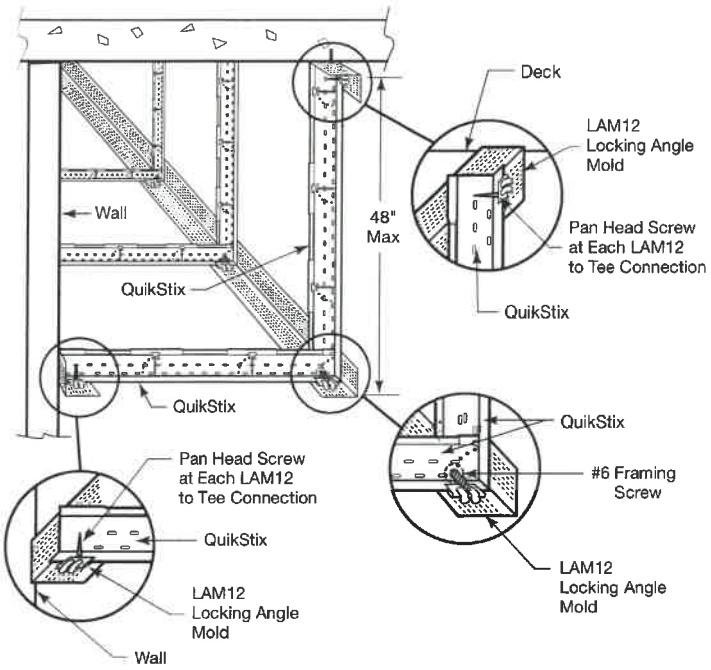
- Knockouts at 6" or 8" centers reduces cutting time
- Alignment holes make screw installation simple and forms perfect 30°, 45°, 60°, 75° and 90° angles
- Flattened bulb to allow true angles without interference; bending crimp prevents misalignment
- 90 degree angle fits Locking Angle Molding (LAM12)
- Rout holes 6" (QS612) and 8"(QS812) o.c. allows use of XL8926, XL7936, XL8945P or XL8965 cross tees for 2', 3', 4', or 6' section spans



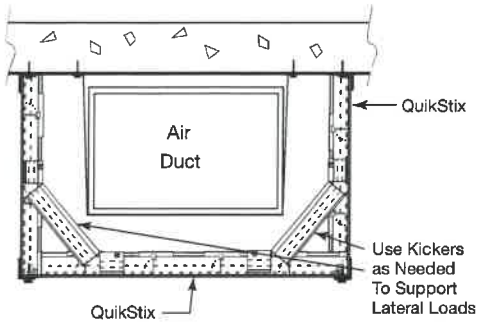


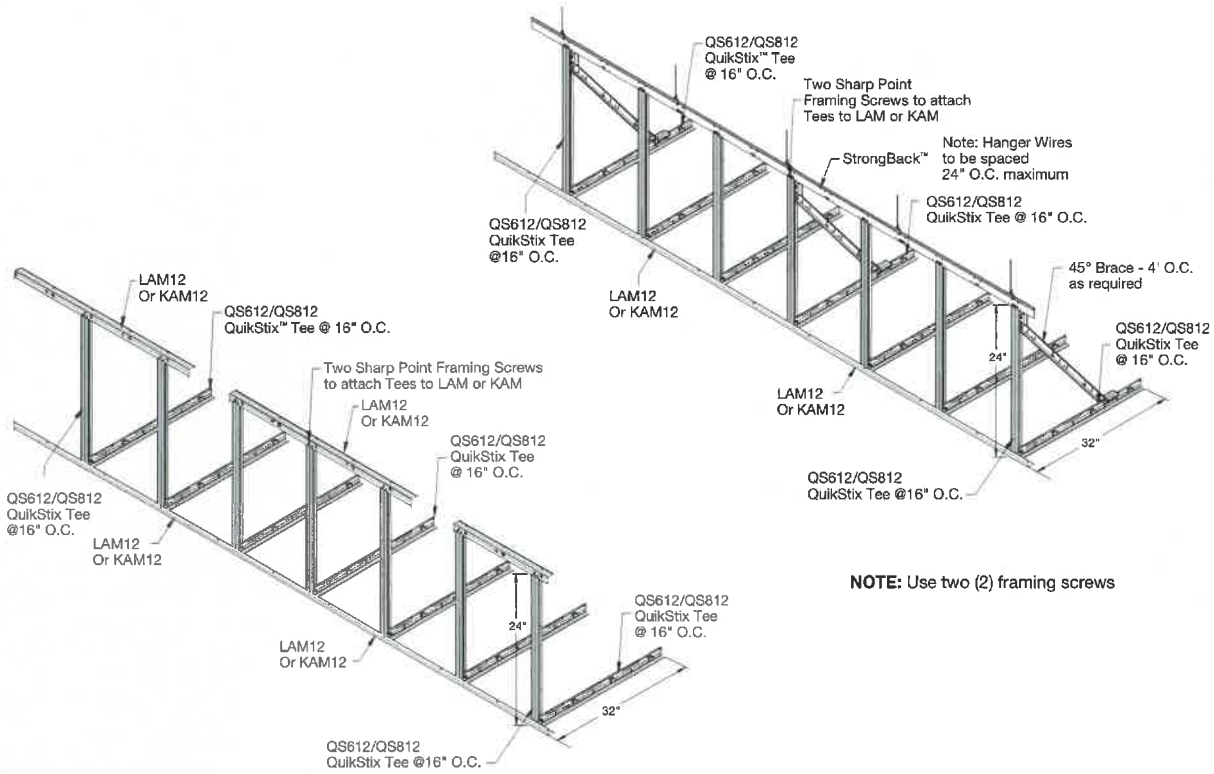
Note: Use #6 Framing Screw, screw through clearance hole, then through angle hole

90 DEGREE DROP SOFFIT



FRAMING AROUND DUCT WORK





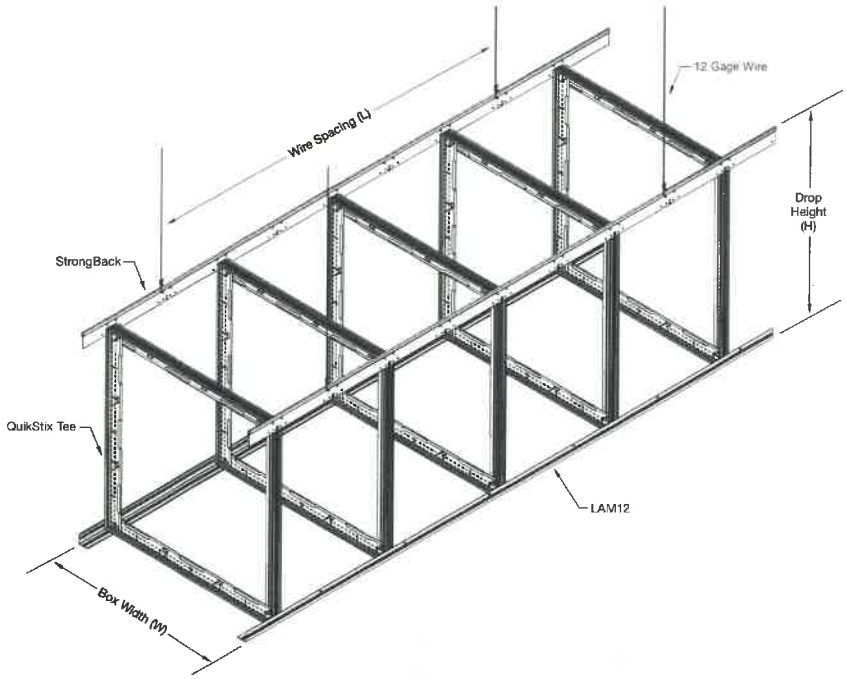
NOTE: Use two (2) framing screws

Maximum System Load for QuikStix Soffit (6" and 8" O.C) in Lbs./SF* (L/240 per ASTM C645)

	Horizontal QuikStix Soffit Span				
	16"	24"	32"	36"	48"
16" o.c.				5.30 (Lbs/SF)	2.84 (Lbs/SF)
24" o.c.	10.65 (Lbs/SF)	7.92 (Lbs/SF)	5.46 (Lbs/SF)	3.53 (Lbs/SF)	**
36" o.c.	7.10 (Lbs/SF)	5.28 (Lbs/SF)	3.64 (Lbs/SF)	**	**
48" o.c.	5.34 (Lbs/SF)	3.96 (Lbs/SF)	2.73 (Lbs/SF)	**	**
72" o.c.	3.55 (Lbs/SF)	2.64 (Lbs/SF)	**	**	**

Note: Cross Tees are installed 12" or 16" o.c.
* All data obtained from actual Load Testing except for 32" span column. This column has a 1.2 Safety Factor built into it.
** Additional support required

SUSPENDED – QUIKSTIX BOX WITH STRONGBACK

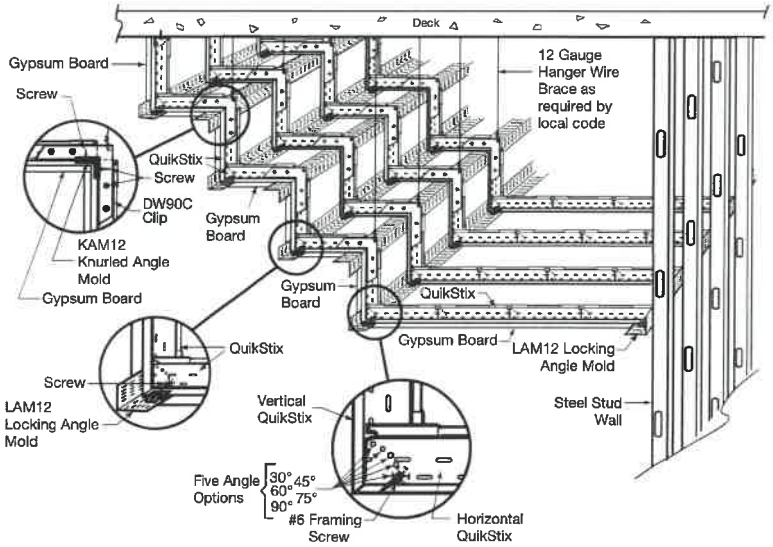


QuikStix Box Drop Height Limitation Table (H)

QuikStix Width (W)	StrongBack™ Wire Spacing (L)			
	32"	36"	40"	48"
1	9'-9"	8'-6"	7'	4'-6"
2	9'-3"	8'	6'-6"	4'
3	8'-9"	7'-6"	6'	3-6"
4	8'-3"	7'	5'-6"	3'

Note: Additional bracing may be required.

DRYWALL STEP VERTICAL



LOAD AND VERTICAL SUPPORTS

LOAD AND VERTICAL SUPPORTS

ShortSpan Vertical Support Requirements

Tees installed 16" on center with 5/8" or 1/2" drywall (Seismic Design Categories A, B, C, D, E,F)	
Up to 8'-6" span	No vertical support required
8'-6" to 14' 0" span	Mid-span vertical support required
Tees installed 24" on-center with 5/8" drywall (Seismic Design Categories A, B, C, D, E, F)	
Up to 7'-6 " span	No vertical support required
7'-6" to 14' 0" span	Mid-span vertical support required

Section Properties – ASTM C754 Table 3

Section	Min. Base Metal Thickness (in)	Design Thickness (in)	Gross Area (in2)	Effective Properties	
				Ixx2 (in4)	Ma (ft-lb)
ShortSpan®	0.0179	0.018	0.099	0.03633	52.33
StrongBack™	0.0335	0.034	0.092	0.033	45.6

VERTICAL SUPPORT OPTIONS


Hanger Wire

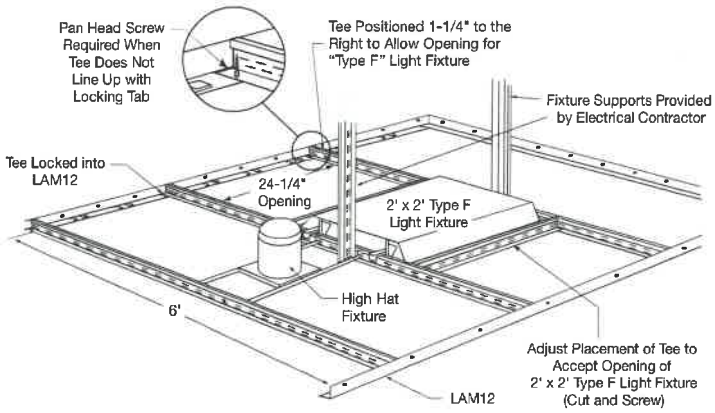

Scrap Tee Post


Manufactured StrongBack

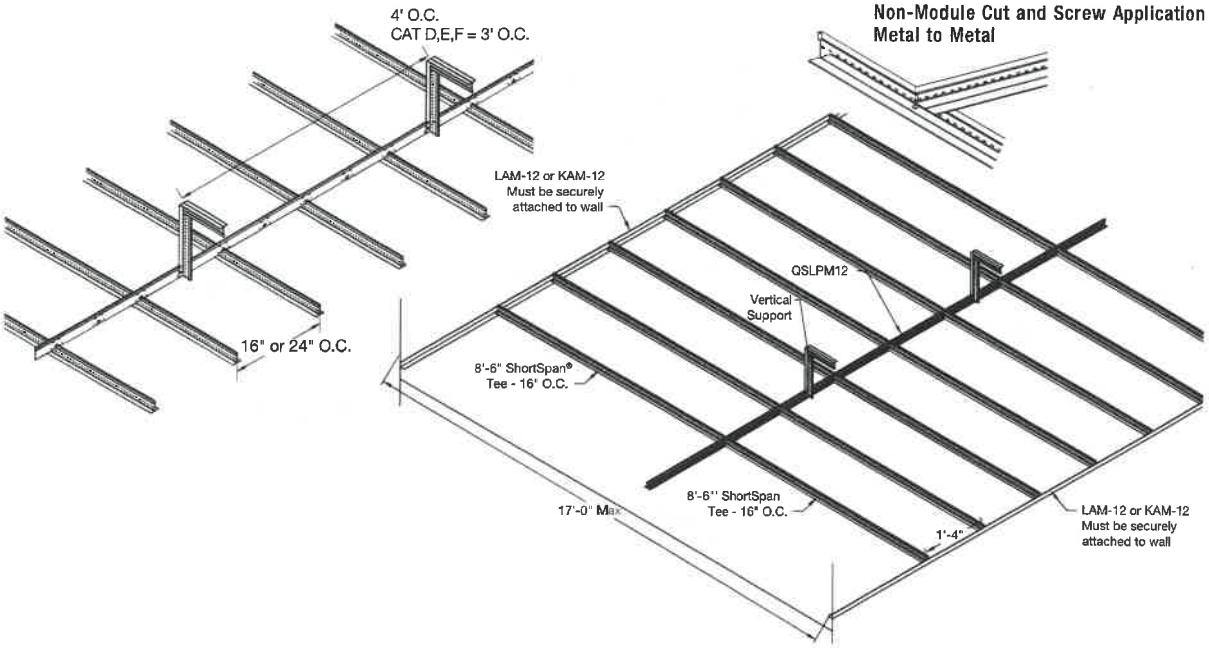

Field Assembled Support


QuikStix Uptight Clip

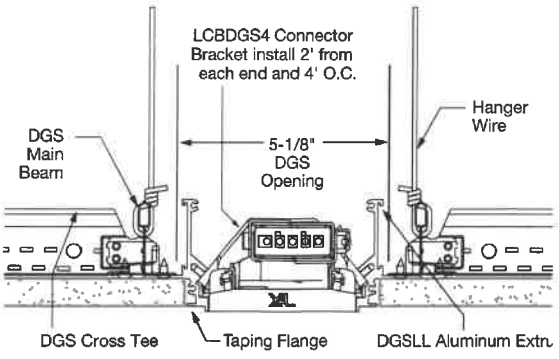
FIXTURE INSTALLATION

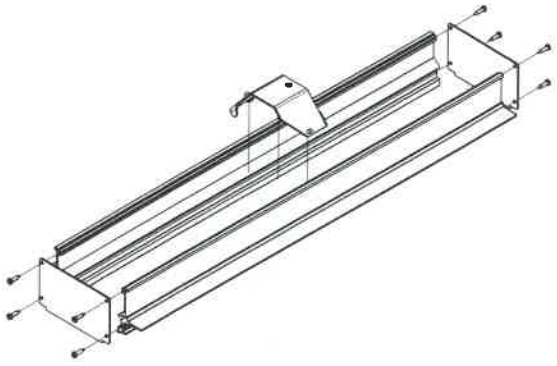


FIELD ASSEMBLED STIFF BACK



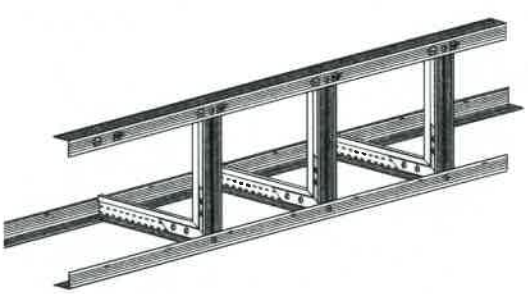
DRYWALL LINEAR LIGHTING

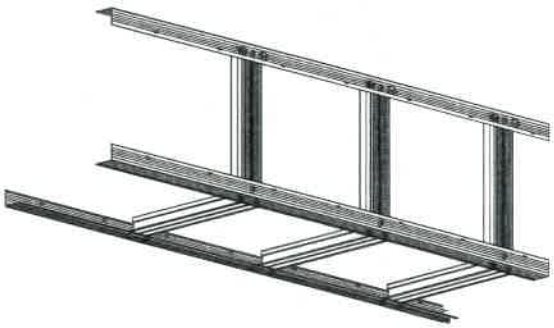


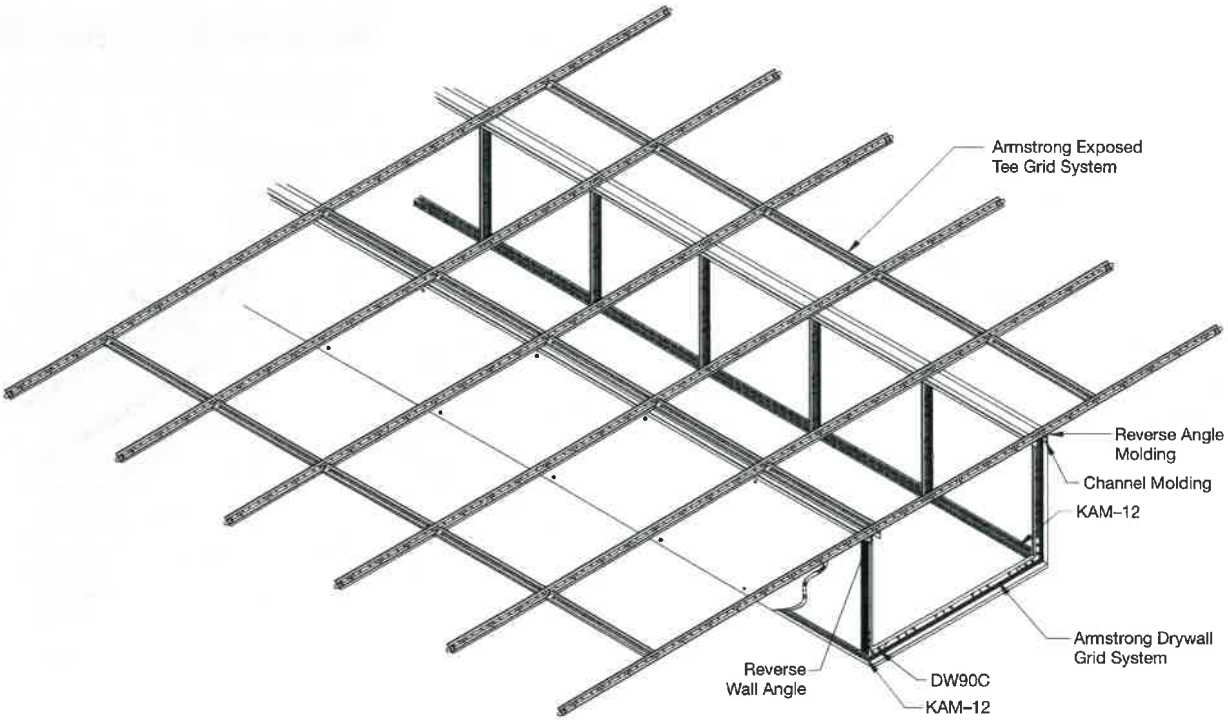


NOTE: Refer to the Drywall Linear Lighting Data Page (BPCS-5367) to view full details

SOFFITS AND BULKHEADS

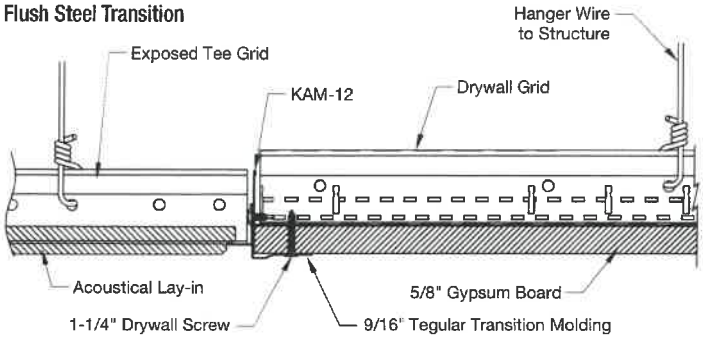




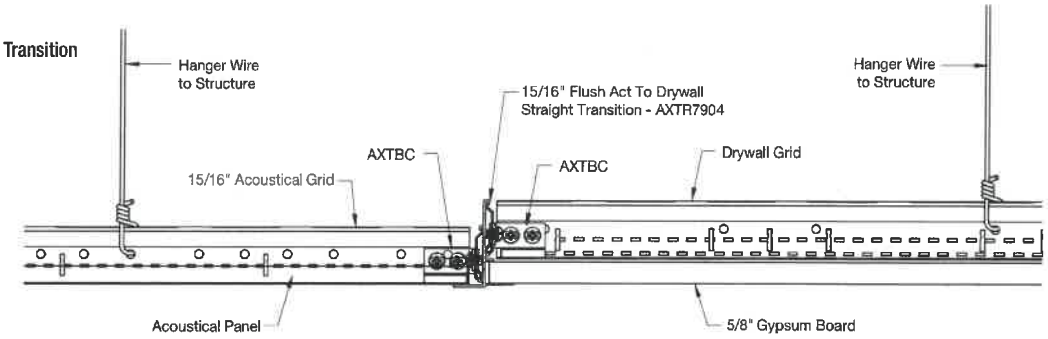


NOTE: Refer to the QuikStix Soffits Data Page (BPCS-3818) or Drywall Grid System – Flat Ceilings Data Page (BPCS-3081) to view full details.

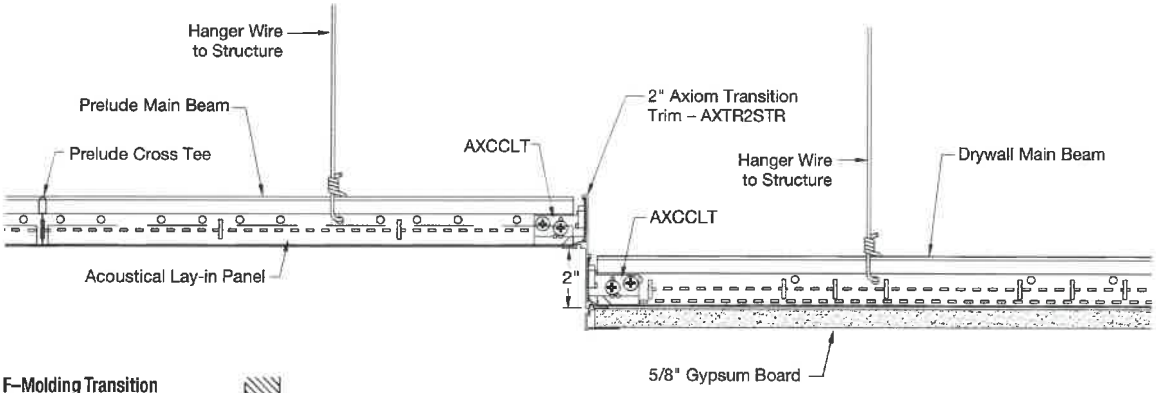
Flush Steel Transition



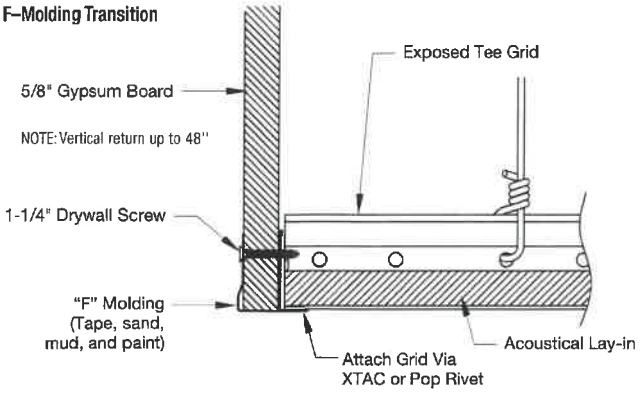
Axiom® Flush Transition



2" Axiom® Transition – Elevation Change (Available 1" – 10")



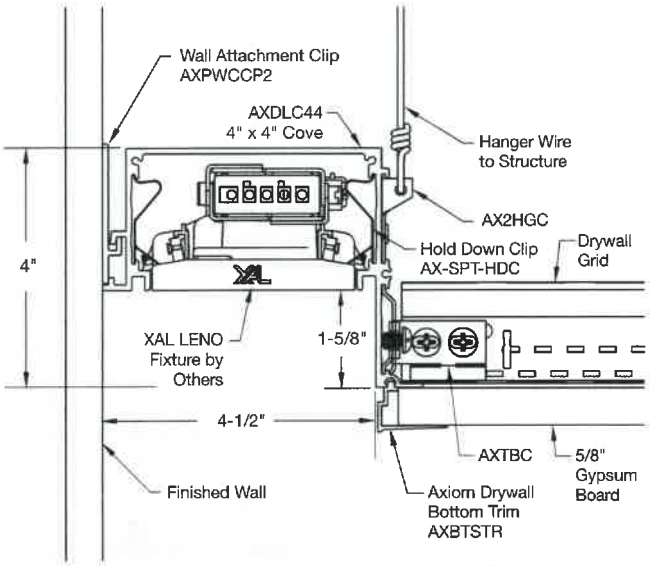
F–Molding Transition



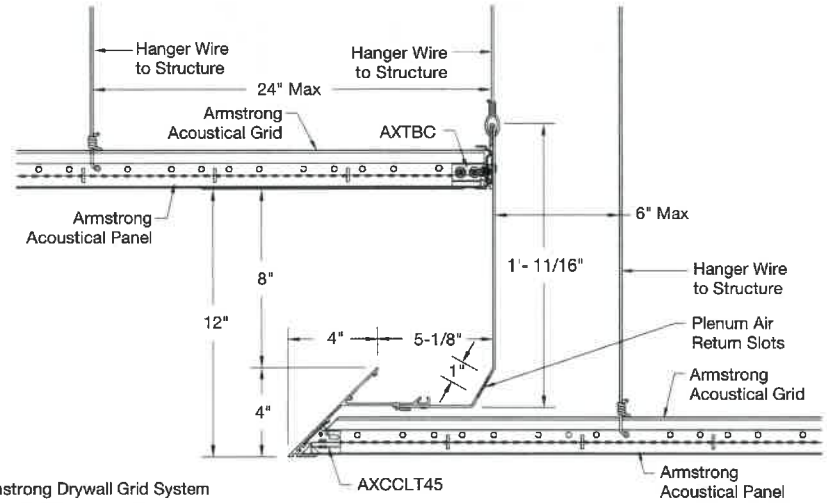
NOTE: Refer to the Transition Moldings Data Page (BPCS-4307) and Axiom Transitions Data Page (BPCS-3530) to view full details.

LIGHT COVES

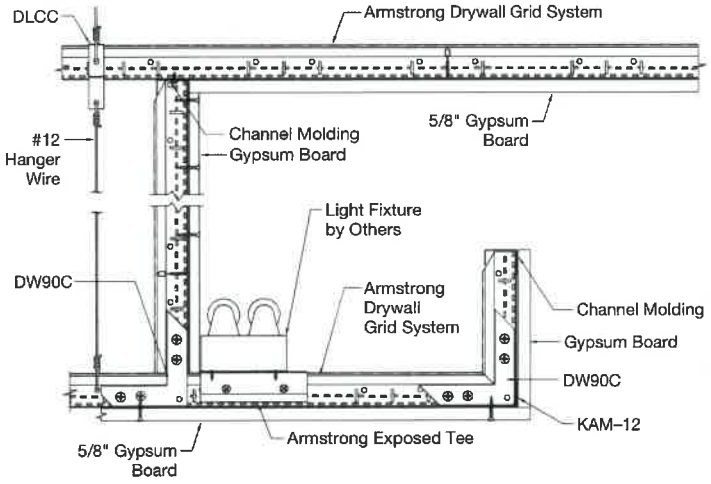
Axiom® Direct Light Cove



Axiom® Indirect Light Cove – Ceiling-to-Ceiling Knife Edge

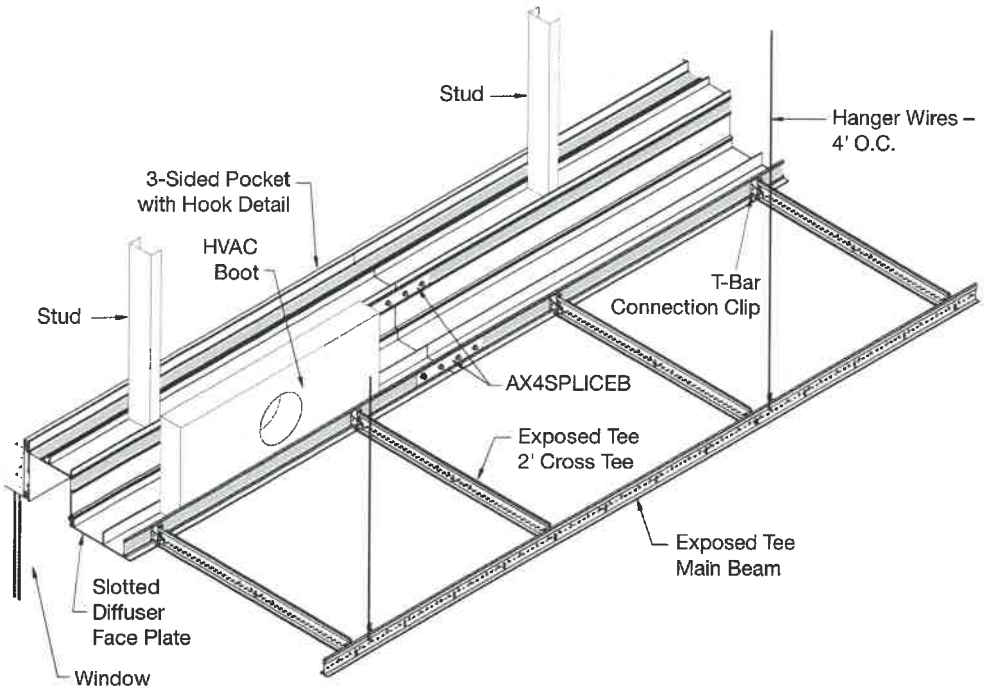


Drywall Light Cove

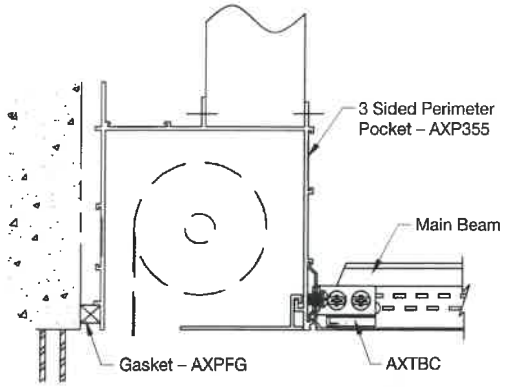


NOTE: Refer to the Axiom Direct Light Coves Data Page (BPCS-5065) and Drywall Grid System – Light Coves Data Page (BPCS-3081) to view full details.

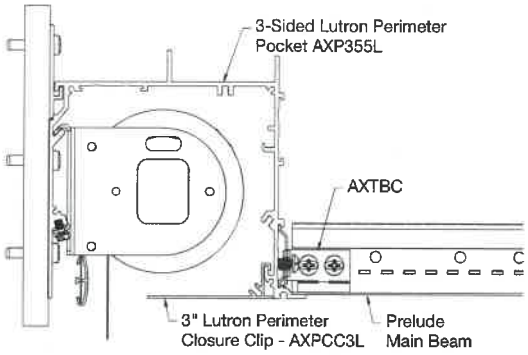
AXIOM® BUILDING PERIMETER SHADE POCKETS



Axiom® Building Perimeter Shade Pocket

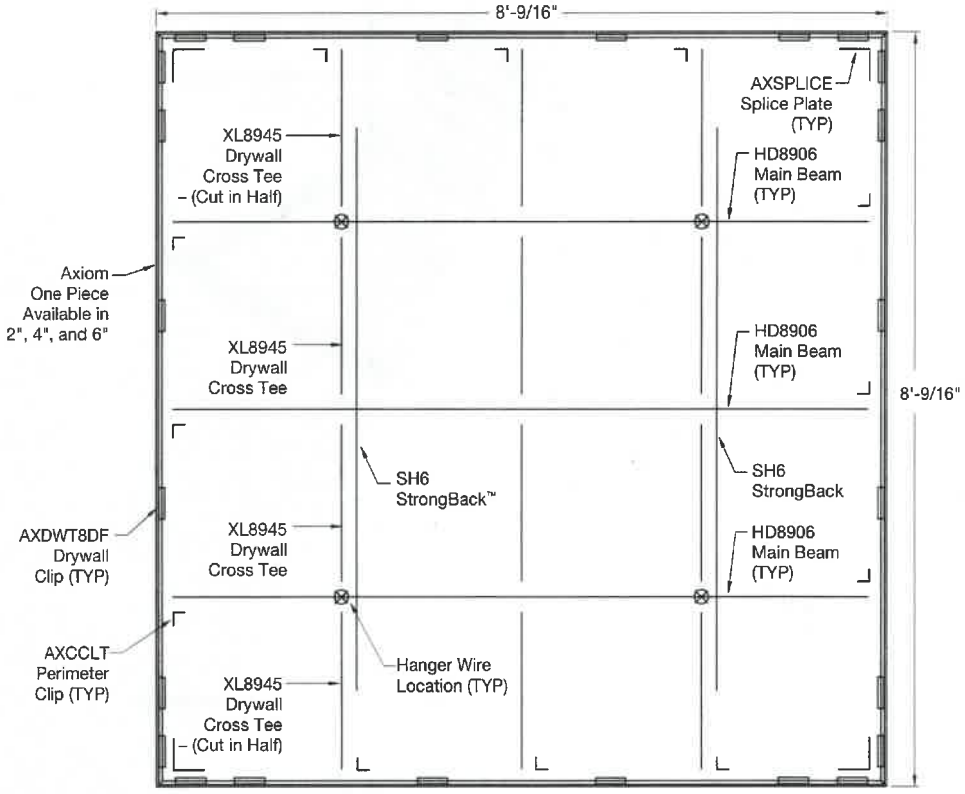


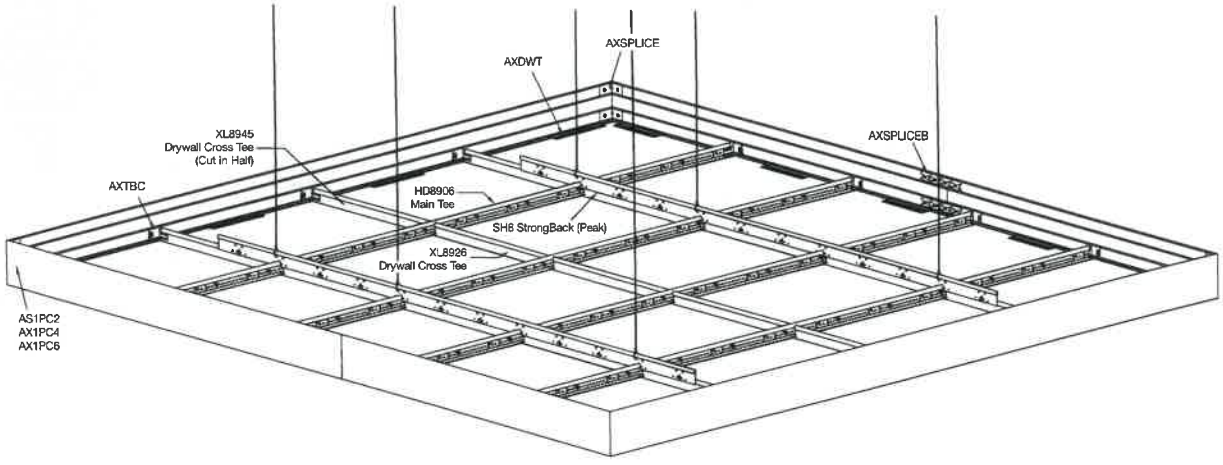
Axiom® Building Perimeter Shade Pocket – Lutron® compatible



NOTE: Refer to the Axiom Building Perimeter Shade Pockets Data Page (BPCS-3923) and Axiom Building Perimeter Shade Pockets – Lutron Compatible Data Page (BPCS-5159) to view full details.

FORMATIONS® DRYWALL CLOUD KITS





NOTE: Refer to the Formations Acoustical, Accent, Integrated Lighting, Drywall, & DC FlexZone™ Cloud Kits Brochure (BPCS-3708) to view full details.

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- Real time selection and technical information
- Contacts – reps, where to buy, how to install
- Submittal pages
- Perimeter and CAD renderings

These drawings show typical conditions in which the Armstrong product depicted is installed. They are not a substitute for an architect's or engineer's plan and do not reflect the unique requirements of local building codes, laws, statutes, ordinances, rules and regulations (legal requirements) that may be applicable for a particular installation.

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Engineering data included provided by outside engineering company.

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Drywall Accessories

BPCS-3539
Drywall Grid Systems for Flat Applications

BPCS-3540
Drywall Grid Systems for Curved Applications

BPCS-3541
Stucco/Plaster Grid Systems

BPCS-3542
Synthetic Stucco Grid Systems

BPCS-3950
QuikStix Drywall Wall Liner System

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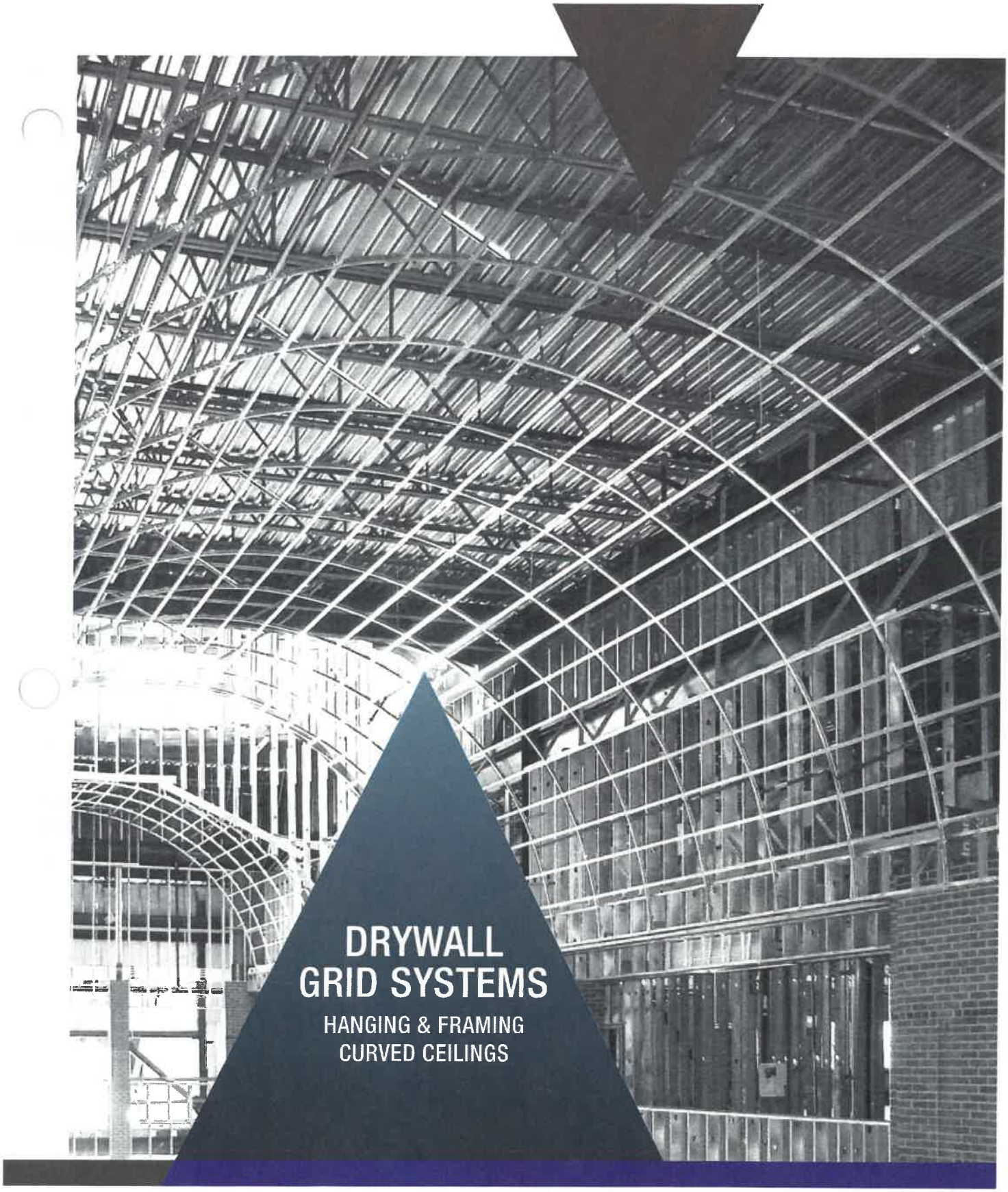
BPCS-3590-217



DRYWALL GRID SYSTEMS

HANGING & FRAMING CURVED CEILINGS

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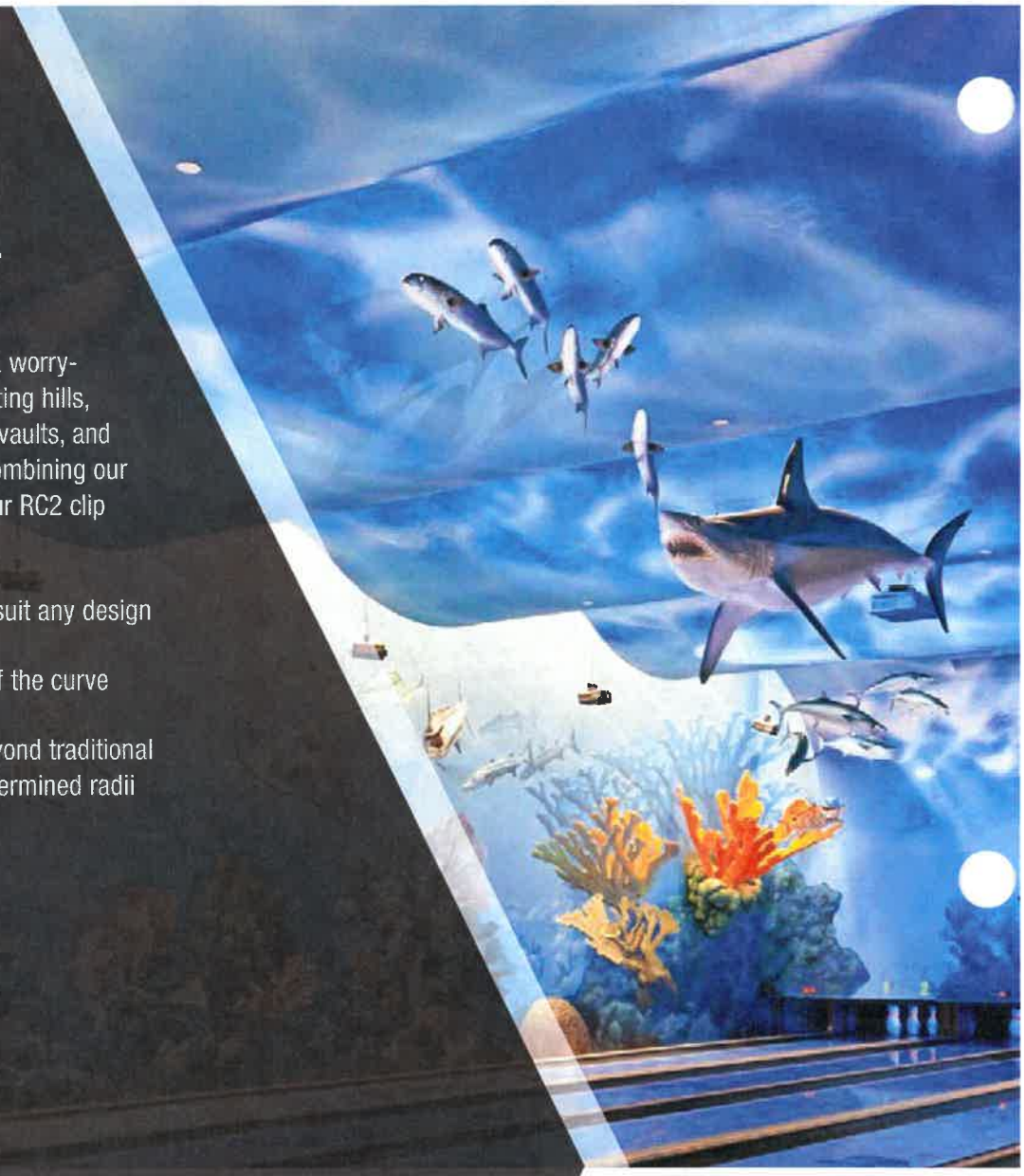
CEILING SOLUTIONS



FASTER. EASIER. BETTER.

Armstrong Ceilings offers a worry-free approach to incorporating hills, valleys, undulating waves, vaults, and domes into your design. Combining our faceted main beam with our RC2 clip allows you to:

- ▶ Create custom radii to suit any design
- ▶ Have ultimate control of the curve
- ▶ Expand your design beyond traditional pre-selected or pre-determined radii

DRYWALL Grid Systems

Code Compliance You Can Trust

Meets:

- ASTM C635
- ASTM C645
- ASTM C840
- ASTM C754
- City of LA – RR 25348
- International Building Code, Continuous Membrane, One Level. Per Section 25.210 single level drywall ceilings do not require lateral bracing when walls are more than 50 feet apart. When walls are more than 50 feet apart, the ceiling should be examined for bracing requirements
- IBC categories D, E and F single layer drywall ceilings are exempt from lateral force bracing requirements, regardless of room size.
- Consult local codes for specific requirements.

Performance

- **PeakForm®** patented profile increases strength and stability for improved performance during installation
- **SuperLock™** 2 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

DRYWALL GRID SYSTEMS

TABLE OF CONTENTS

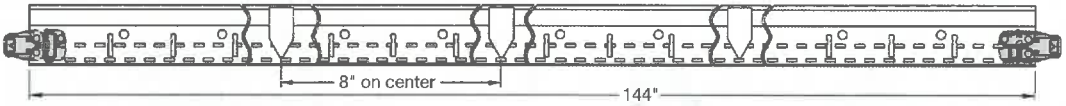
- **Faceted main beam** – pre-notched main beam to simplify assembly of curved sections; all notched locations along main beam require installation of RC2 clip

  HD8906F08 – Prenotched 8" O.C.
  HD8906F16 – Prenotched 16" O.C.
- **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 Hot dipped galvanized coating** – corrosion resistance
- **G90 Hot dipped galvanized coating** – superior corrosion resistance for exterior applications (HD8906F08 and HD8906F16 not available in G90 coating)
- **Cross tee spacing:**
  24" O.C. for 5/8" drywall
  16" O.C. for 1/2" drywall
  8" O.C. for tight radius

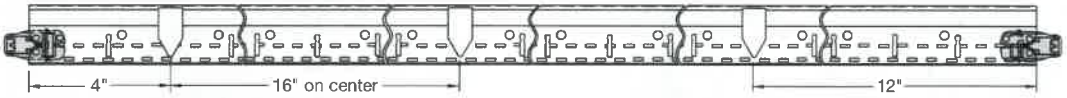
COMPONENTS

FACETED MAIN BEAM

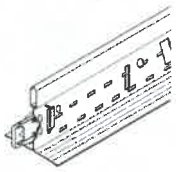
HD8906F08 – Faceted 8" O.C. Use for radius 15' or less



HD8906F16 – Faceted 16" O.C. Use for radius over 15' (Directional Main Beam)

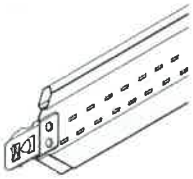


MAIN BEAMS

Item Number	Length	Face Dimension	Profile Height	Duty Load	Fire Rated	Routs	Load Test Data (Lbs./LF) L/360 wires at 2'	3'	4'	L/240 wires at 2'	3'	4'	Perspective
HD8906 HD8906G90 HD8906HRC	144"	1-1/2"	1-11/16"	Heavy Duty	Yes	51 routs – starting 2-1/4" from each end†	95.5	43.19	18.66	143.0	57.3	28.14	
HD8906F08* HD8906F16*	144"	1-1/2"	1-11/16"	–	No	HD8906F08 51 Routs HD8906F16 42 Routs starting 2-1/4" from each end†			12.3			18.4	

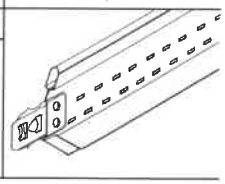
* Tested flat per ASTM C635 with RC2 clips at each faceted location
† Type "F" fixture compatible

CROSS TEES

Item Number	Length	Face Dimension	Profile Height	Fire Rated	Routs	Load Test Data (Lbs./LF) L/360 wires at			L/240 wires at			Perspective
						72"			72"			
XL8965	72"	1-1/2"	1-1/2"	No	6 routs – starting 24" from each end†	4.58			6.87			
						50"			50"			
XL8947P XL8947PG90	50"	1-1/2"	1-1/2"	Yes	8 routs – starting 10" from each end†	12.79			19.5			
						2'	3'	4'	2'	3'	4'	
XL8945P XL8945PG90 XL8945HRC	48"	1-1/2"	1-1/2"	Yes	9 routs – center rout and starting 10" from each end†			14.27			22.5	
XL7936G90	36"	1-1/2"	1-1/2"	No	none		33.13			50		

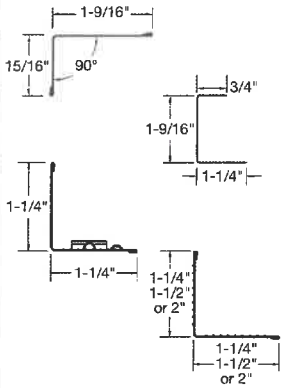
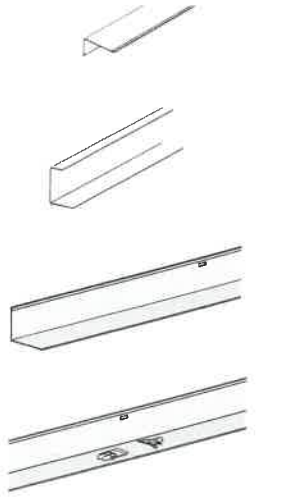
† Type "F" fixture compatible

CROSS TEES

Item Number	Length	Face Dimension	Profile Height	Fire Rated	Routs	Load Test Data (Lbs./LF) L/360 wires at 2'	L/360 wires at 3'	L/360 wires at 4'	L/240 wires at 2'	L/240 wires at 3'	L/240 wires at 4'	Perspective
XL8926 XL8926**G90**	24"	1-1/2"	1-1/2"	Yes	3 routs – center rout and 10" from each end†		90.25			158.0		

† Type "F" fixture compatible

WALL MOLDING

Item Number	Length	Description	Profile	Perspective
7858	144"	Reverse Angle Molding nominal 1-9/16" x 15/16"		
7838	120"	Unhemmed Channel Molding nominal 3/4" x 1-9/16" x 1-1/4"		
KAM10	120"	Knurled Angle Molding nominal 1-1/4" x 1-1/4" - 25g		
KAM12 KAM12**G90** KAM12**HRC**	144"	Knurled Angle Molding nominal 1-1/4" x 1-1/4" - 25g		
KAM1510 KAM1512 KAM151020 KAM151020**G90** KAM151020**EQ**	120" 144"	Knurled Angle Molding nominal 1-1/2" x 1-1/2" 20 gage 22 gage (KAM1510 & KAM1512 - 25g.; KAM151020 - 20g.; KAM151020G90 - 20g; KAM151020EQ - 22g)		
KAM21020 KAM21025 KAM21020**EQ**	120" 144"	Knurled Angle Molding nominal 2" x 2" (20 gage) (KAM21020 - 20g.; KAM21025 - 25g.; KAM21020EQ 22g) 22 gage		
LAM12 LAM12**G90** LAM12**HRC**	144"	Locking Angle Molding nominal 1-1/4" x 1-1/4"		

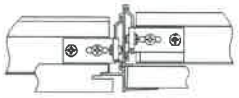
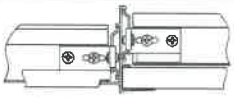
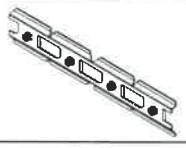
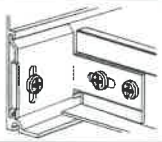
CORROSION PREVENTION

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

NOTE: High Recycled Content (HRC) grid items are available as a special order.

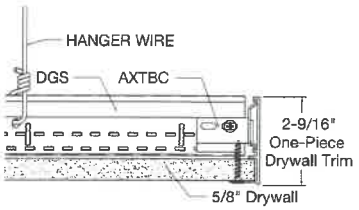
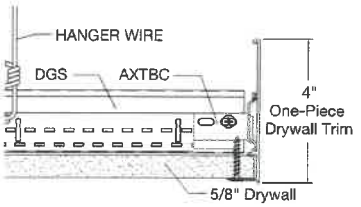
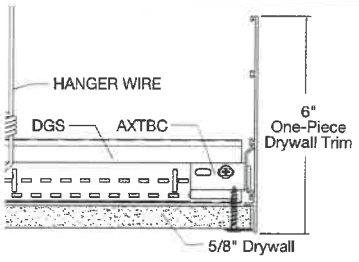
AXIOM® TRANSITIONS TRIM

Material: Extruded aluminum, alloy 6063

Item Number	Length/Item Description	Dimensions	
AXTRVESTR	Straight Transition for Vector®	120 x 2-9/16 x 1-11/16"	 Axiom® – Transitions with Vector® panel to drywall perimeter (AXTRVESTR)
AXTRTECUR	Curved Transition for Tegular	120 x 2-9/16 x 1-11/16"	 Axiom® – Transitions with Tegular panel to drywall perimeter (AXTRTESTR, AXTRTECUR)
AXTR2STR	2" Straight Transition	120 x 2 x 1-1/2"	
AXTR2CUR	2" Curved Transition	120 x 2 x 1-1/2"	
AXTR4STR	4" Straight Transition	120 x 4 x 1-1/2"	
AXTR4CUR	4" Curved Transition	120 x 4 x 1-1/2"	
AXTR6STR	6" Straight Transition	120 x 6 x 1-1/2"	
AXTR6CUR	6" Curved Transition	120 x 6 x 1-1/2"	
AXTR8STR	8" Straight Transition	120 x 8 x 1-1/2"	
AX4SPLICEB	Splice Plate	–	
AXTBC	T-Bar Connector Clip	–	
AXBTSTR	Drywall Bottom Trim	120 x 1-1/8 x 27/32"	

AXIOM® ONE-PIECE DRYWALL TRIM

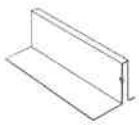
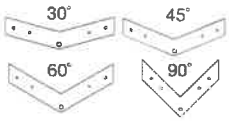
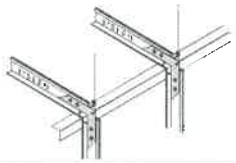
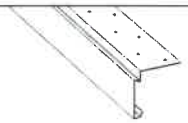
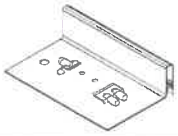
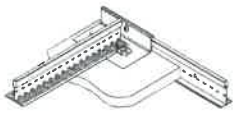
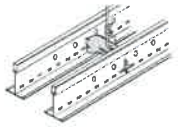
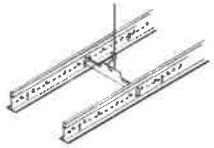
Material: Commercial-quality, hot dipped galvanized steel

Item Number	Length/ Item Description	
AX1PC2STR	2.5" One-Piece Straight Drywall Trim	
AX1PC2CUR	2.5" One-Piece Curved Drywall Trim	
AX1PC4STR	4" One-Piece Straight Drywall Trim	
AX1PC4CUR	4" One-Piece Curved Drywall Trim	
AX1PC6STR	6" One-Piece Straight Drywall Trim	
AX1PC6CUR	6" One-Piece Curved Drywall Trim	

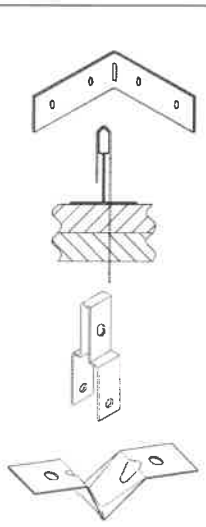
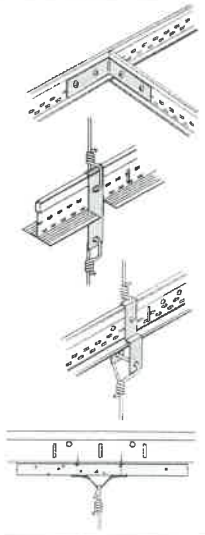
ACCESSORIES

DRYWALL GRID ACCESSORIES

A variety of drywall grid accessories are available to provide problem-solving solutions that save time, labor, and money.
For a complete list of accessories, request submittal BPCS-3082.

Item Number	Quantity	Description	Perspective	Application
DWACS	100	**Drywall Attachment Clip** facilitates transition from drywall to acoustical ceiling; locks under bulb of grid section to prevent upward movement and provide secure attachment surface on one side of exposed grid.		
DW30C DW45C DW60C DW90C	250 250 250 250	30-, 45-, 60- and 90-degree **Drywall Angle Clips** are used to create positive and secure angles for drywall and ceiling installations on either main beams or cross tees.		
TT10	30	**Partition Top Trim** is used to finish the top of a drywall partition for a continuous drywall/acoustical ceiling interface.		
DW58LT	125	**DW58LT-Transition Clip for 5/8" Drywall with Locking Tabs**; facilitates transition from drywall to acoustical ceiling; one-sided hold-down clip; eliminates need for drywall bead. Locking tabs provide secure location for DGS tees.		
DW50LT	125	**DW50LT-Transition Clip for 1/2" Drywall with Locking Tabs**; facilitates transition from drywall to acoustical ceiling; one-sided hold-down clip; eliminates the need for a drywall bead. Locking tabs provide secure location for DGS tees.		
MBAC	70	**Main Beam Adapter Clip** attaches to web of grid section; provides larger surface for screw attachment; used as a hold-down clip for thin material (metal or plastic lay-in panels); fastens drywall track to underside of exposed grid with lay-in panels, leaving grid face free of screw holes.		
MBSC2	200	**Main Beam Spacer Clip** (2" in length) is used to space two parallel main beams 2" O.C. for air supply or return.		
GSC9 GSC12 GSC16	100 100 100	**Adjustable Grid Spacer Clip** is used to space two parallel main beams for light fixtures, air diffusers, etc.; allows for 1/4" adjustments with three different clips.		

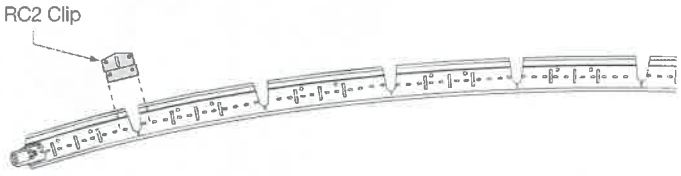
DRYWALL GRID ACCESSORIES (CONTINUED)

Item Number	Quantity	Description	Perspective	Application
XTAC	100	**Cross Tee Adapter Clip – is used to attach field cut cross tees** to main beams		
DDC	250	**Double Drywall Clip** to hang suspension system below existing 1-1/2" grid face, transferring weight directly to hanger wire; may be used to preserve the fire rating of an existing ceiling and to support heavy accessories; allows for double layer of 5/8" gypsum board.		
DLCC	250	**Direct Load Ceiling Clip** to hang suspension system below existing 15/16" grid face, transferring weight directly to hanger wire; may be used to preserve the fire rating of an existing ceiling and to support heavy accessories.		
DWC	250	**Drywall Clip** allows for a "second" ceiling to be installed below a drywall ceiling; attach through installed drywall to supporting structure.		

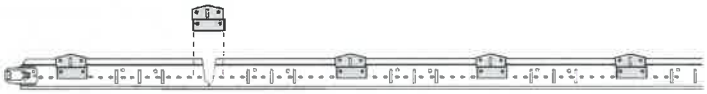
CURVED
MAIN BEAMS

CREATING CURVES

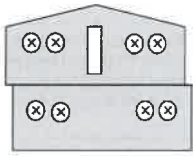
- Creating curved framing for drywall is easy and offers unlimited possibilities.
- Custom radii to suit any design installation.
- You control the curve.
- Not limited to a pre-selected or pre-determined curved radius.
- Full range of clips and accessories make installation easier than bending stud and track.



Radius and drywall thickness will determine on-center spacing of cuts. Refer to "Establishing An Arc" on page 9 for creating a curved template.

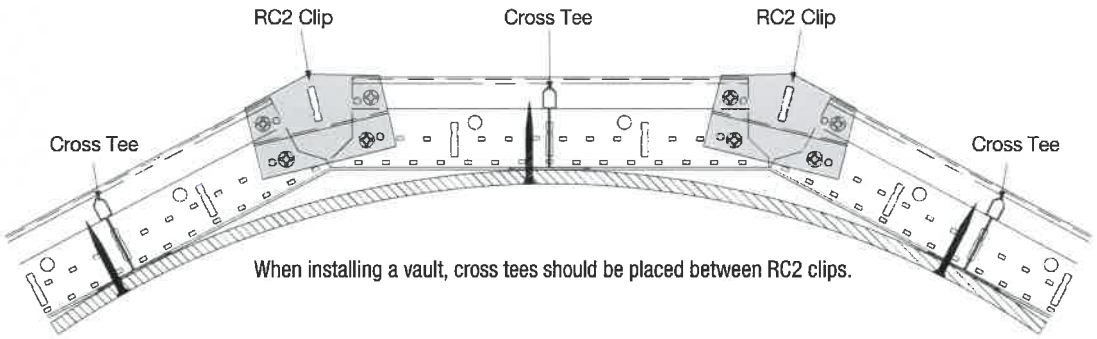


RC2 Clip must be installed at all knockout locations when used to frame a flat or curved ceiling.

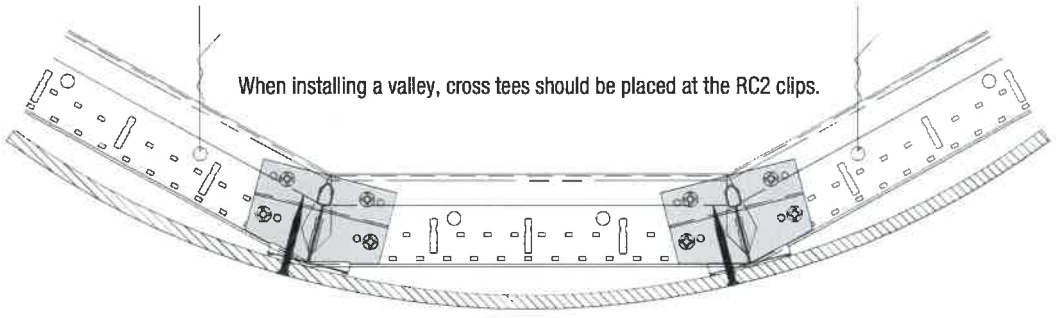


Install RC2 clip using four screws per clips.

RC2 Clip is used to secure the main beam at the desired angle in curved ceiling with rout for installing cross tees. Refer to "Making a Template" on page 9.



When installing a vault, cross tees should be placed between RC2 clips.



When installing a valley, cross tees should be placed at the RC2 clips.

ESTABLISHING AN ARC

How to draw a radius on a template (plywood, gypsum board, etc.)

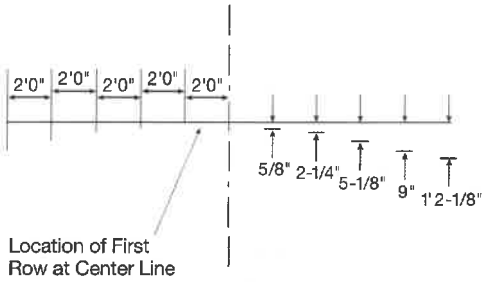
1 Establish a center line.

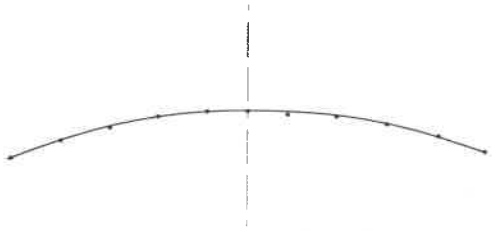
2 Mark 2' increments on line perpendicular to center line.

3 At 2' marks, identify points of arc below perpendicular line (maintain consistent spacing of point). See radius charts on page 20.

4 Connect points to form a smooth arc.

Example: 43' arc using chart on page 16.





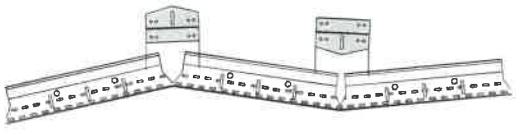
COMPLETING THE TEMPLATE – OPTION 1

1 Cut along the arc and remove section of template

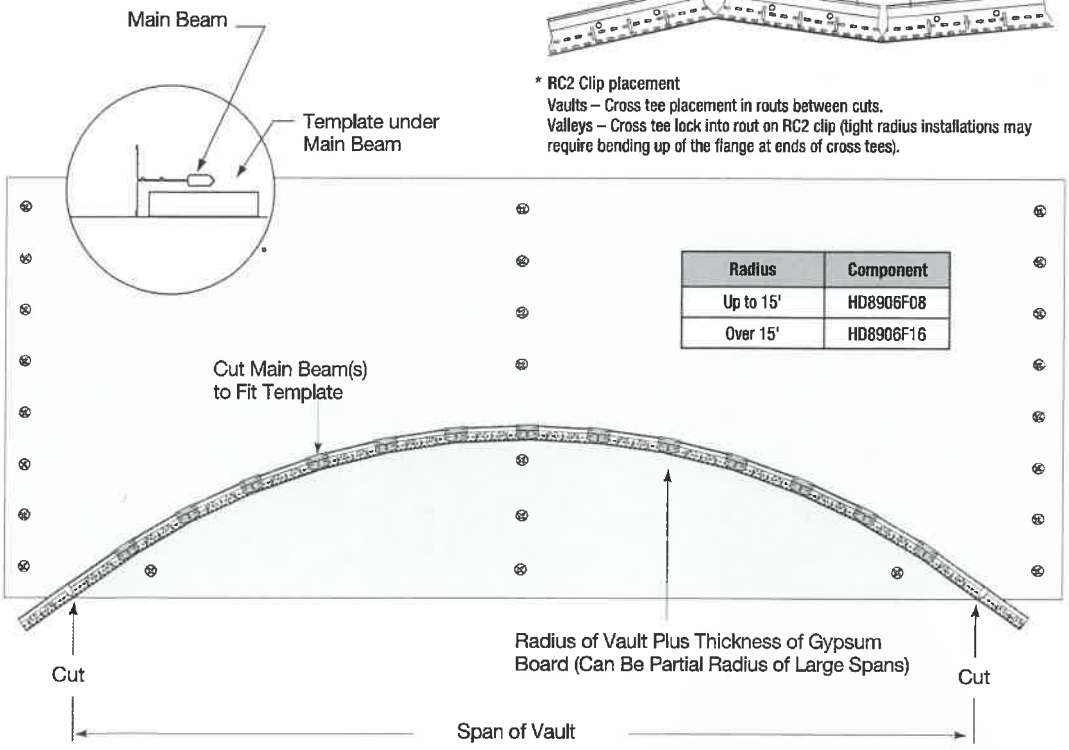
2 Cut main beam as required and position along the cut radius on the template (use the chart on page 20).

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.



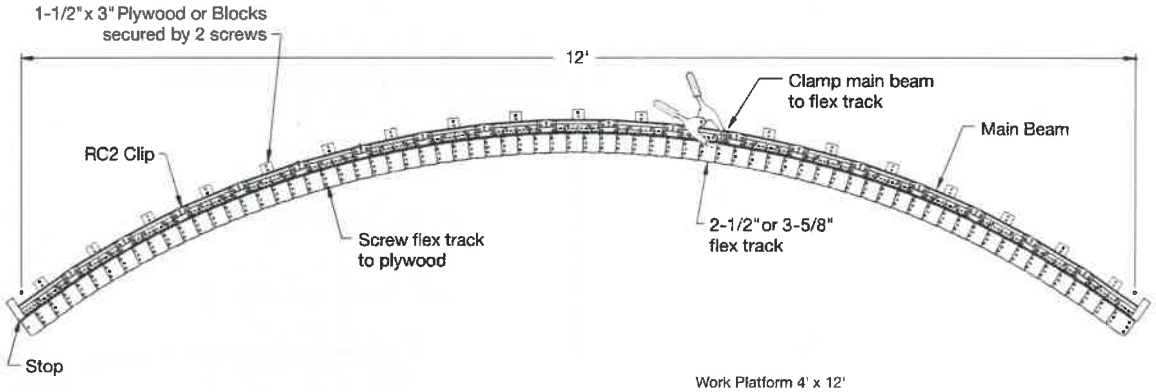
* RC2 Clip placement
Vaults – Cross tee placement in routs between cuts.
Valleys – Cross tee lock into rout on RC2 clip (tight radius installations may require bending up of the flange at ends of cross tees).

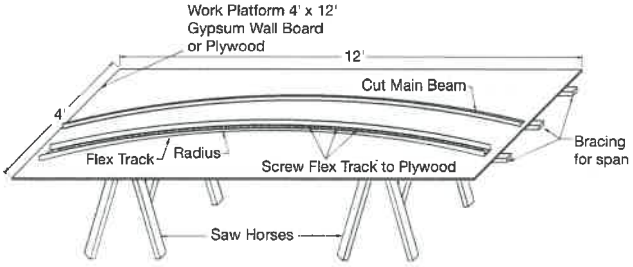


Radius	Component
Up to 15'	HD8906F08
Over 15'	HD8906F16

MAKING A TEMPLATE

COMPLETING THE TEMPLATE – OPTION 2



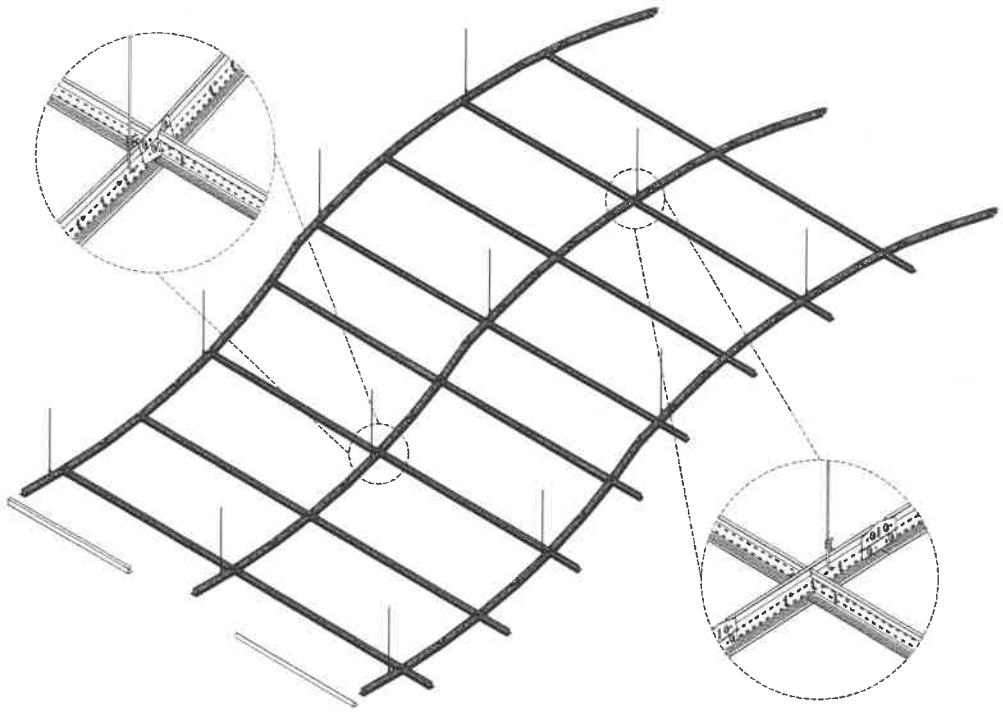


1. Draw radius on board.
2. Screw flex track to board along radius line.
3. Cut main beams as required and position along the flex track on the template.
4. Screw RC2 clips to faceted main beam at all knockout locations.
5. On the template, mark a rout location reference point to maintain consistent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

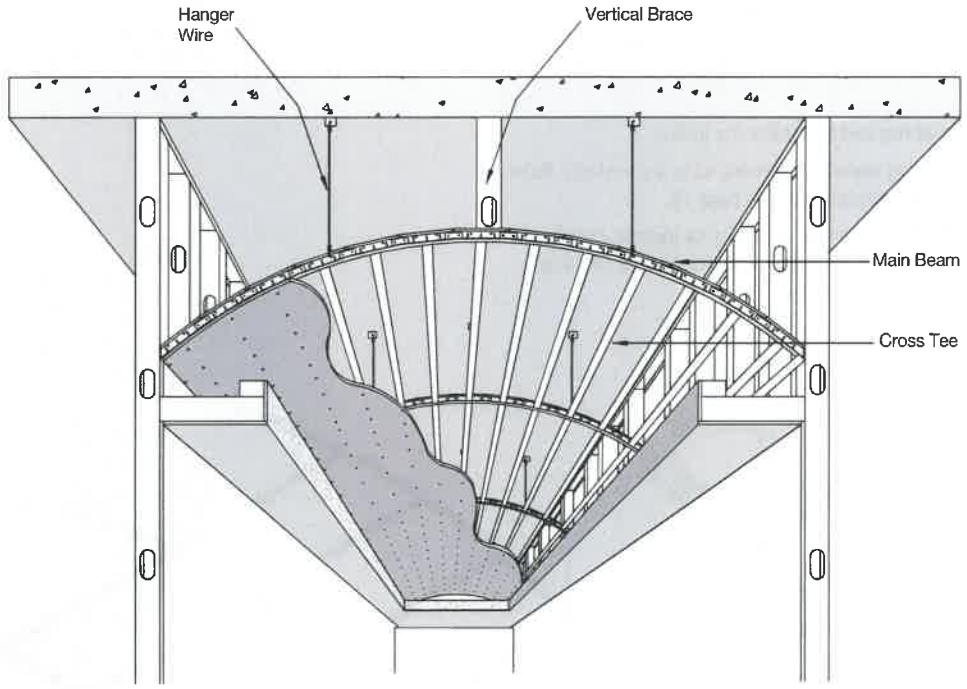
WORKING WITH VAULTS

1. Hanger wires must be minimum 12 gauge and spaced along the main beams not more than 4' on-center for gypsum board construction and not more than 3' on-center for plaster work (spaced as required to support load).
2. Add vertical braces as required to stabilize the frame.
3. Thickness of the sheeting material is determined by its plasticity. Refer to table titled "Drywall Bending Radius" on page 19.
4. For vaults, space the main beams 4' on-center for gypsum board construction and 3' on center for plaster. Angle or channel molding is used to frame the ends of the structure.

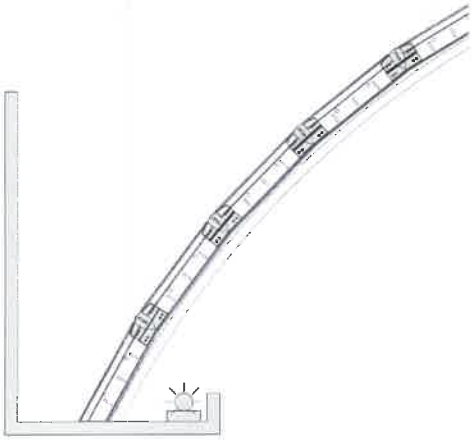


ARCHES AND BARREL VAULTS

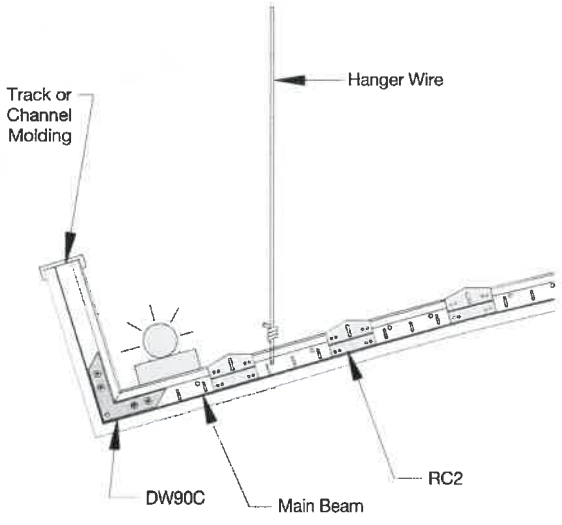
BARREL VAULT



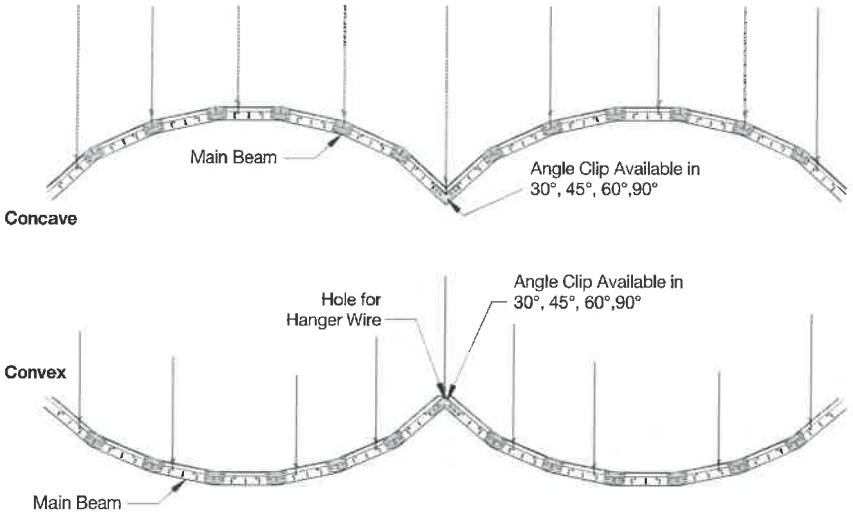
VAULT WITH PERIMETER LIGHT COVE



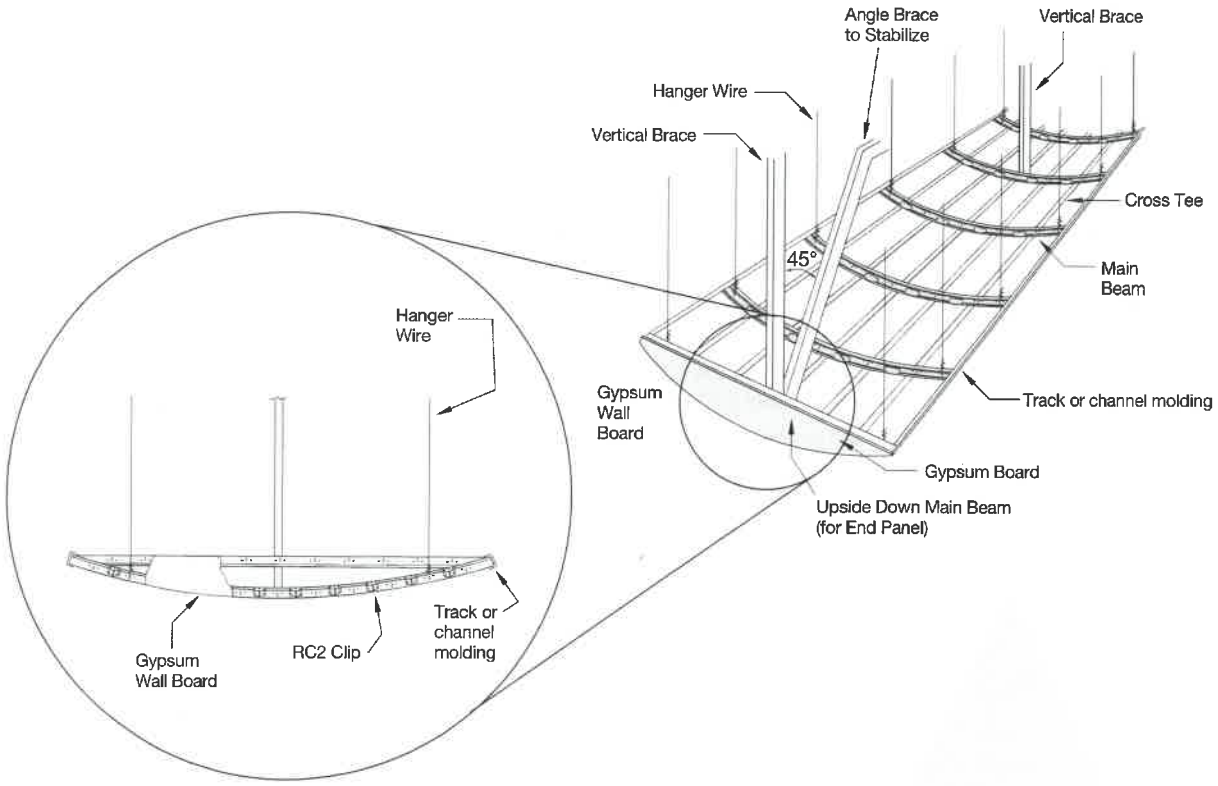
FLOATING VAULT



DOUBLE BARREL VAULT



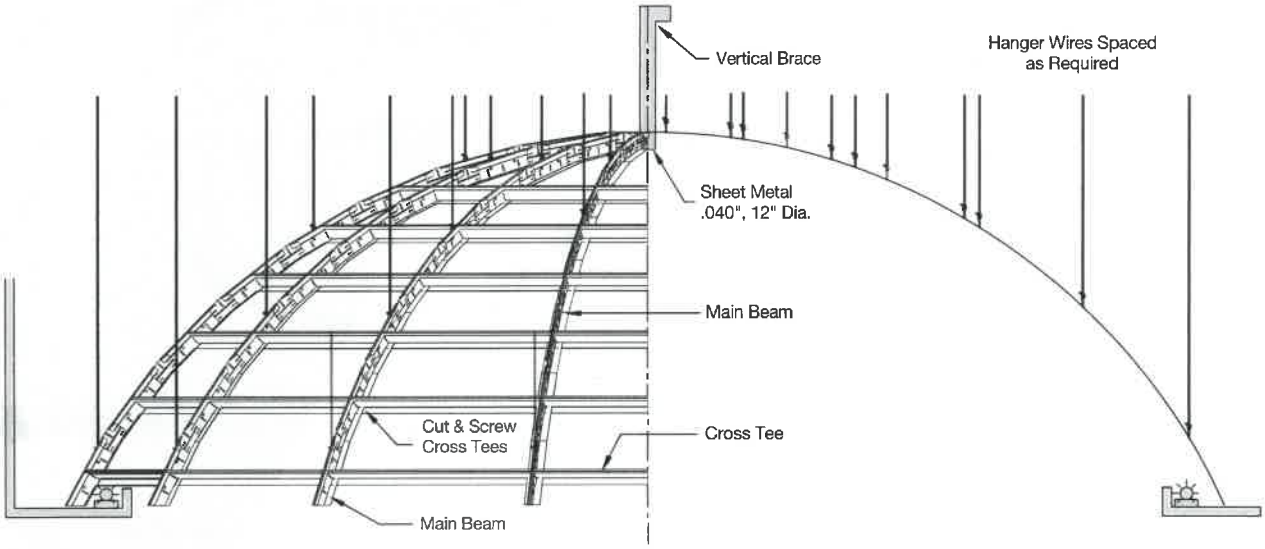
CEILING CLOUD



DOMES

WORKING WITH DOMES

Domes, like arches, have many variable characteristics that make each design unique. With a suspended drywall grid system, you can easily create the desired look of domes ranging from simple to complex.



1 Determine the starting point at the top and bottom of the dome.

2 Prepare a sheet metal disk or donut for the top of the dome. The disk should be one to two feet in diameter and should be fabricated from steel with a thickness of at least 25-gauge thickness. Note that the center of the dome may need to be open to receive an electrical box, pole, or some other architectural detail. Refer to "Options for Top of Dome" on page 17.

3 Prepare a ring for the base of the dome from rolled angle or channel.

4 Attach curved main beams to the disk at the top of the dome and to the ring at the bottom with sharp point pan or wafer head screw (by others).

5 Mains should be spaced no greater than 4' on-center (measured at the bottom ring). Install main beams 2' on-center for a radius of 15' or less. (Refer to Radius Chart on page 22.)

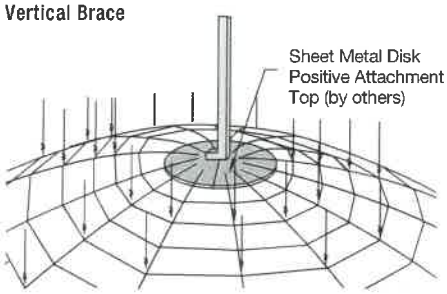
6 Use cross tees cut to the appropriate length and screwed to the flange of the main beams to complete the dome frame structure.

7 Cross tees are not required near the top of the dome when the space between mains becomes less than 16".

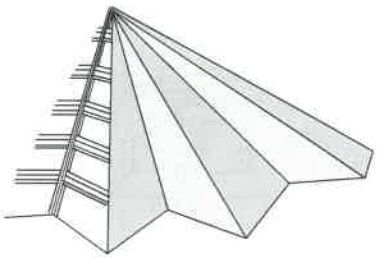
8 The sheathing must be cut into pie shaped sections and screw attached to the framework.

OPTIONS FOR TOP OF DOME

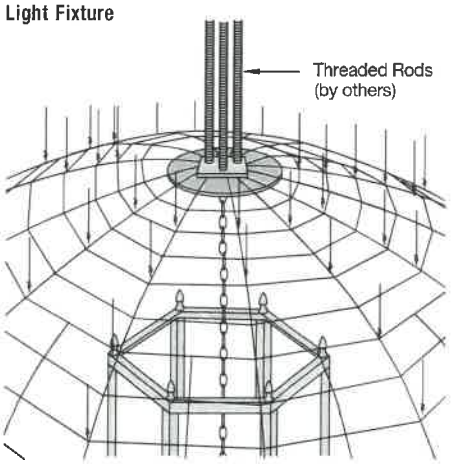
Vertical Brace



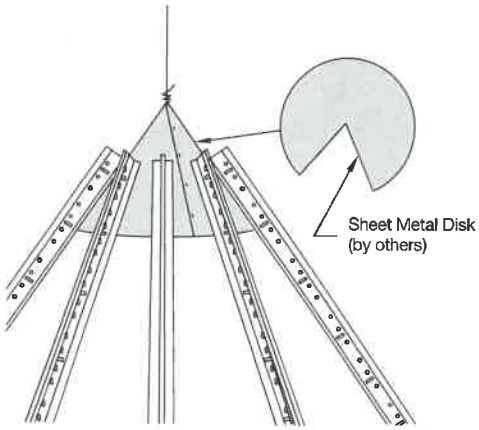
Folded Plate Dome



Light Fixture

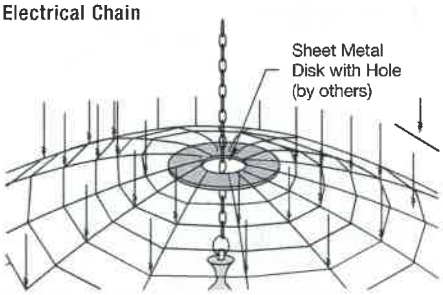


Cone

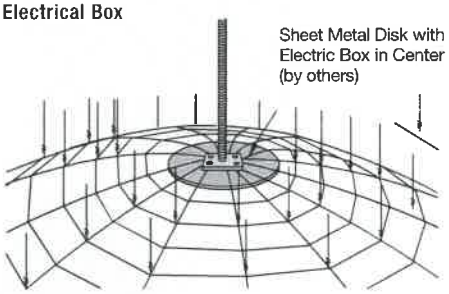


COMPONENTS

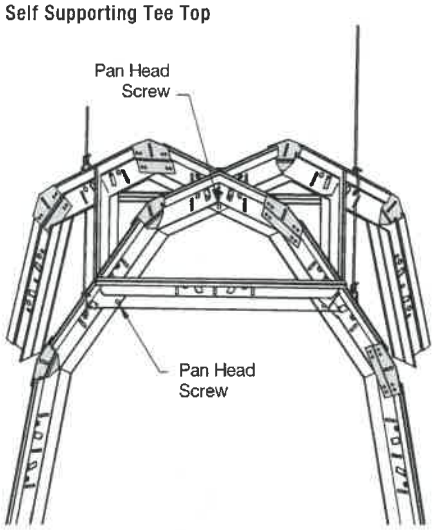
Electrical Chain



Electrical Box

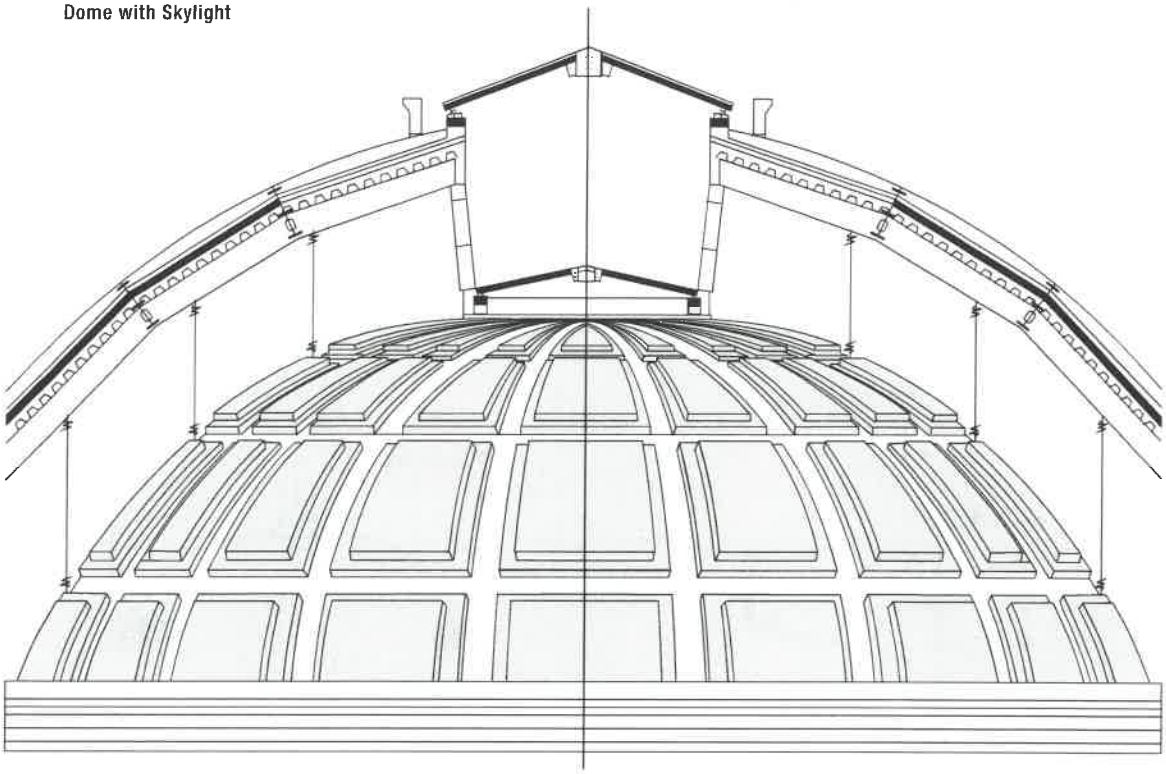


Self Supporting Tee Top

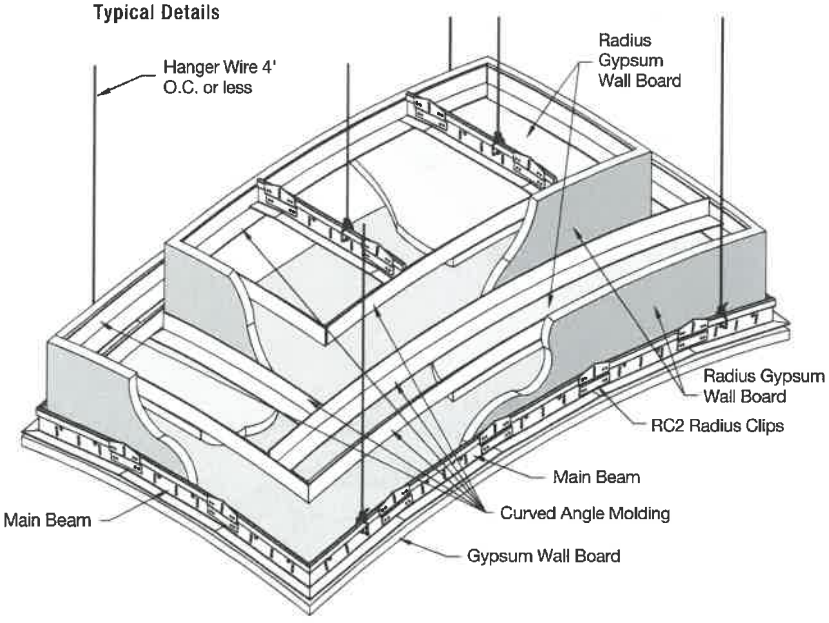


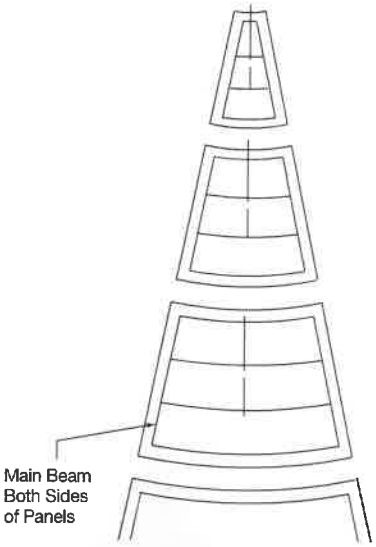
DOMES

Dome with Skylight



Typical Details

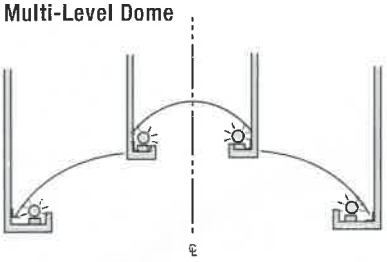




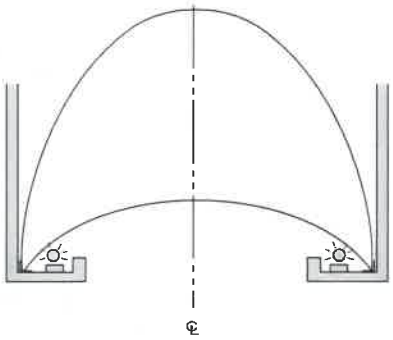
See page 15 for Bending Radius of gypsum board.

OTHER DOMES

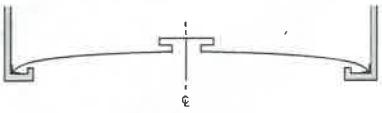
Multi-Level Dome



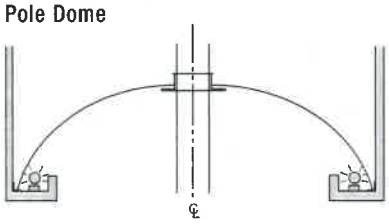
Egg or Elliptical Dome



Saucer Dome Up

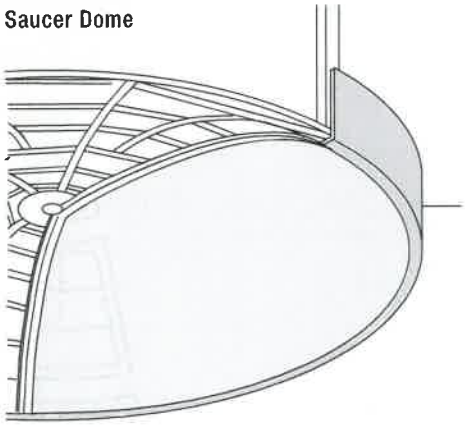


Pole Dome

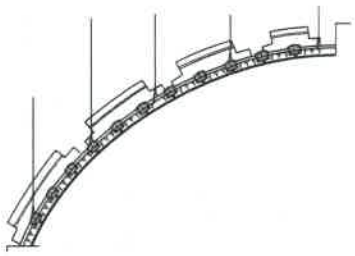


Saucer Dome Down

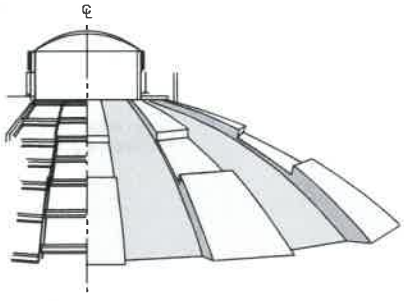
Saucer Dome



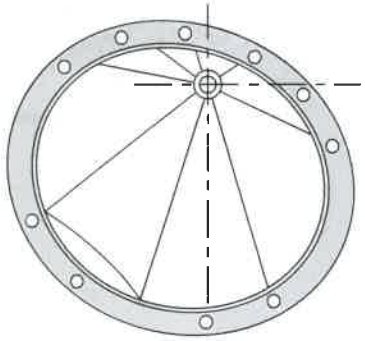
Step Up Dome



Checker Board Dome
(step down)



Offset 2 way Radius Dome
Column Ring Made from a Metal Angle



DRYWALL BENDING RADIUS

Drywall Bending Radii

Material	Minimum Radius (dry)	Maximum Cross Tee Spacing (dry)	Minimum Radius (wet)	Maximum Cross Tee Spacing (wet)	Water Required Per Panel (oz.)
1/4" Hi-flex Gypsum	32"	9"	20" concave 14" convex	8" concave 6" convex	
1/4" Gypsum	5'	8"	2'	6"	30 ounces
3/8" Gypsum	7-1/2"		3'	8"	35 ounces
1/2" Gypsum	20'	16"	4'	12"	45 ounces
5/8" Gypsum	28'	24"			

NOTE: Refer to gypsum wallboard manufacturer for additional information.

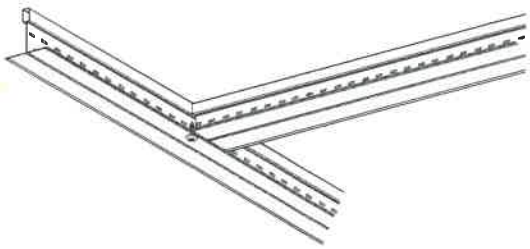
If required, apply water to the side of the panel that will be in compression. Apply the water uniformly over the surface of the boards. Stack moistened boards on a flat surface and cover with plastic sheeting. Allow water to soak into the panels for at least 1 hour before application to the frame. Allow installed panels to dry for 24 hours before finishing.

CONTROL JOINTS

Please refer to ASTM C840 Section 20.3.3 - 20.4 for control requirements.

Ceiling expansion joints are installed to separate the metal suspension system when expansion joints occur in buildings, when 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. Expansion and control joints look similar but perform different functions.

Non-Module Cut and Screw Application, Metal-to-Metal



NOTE: Refer to the Transition Moldings Data Page (BPCS-4307) and Axiom® – Transitions Data Page (BPCS-3530) to view full details.

RADIUS
IN FEET

RADIUS DIMENSIONS

Radius Dimension

2' Increments from Center Line	10' 0"	11' 0"	12' 0"	13' 0"	14' 0"	15' 0"	16' 0"	17' 0"	18' 0"	19' 0"	20' 0"	21' 0"	22' 0"	23' 0"	24' 0"
2'	2"	2-1/4"	2"	1-7/8"	1-3/4"	1-5/8"	1-1/2"	1-1/2"	1-3/8"	1-1/4"	1-1/4"	1-1/8"	1-1/8"	1-1/8"	1"
4'	10"	9-1/8"	8-1/4"	7-5/8"	7"	6-1/2"	6-1/8"	5-3/4"	5-3/8"	5-1/8"	4-7/8"	4-5/8"	4-3/8"	4-1/4"	4"
6'	2'0"	1'9-3/8"	1'7-3/8"	1'5-5/8"	1'4-1/4"	1'3"	1'2"	1'1-1/8"	1'0-3/8"	11-3/4"	11-1/8"	10-1/2"	10"	9-5/8"	9-1/8"
8'	4'0"	3'5-5/8"	3'0-3/4"	2'9-1/8"	2'6-1/8"	2'3-3/4"	2'1-3/4"	2'0"	1'10-1/2"	1'9-1/4"	1'8-1/8"	1'7"	1'6-1/8"	1'5-1/4"	1'4-1/2"
	25' 0"	26' 0"	27' 0"	28' 0"	29' 0"	30' 0"	31' 0"	32' 0"	33' 0"	34' 0"	35' 0"	36' 0"	37' 0"	38' 0"	39' 0"
2'	1"	1"	7/8"	7/8"	7/8"	7/8"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	5/8"	5/8"	5/8"
4'	3-7/8"	3-3/4"	35/8"	3-1/2"	3-3/8"	3-1/4"	3-1/8"	3"	3"	2-7/8"	2-3/4"	2-3/4"	2-5/8"	2-5/8"	2-1/2"
6'	8-3/4"	8-1/2"	81/2"	7-7/8"	7-1/2"	7-1/4"	7-1/8"	6-7/8"	6-5/8"	6-3/8"	6-1/4"	6-1/8"	5-7/8"	5-3/4"	5-5/8"
8'	1'3-3/4"	1'3-1/8"	1'25/8"	1'2"	1'2-1/2"	1'1-1/8"	1'0-5/8"	1'0-1/4"	11-1/2"	11-1/2"	11-1/8"	10-7/8"	10-1/2"	10-1/4"	10"
	40' 0"	41' 0"	42' 0"	43' 0"	44' 0"	45' 0"	46' 0"	47' 0"	48' 0"	49' 0"	50' 0"	51' 0"	52' 0"	53' 0"	54' 0"
2'	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
4'	2-3/8"	2-3/8"	2-3/8"	2-1/4"	2-1/8"	2-1/8"	2-1/8"	2-1/8"	2"	2"	2"	1-7/8"	1-7/8"	1-3/4"	1-3/4"
6'	5-1/2"	5-3/8"	5-1/4"	5-1/8"	5"	4-7/8"	4-3/4"	4-5/8"	4-1/2"	4-1/2"	4-3/8"	4-1/4"	4-1/4"	4-1/4"	4"
8'	9-3/4"	9-1/2"	9-1/4"	9"	8-7/8"	8-5/8"	8-1/2"	8-1/4 "	8-1/8"	7-7/8"	7-3/4"	7-5/8"	7-1/2"	7-3/8"	7-1/8"
	55' 0"	56' 0"	57' 0"	58' 0"	59' 0"	60' 0"	61' 0"	62' 0"	63' 0"	64' 0"	65' 0"	66' 0"	67' 0"	68' 0"	69' 0"
2'	1/2"	1/2"	1/2"	1/2"	1/2"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
4'	1-3/4"	1-3/4"	1-3/4"	1-3/4"	1-5/8"	1-5/8"	1-5/8"	1-5/8"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-3/8"
6'	4"	3-7/8"	3-7/8"	3-3/4"	3-3/4"	3-5/8"	3-5/8"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	3-1/4"	3-1/4"	3-1/4"	3-1/8"
8'	7"	6-7/8"	6-3/4"	6-5/8"	6-5/8"	6-1/2"	6-3/8"	6-1/4"	6-1/8"	6"	6"	5-7/8"	5-3/4"	5-3/4"	5-5/8"
	70' 0"	71' 0"	72' 0"	73' 0"	74' 0"	75' 0"	76' 0"	77' 0"	78' 0"	79' 0"	80' 0"	81' 0"	82' 0"	83' 0"	84' 0"
2'	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
4'	1-3/8"	1-3/8"	1-3/8"	1-3/8"	1-3/8"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/8"
6'	3-1/8"	3-1/8"	3"	3"	3"	2-7/8"	2-7/8"	2-7/8"	2-3/4"	2-3/4"	2-3/4"	2-3/4"	2-5/8"	2-5/8"	2-5/8"
8'	5-1/2"	5-1/2"	5-3/8"	5-1/4"	5-1/4"	5-1/8"	5-1/8"	5"	5"	4-7/8"	4-7/8"	4-3/4"	4-3/4"	4-5/8"	4-5/8"
	85' 0"	86' 0"	87' 0"	88' 0"	89' 0"	90' 0"	91' 0"	92' 0"	93' 0"	94' 0"	95' 0"	96' 0"	97' 0"	98' 0"	99' 0"
2'	3/8"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
4'	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1"	1"	1"	1"	1"	1"
6'	2-5/8"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-3/8"	2-3/8"	2-3/8"	2-3/8"	2-3/8"	2-1/4"	2-1/4"	2-1/4"	2-1/4"	2-1/4"
8'	4-1/2"	4-1/2"	4-1/2"	4-3/8"	4-3/8"	4-1/4"	4-1/4"	4-1/4"	4-1/8"	4-1/8"	4-1/8"	4"	4"	4"	3-7/8"
	100' 0"	105' 0"	110' 0"	115' 0"	120' 0"	125' 0"	130' 0"	135' 0"	140' 0"	145' 0"	150' 0"	155' 0"	160' 0"	165' 0"	170' 0"
2'	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/8"	1/8"	1/8"
4'	1"	1"	7/8"	7/8"	7/8"	3/4"	3/4"	3/4"	3/4"	3/4"	5/8"	5/8"	5/8"	5/8"	5/8"
6'	2-1/4"	2-1/8"	2"	1-7/8"	1-7/8"	1-3/4"	1-3/4"	1-5/8"	1-5/8"	1-1/2"	1-1/2"	1-3/8"	1-3/8"	1-3/8"	1-1/4"
8'	3-7/8"	3-3/4"	3-1/2"	3-3/8"	3-1/4"	3-1/8"	3"	2-7/8"	2-3/4"	2-3/4"	2-5/8"	2-1/2"	2-3/8"	2-3/8"	2-1/4"
	175' 0"	180' 0"	185' 0"	190' 0"	195' 0"	200' 0"	210' 0"	220' 0"	230' 0"	240' 0"	250' 0"				
2'	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"				
4'	5/8"	5/8"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	3/8"	3/8"	3/8"				
6'	1-1/4"	1-1/4"	1-1/4"	1-1/8"	1-1/8"	1-1/8"	1"	1"	1"	7/8"	7/8"				
8'	2-1/4"	2-1/8"	2-1/8"	2"	2"	2"	1-7/8"	1-3/4"	1-5/8"	1-5/8"	1-1/2"				

Item Number	Length	Pcs/Ctn.	LF/Ctn.	Lbs./Ctn.	Area of ceiling completed by one carton 8" O.C.	16" O.C.	24" O.C.	36" O.C.	48" O.C.	50" O.C.	
DRYWALL/STUCCO GRID MAIN BEAM											
HD8901	144"	20	240	71			480	720	960	1000	sq.ft.
HD8906/HD8906**G90**	144"	12	144	53			288	432	576	600	sq.ft.
HD8906**F08**/HD8906**F16**	144"	12	144	53							sq.ft.
DRYWALL/STUCCO GRID 1-1/2" FACE CROSS TEES											
XL8965	72"	36	216	78	144	288	432				sq.ft.
XL8947P/XL8947**PG90****	50"	36	150	56	100	200	300				sq.ft.
XL8945P/XL8945**PG90**	48"	36	144	52	96	192	288				sq.ft.
XL7936**G90**	36"	36	108	39		144	216				sq.ft.
XL8926/XL8926**G90**	24"	36	72	26	48						sq.ft.

** Dimensions are nominal.

Item number	Length	Pcs/Ctn.	LF/Ctn.	Lbs./Ctn.
REVERSE MOLDINGS				
7857	120"	30	360	51
7858	120"	20	240	67
DRYWALL UNHEMMED CHANNEL MOLDING				
7838	120"	20	200	36
DRYWALL ANGLE MOLDING				
HD7801G90	120"	30	300	38
KAM-12	144"	30	360	31
KAM-10	120"	30	300	49
LAM-12	144"	30	360	31

Estimating Lineal Feet of Grid Based on Square Footage of Ceiling

On-Center Spacing of Component	Percent of Square Footage
8"	108%
12"	100%
16"	76%
20"	60%
24"	50%
30"	40%
36"	33%
48"	25%
60"	20%

Example calculation based on 5,100 SF ceiling:

Main beam at 48" O.C.
5,100 SF x .25 = 1,275 LF
1,275 LF ÷ 144 LF/Ctn = 9 cartons needed

Cross tee at 16" O.C.
5,100 SF x .76 = 3,876 LF
3,876 LF ÷ 144 LF/Ctn = 27 cartons needed

1 877 276 7876

Customer Service Representatives
7:45 a.m. to 5:00 p.m. EST
Monday through Friday

TechLine – Technical information, detail drawings, CAD design assistance, installation information, other technical services – 8:00 a.m. to 5:30 p.m. EST, Monday through Friday. FAX 1 800 572 8324
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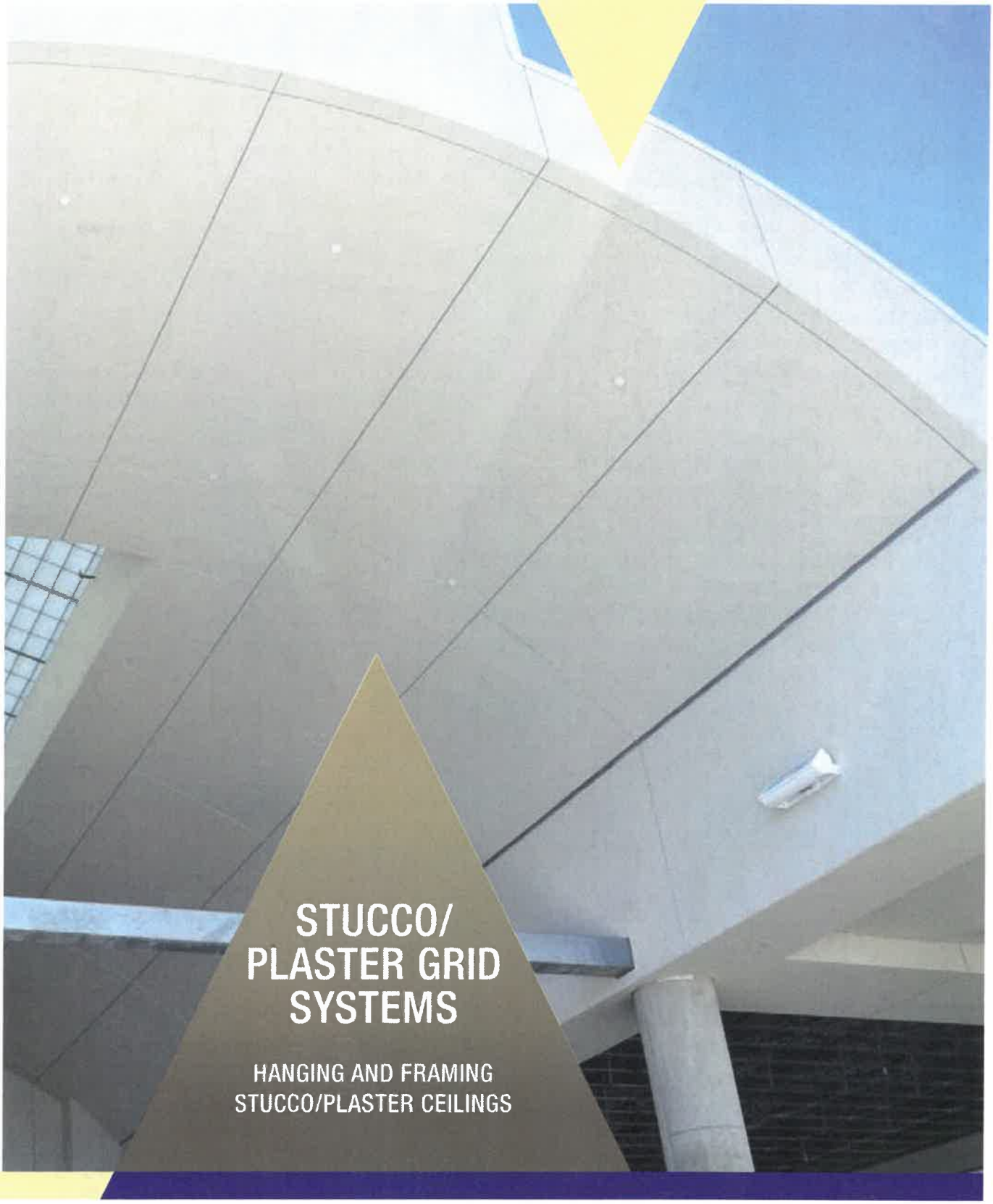
BPCS-3540-817



STUCCO/ PLASTER GRID SYSTEMS

HANGING AND FRAMING STUCCO/PLASTER 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.

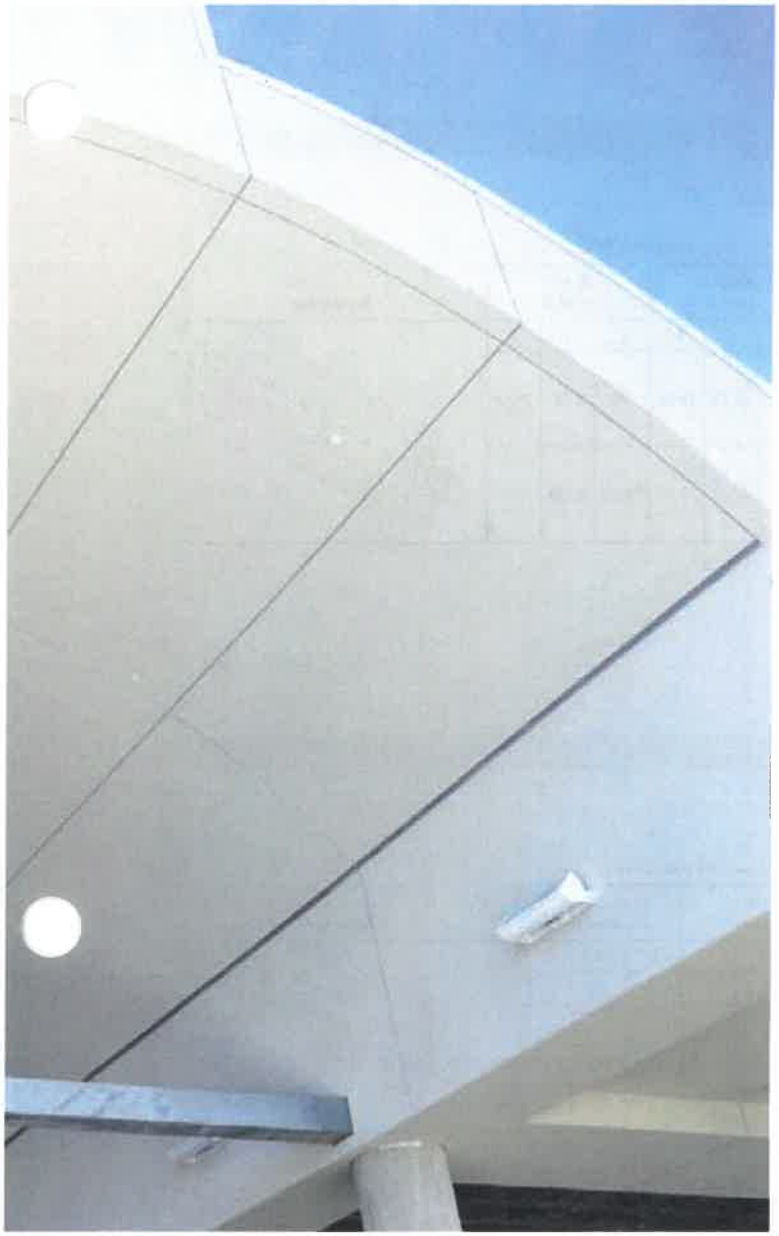
DRYWALL Grid Systems

Code Compliance You Can Trust

- Meets ASTM C645
- Meets ASTM C840
- Meets ASTM C841
- Meets ASTM C842
- Meets ASTM C926
- Meets ASTM C1063
- Meets ASTM C754
- ICC Evaluation Report Number ESR-1289
- City of LA – RR 25348
- Miami/Dade wind uplift – NOA #12 – 0314.05 – 03/17/15
- Miami/Dade Impact – NOA #12-0314.04 – 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



STUCCO/PLASTER GRID SYSTEMS

TABLE OF CONTENTS

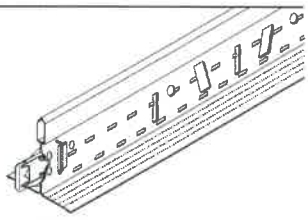
- **Rotary-stitched** – Greater torsional strength and stability
- **1-1/2" wide face** main beams and cross tees – Easy installation of screw applied gypsum wallboard
- **G90 hot dipped galvanized coating** – Superior corrosion resistance for exterior applications
- **Heavy-duty load rating** – Minimum 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

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.

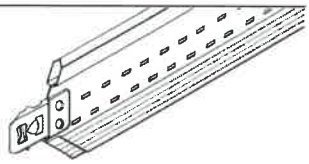
COMPONENTS

MAIN BEAMS

Item Number	Length	Face Dimension	Profile Height	Duty Load	Fire Rated	Routs	Load Test Data (Lbs./LF) L/360 wires at 2'	L/360 wires at 3'	L/360 wires at 4'	L/240 wires at 2'	L/240 wires at 3'	L/240 wires at 4'	Perspective
HD8906 HD8906G90 HD8906HRC	144"	1-1/2"	1-11/16"	Heavy Duty	Yes	51 routs – starting 2-1/4" from each end†	95.5	43.19	18.66	143	57.3	28.14	
SP135	135"	1-1/2"	1-11/16"	Heavy Duty	No	13-1/2" o.c. starting 6-3/4" from each end		43.19	18.66	139.85	52.59	28.71	

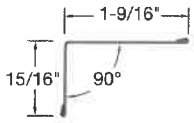
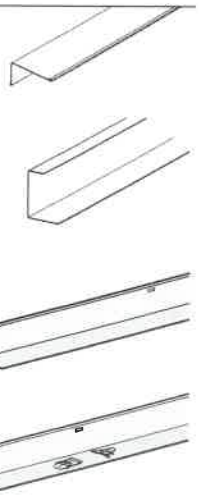
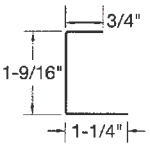
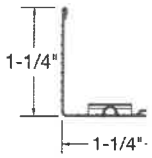
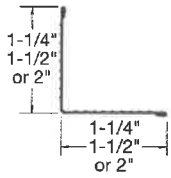
† Type "F" fixture compatible

CROSS TEES

Item Number	Length	Face Dimension	Profile Height	Fire Rated	Routs	Load Test Data (Lbs./LF) L/360 wires at 2'	L/360 wires at 3'	L/360 wires at 4'	L/240 wires at 2'	L/240 wires at 3'	L/240 wires at 4'	Perspective
XL7936G90	36"	1-1/2"	1-1/2"	No	none		31.3			50		
XL8926 XL8926G90	24"	1-1/2"	1-1/2"	Yes	3 routs – center rout and 10" from each end†	90.25				158		

Note: All items available in High Recycled Content (HRC) as special order.
† Type "F" fixture compatible

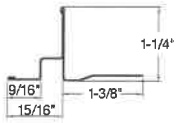
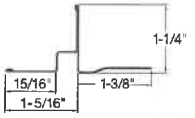
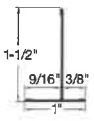
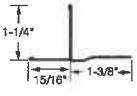
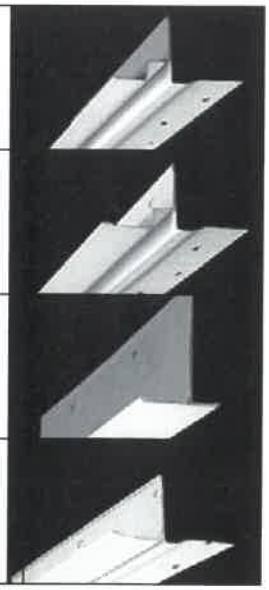
WALL MOLDING

Item Number	Length	Description	Profile	Perspective
7858	144"	Reverse Angle Molding nominal 1-9/16" x 15/16"		
7838	120"	Unhemmed Channel Molding nominal 3/4" x 1-9/16" x 1-1/4"		
KAM10	120"	Knurled Angle Molding nominal 1-1/4" x 1-1/4"		
KAM12 KAM12**G90** KAM12**HRC**	144"	Knurled Angle Molding nominal 1-1/4" x 1-1/4"		
KAM1510 KAM1512 KAM151020 KAM151020**G90** KAM151020**EQ**	120" 144"	Knurled Angle Molding nominal 1-1/2" x 1-1/2" (KAM1510 & KAM1512 - 25g.; KAM151020 - 20g.; KAM151020G90 - 20g; KAM151020EQ - 22g)		
KAM21020 KAM21025 KAM21020**EQ**	120" 144"	Knurled Angle Molding nominal 2" x 2" (20 gage) (KAM21020 - 20g.; KAM21025 - 25g.; KAM21020EQ 22g)		
LAM12 LAM12**G90** LAM12**HRC**	144"	Locking Angle Molding nominal 1-1/4" x 1-1/4"		

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

ACOUSTICAL TO DRYWALL TRANSITION MOLDING

Transition moldings make it easier to detail and build a wide variety of acoustical to drywall transitions.

Item Number	Description	Profile
7901	9/16" Shadow Reveal Transition Molding	
7902	15/16" Shadow Reveal Transition Molding	
7903	1" Flush T Transition Molding	
7904	15/16" Flush Transition Molding	
		

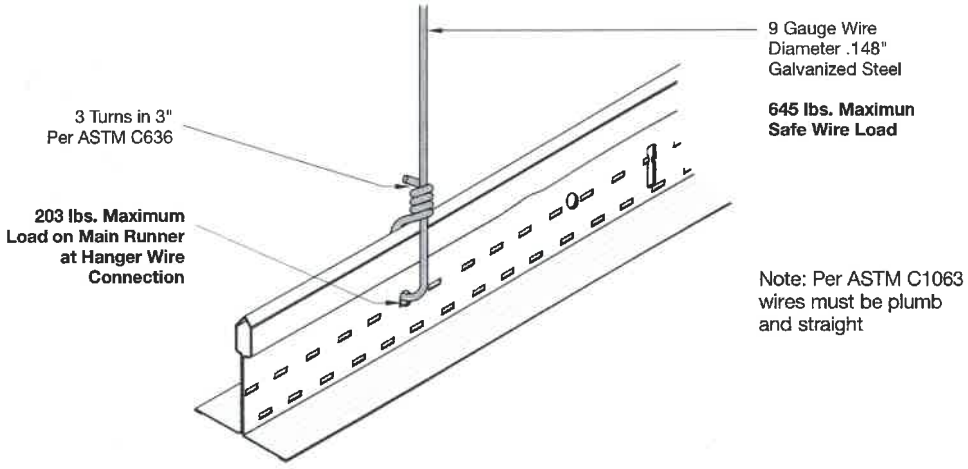
MOLDINGS continued and WIRE LOAD

ACOUSTICAL TO DRYWALL TRANSITION MOLDING (continued)

Item Number	Description	Profile
7905	9/16" Flush Transition Molding	
7906	"F" Vertical Transition Molding	
7907	9/16" Tegular Transition Molding	
7908	15/16" Tegular Transition Molding	

WIRE LOAD DETAILS

9-Gauge Wire Breaking Strength and Technical Data



STUCCO/PLASTER GRID SUSPENSION INSTALLATION

1 Install the main beams with 9-gauge wires. Space main beams 36" on center. Hanger wire and compression post spacing as required for specific wind load and plenum depth.

2 Install 36" cross tee to required on-center spacing.

3 Isolation at perimeters is mandatory when installing any stucco system. Install perimeter channel molding at wall/ceiling junctures to support tees independent of walls. Use main beam at cut cross tee perimeters and galvanized track on main beam perimeters.

4 Install 3.4 Lb. 3/8" galvanized diamond mesh lath with wafer head sharp point screw to cross tees (use cadmium coated screws on exterior applications). Lath options:

a. 3/8", 3.4# flat rib diamond mesh lath 27" x 8'-0"

b. 3/8", 3.4# rib diamond mesh lath 27" x 8'-0"

c. 3/8", 3.4# high back rib diamond mesh lath 27" x 8'-0"

d. 3/8", 3.4# paper back diamond mesh lath 27" x 8'-0"

5 Expansion Joints – Installed in accordance with Metal Lath/Steel Framing Association Specifications/Standards.

6 Control Joints – Installed in accordance with MetalLath/Steel Framing Association Specifications Standards.

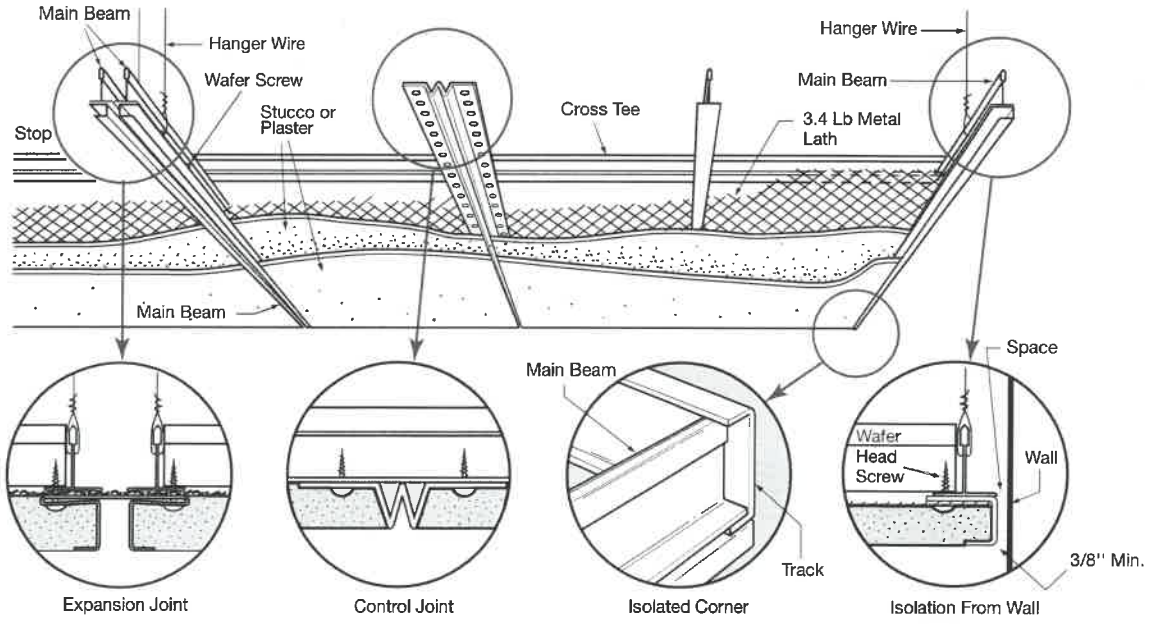
7 Plaster stops, grounds, and corner pieces are attached to system with wafer head screws and/or 18 gauge tie wire.

8 Plaster or stucco mixture and thickness to be in accordance with manufacturer's recommendations and applied:
ASTM C842 – For Gypsum Plaster
ASTM C926 – For Portland Cement-based Plaster.

9 For exterior application use steel studs for vertical bracing (see page 10 for wind load).

For further information, contact your local representative or TechLine at 877 276 7876.

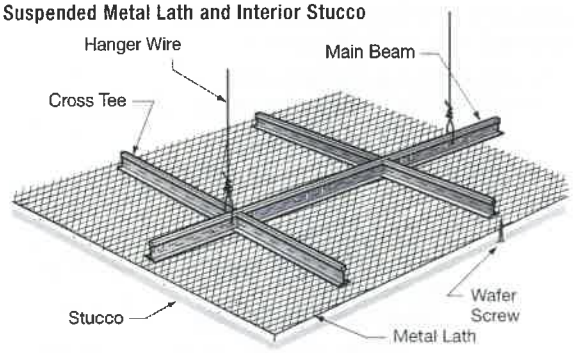
DETAILS OF STUCCO/PLASTER SYSTEMS



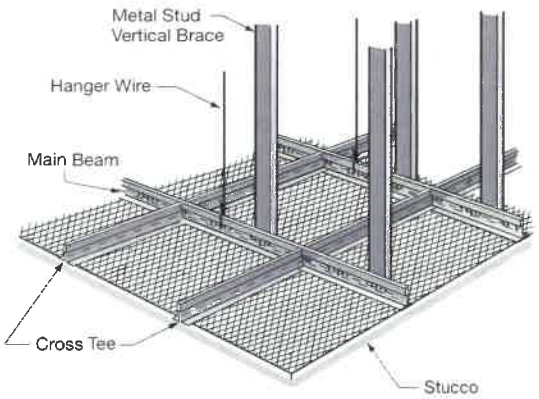
STUCCO/PLASTER DETAILS

DETAILS OF STUCCO/PLASTER SYSTEMS

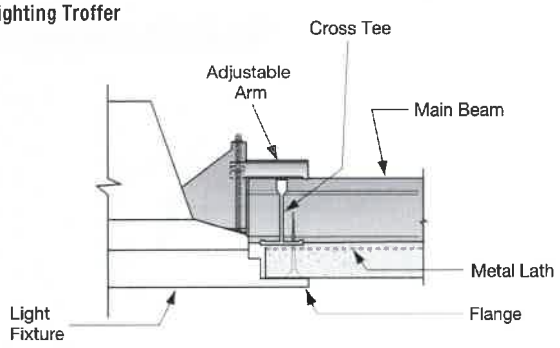
Suspended Metal Lath and Interior Stucco



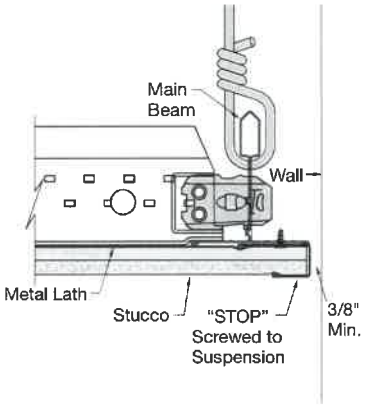
Exterior Wind Loaded Stucco



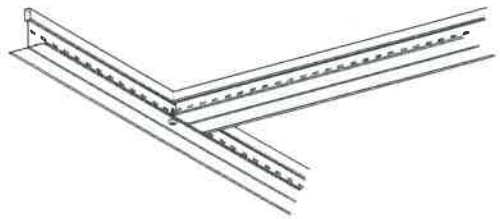
Lighting Troffer



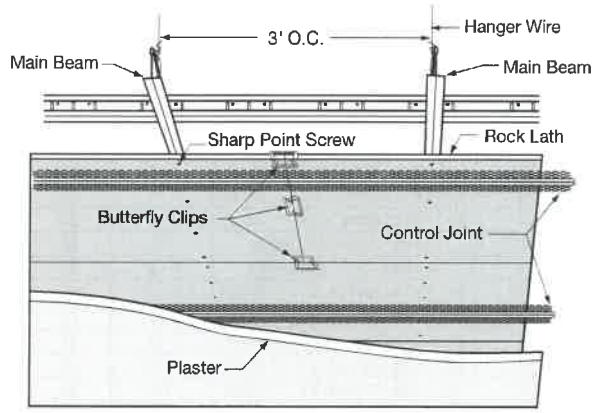
Stucco Perimeter Stop



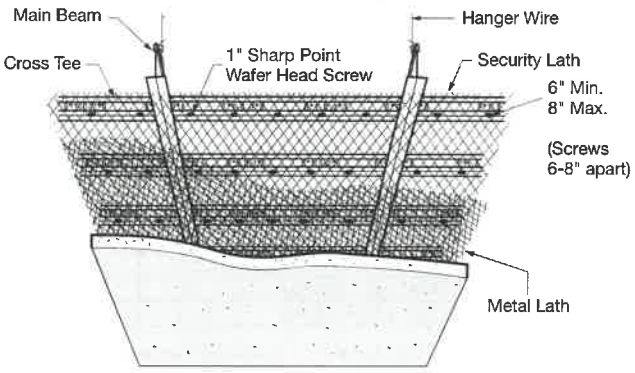
Non-Modular Cut and Screw



Rock Lath and Plaster



Security Metal Lath and Plaster



STUCCO SYSTEM EXTERIOR WIND LOAD & IMPACT RESISTANT CEILING DESIGN FOR NORTH AMERICA

Plenum Height (Ft - In)	Design Wind Velocity (MPH)	Design Wind Pressure (PSF)	Compression Post Size (Inch)	Compression Post Gauge (Ga. No.)	Membrane Substrate 3/8" Ribbed Sheet lath 3.4 Lbs/SQ.YD., Per ASTM C-847	Compression Post Spacing (ft.-in.)	Main Runner Spacing (Inch)	Cross Tee Spacing (Inch)	Hanger Wire Spacing (ft.-in.)	Cross Tee Length (Feet)	Compression Post Design Load (Lbs.)
0 ↓ 6' ***	15	0.507	2 1/2" CWN	20	3/8" 3.4 Lb Lathing & 3/4"-1" Stucco	2' -11"	48	13.5	4'	4	15
	30	2.027	2 1/2" CWN	20	3/8" 3.4 Lb Lathing & 3/4"-1" Stucco	2' - 9"	48	13.5	4'	4	38
	45	4.561	2 1/2" CWN	20	3/8" 3.4 Lb Lathing & 3/4"-1" Stucco	2' -11"	36	13.5	4'	3	62
	60	8.108	2 1/2" CWN	20	3/8" 3.4 Lb Lathing & 3/4"-1" Stucco	2' - 9"	36	13.5	4'	3	101
	90	18.24	2 1/2" CWN	20	3/8" 3.4 Lb Lathing & 3/4"-1" Stucco	2' - 5"	36	13.5	3'	3	199
	120	32.43	2 1/2" CWN	20	3/8" 3.4 Lb Lathing & 3/4"-1" Stucco	2' - 5"	24	13.5	2' - 6"	2	236
	140	44.15	2 1/2" CWN	18	3/8" 3.4 Lb Lathing & 3/4"-1" Stucco	2' - 3"	24	13.5	2' - 6"	2	301
	172	75	2 1/2" CSJ	18	See NOA 12-0314.05 Design	2'	36	13.5	2'	3	452
	172	75	2 1/2" CSJ	18	See NOA 12-0314.04 Design	2' - 6"	36	13.5	2' - 6"	3	565
6' 1" ↓ 10' 3" ****	15	0.507	2 1/2" CSJ	18	3/8" 3.4 Lb Lathing & 3/4"-1" Stucco	2' -11"	48	13.5	4'	4	15
	30	2.027	2 1/2" CSJ	18	3/8" 3.4 Lb Lathing & 3/4"-1" Stucco	2' - 9"	48	13.5	4'	4	38
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	120	32.43	2 1/2" CSJ	18	3/8" 3.4 Lb Lathing & 3/4"-1" Stucco	2-5	24	13.5	2' - 6"	2	236
	140	44.15	2 1/2" CWN	18	3/8" 3.4 Lb Lathing & 3/4"-1" Stucco	2-3	24	13.5	2' - 6"	2	301
	172	75	2 1/2" CSJ	18	See NOA 12-0314.05 Design	2'	36	13.5	2'	3	452
	172	75	2 1/2" CSJ	18	See NOA 12-0314.04 Design	2' - 6"	36	13.5	2' - 6"	3	565
10' 4" ↓ 15' 0" ****	*15	0.507	2 1/2" CSJ	18	3/8" 3.4 Lb Lathing & 3/4"-1" Stucco	2' -11"	48	13.5	4'	4	15
	*30	2.027	2 1/2" CSJ	18	3/8" 3.4 Lb Lathing & 3/4"-1" Stucco	2' - 9"	48	13.5	4'	4	38
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	*120	32.43	2 1/2" CSJ	18	3/8" 3.4 Lb Lathing & 3/4"-1" Stucco	2-5	24	13.5	2' - 6"	2	236
	*140	44.15	2 1/2" CWN	18	3/8" 3.4 Lb Lathing & 3/4"-1" Stucco	2-3	24	13.5	2' - 6"	2	301
	172	75	2 1/2" CSJ	18	See NOA 12-0314.05 Design	2'	36	13.5	2'	3	452
	172	75	2 1/2" CSJ	18	See NOA 12-0314.04 Design	2' - 6"	36	13.5	2' - 6"	3	565
15' 1" ↓ 20' 0" ****	**15	0.507	3 5/8" CSJ	18	3/8" 3.4 Lb Lathing & 3/4"-1" Stucco	2' -11"	48	13.5	4'	4	15
	**30	2.027	3 5/8" CSJ	18	3/8" 3.4 Lb Lathing & 3/4"-1" Stucco	2' - 9"	48	13.5	4'	4	38
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	172	75	3 5/8" CSJ	18	See NOA 12-0314.05 Design	2'	36	13.5	2'	3	452
	172	75	3 5/8" CSJ	18	See NOA 12-0314.04 Design	2' - 6"	36	13.5	2' - 6"	3	565

Ceiling System = SP135-G90 Main Runner 11.25 ft. / XL 7936-G90 Cross Runner 3 ft. / XL 8926-G90 Cross Runner 2 ft. / # 9 Ga. H.D.G. Hanger Wire

* Note 1-1/2" 16ga. U-Channel Bridging required at Mid Span for 10'4" up to 15'0".

** Note 1-1/2" 16ga. U-Channel Bridging required at 1/3rd Points for 15'1" up to 20'0".

*** Compression Post and Ceiling system Tested at the Plenum design depth shown here for Positive and Negative Wind Speed pressure Loads as listed.

**** Compression Post Assemblies at this Plenum design depth Calculated by Dietrich Design Group.
For building heights over 20 feet refer to ASCE 7-10 chapter 6 Wind Loads Stud Products & Properties Based on Dietrich Industries Inc.

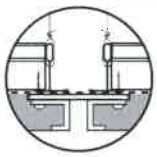
Non-Impact Miami / Dade County EIFS Exterior Ceiling Design NOA 12-0314.05 Hurricane Zone Approved

Impact Rated EIFS Exterior Ceiling Design with 5/8" F/R plywood added to membrane Miami / Dade County See NOA 12-0314.04 Hurricane Zone Approved

Control Joints

Reference section 7.11.4.1-7.11.4.3 for location and spacing of control joints.

Expansion Joints



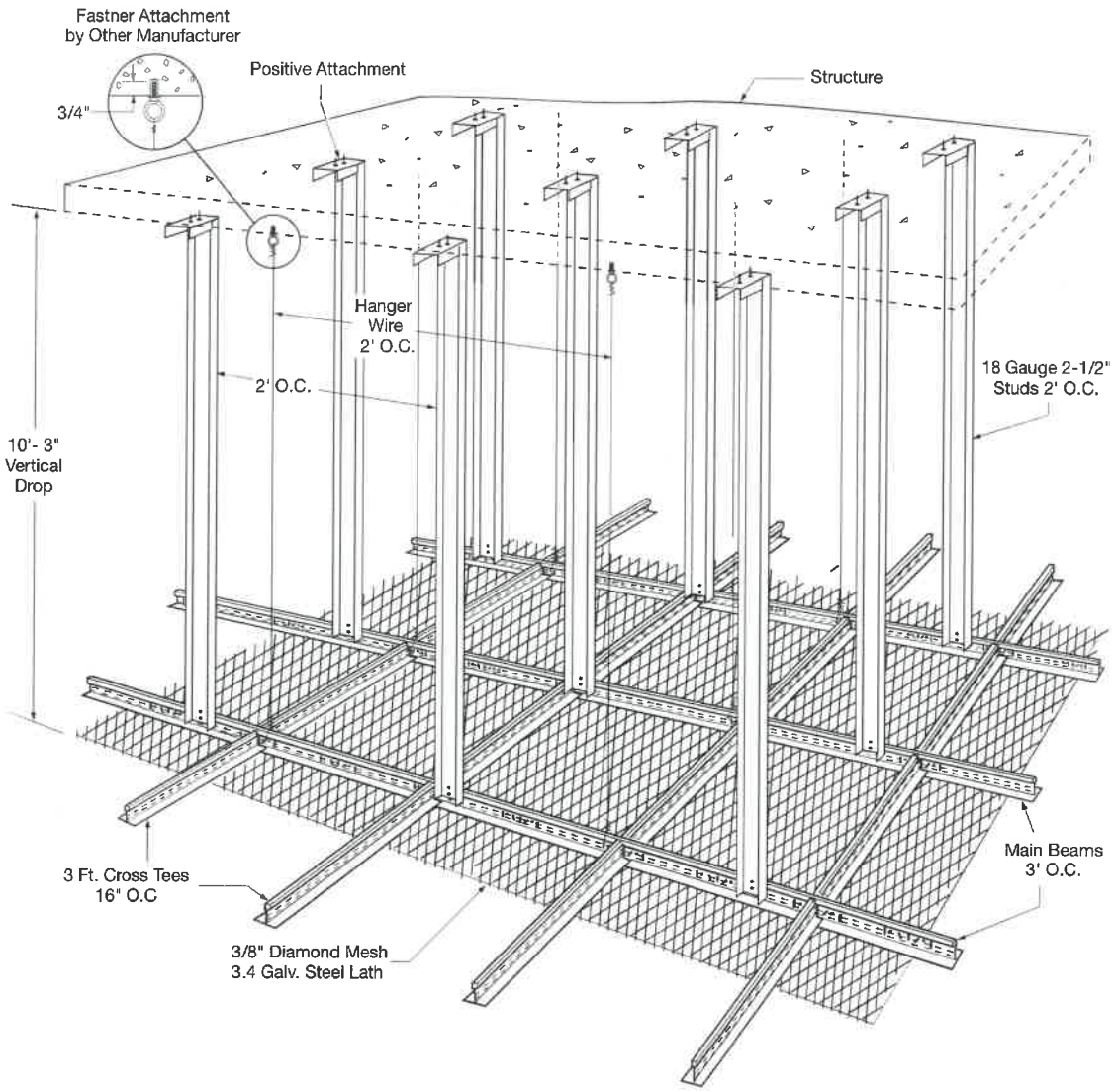
Ceiling expansion joints are installed to separate the metal suspension system when expansion joints occur in buildings, or when metal changes direction. Expansion joints are required to separate a system in T-, H-, I-, and U- or circle-shaped buildings to eliminate cracking from expansion.

Membrane Load Values

	Maximum Load in lbs./ft.² at Hanger Wire/Cross Tee Spacing	
	36"/ 16"	36"/13.5"
Component Combinations	L/360	L/360
HD8906/XL7936G90 (mains 36" O.C.)	13.37	
HD8906/XL8926 (mains 24" O.C.)	20.5	
SP135/XL7936G90 (mains 36" O.C.)		13.37

EXTERIOR WIND LOAD BRACING TO CONCRETE SLAB

For maximum wind speed of 172 MPH.



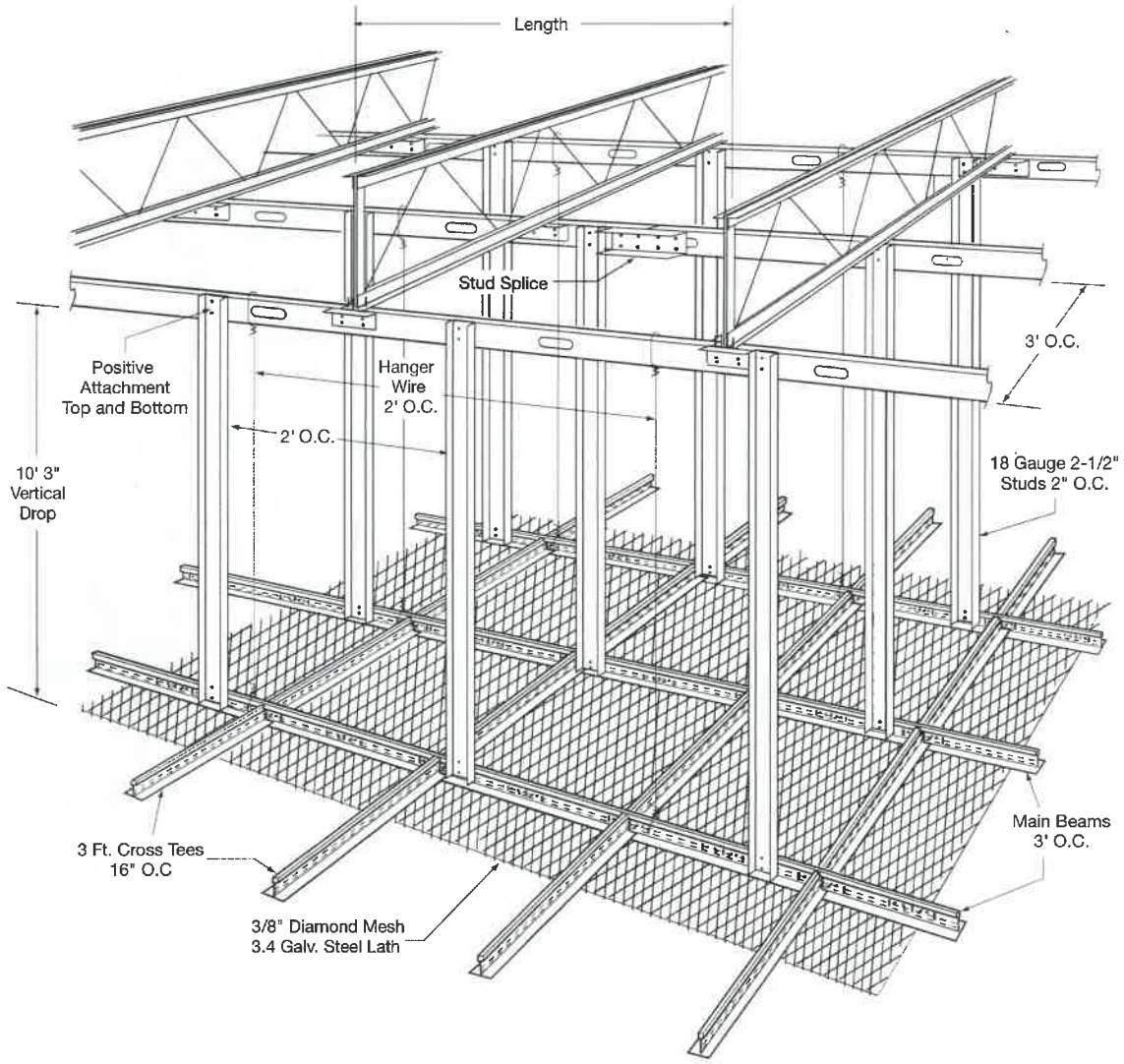
Notes:

1. Wind Load Brace 2-1/2" 18-Gauge Steel 2' O.C.
2. From 0' to 6' 22-Gauge 2-1/2" Metal Studs Minimum From 6' to 10'-3" 18 Gauge 2-1/2" Metal Studs Minimum.
3. From 10'- 4" to 15' 18-Gauge 2-1/2" Metal Studs Minimum 16 Gauge CRC Mid Span.
4. From 15' to 20' 18 Gauge 2-1/2" Metal Studs Minimum 16 Gauge CRC 1/3 Points.
5. Item 3 and 4 above CRC Bracing Shown on Other Drawings.
6. Main Beams 3' O.C. / Cross Tees 16" O.C.
7. Positive Attachment Metal Studs Top and Bottom.
8. #9 Hanger Wire – as shown above

WIND LOAD
BRACING

EXTERIOR WIND LOAD BRACING TO METAL BAR JOISTS

For maximum wind speed of 172 MPH.

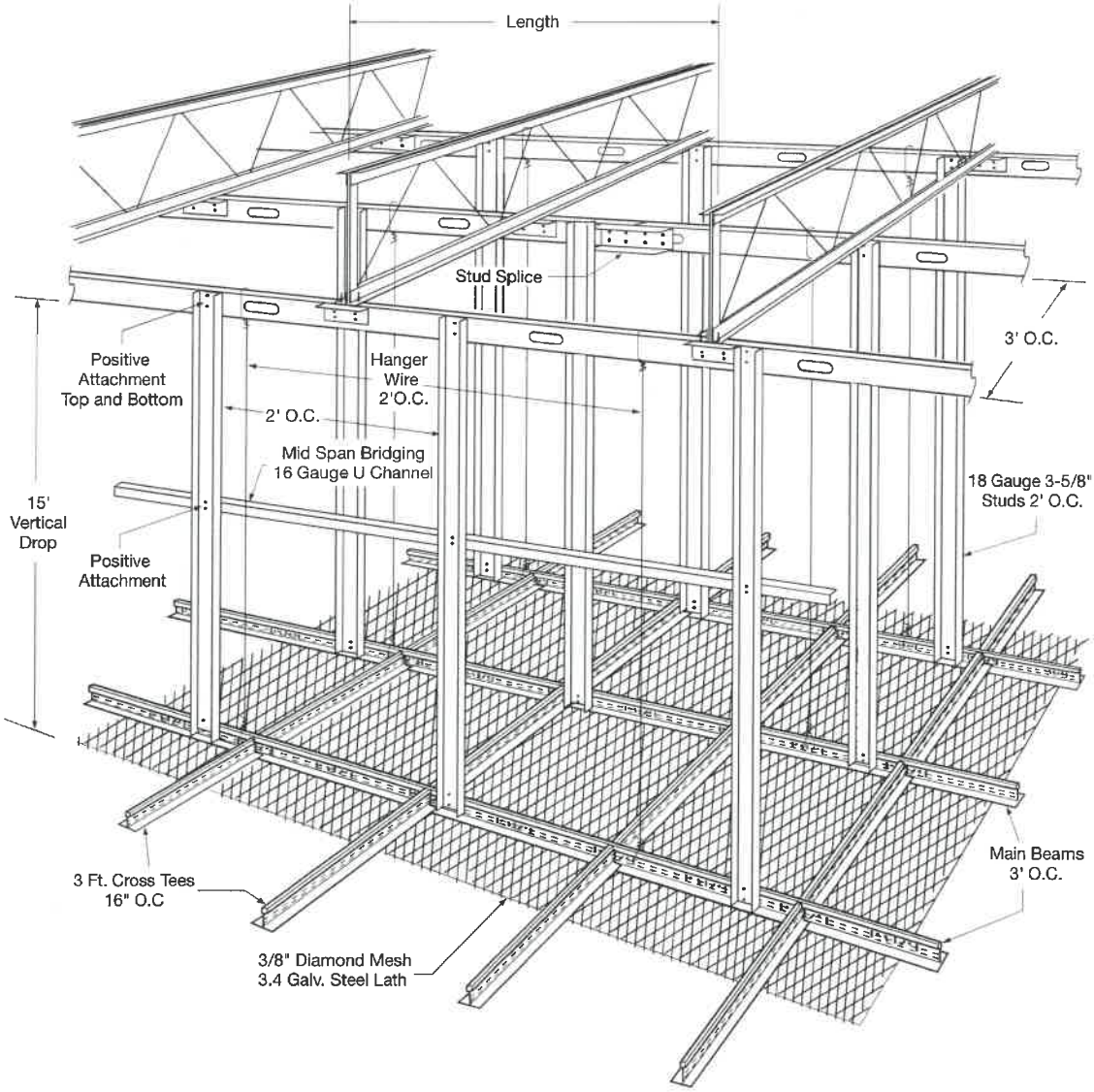


Notes:

1. 18-Gauge 2-1/2' steel studs, 10'-3" vertical drop.
2. Positive Attachment top and bottom.
3. Hanger Wire 2' O.C.
4. Main Beams 3' O.C. / Cross Tees 16" O.C 3' long.

EXTERIOR WIND LOAD BRACING TO METAL BAR JOISTS

For maximum wind speed of 172 MPH.



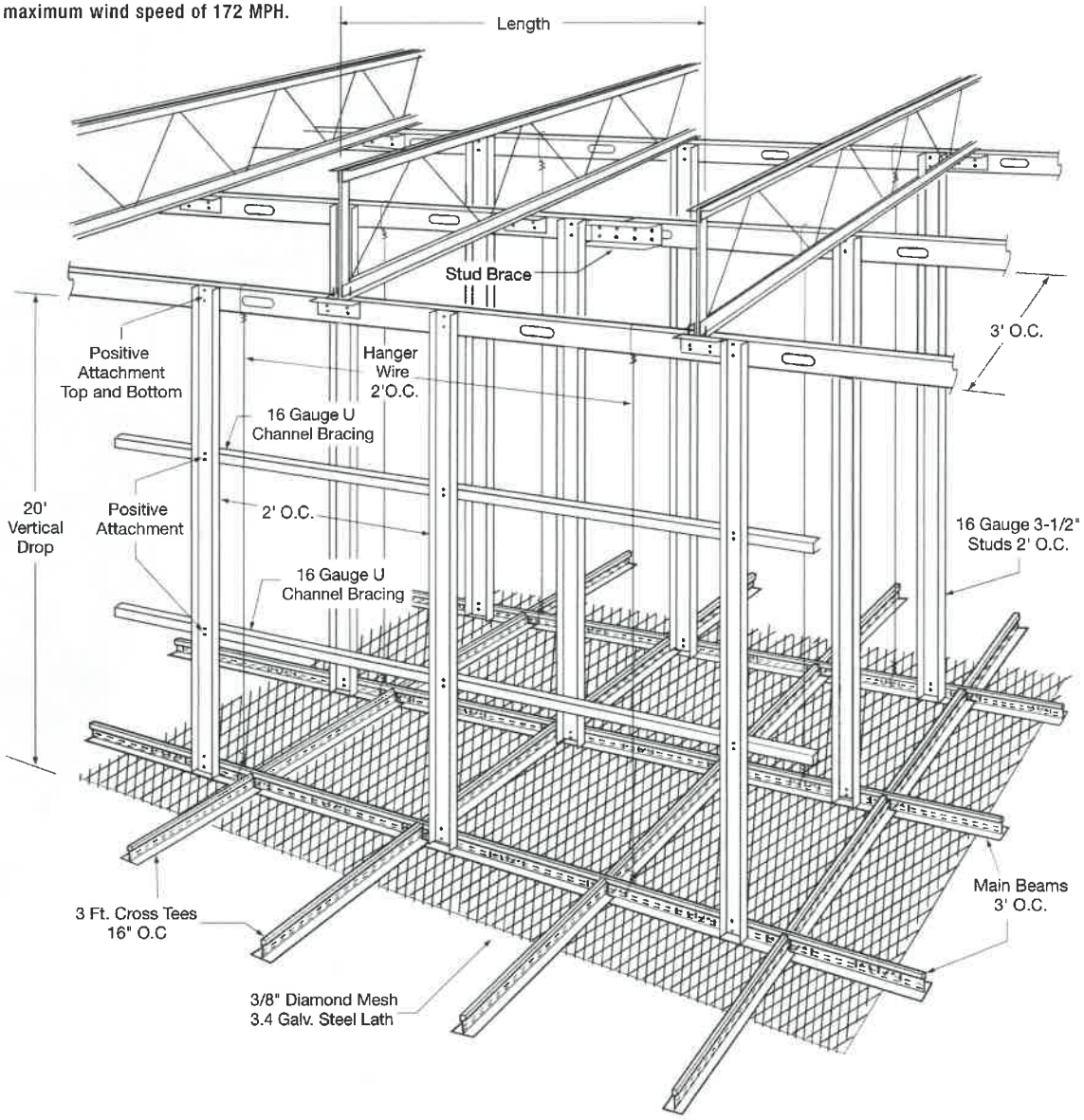
Notes:

1. 16-Gauge CRC Channel Bracing required at Mid Span for 10' – 15' vertical drop.
2. Positive Attachment top and bottom.
3. 18-Gauge 3-5/8" studs 2' O.C.
4. Main Beams 3' O.C. / Cross Tees 16" O.C 3' long.
5. #9 Hanger Wire

WIND LOAD BRACING

EXTERIOR WIND LOAD BRACING TO METAL BAR JOISTS

For maximum wind speed of 172 MPH.



Notes:

1 #16-Gauge CRC Channel Bracing required at 1/3 Point at 20' vertical drop.

2 Positive Attachment top and bottom.

3 16-Gauge 3-1/2" studs 2' O.C.

4 Main Beams 3' O.C. / Cross Tees 16" O.C 3' long.

ESTABLISHING AN ARC

Draw radius on template (plywood, gypsum board, etc.)

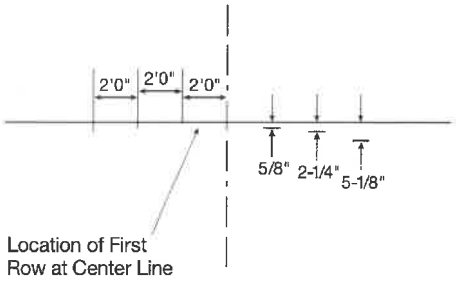
1 Establish a center line.

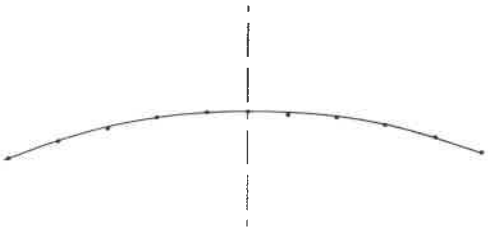
2 Mark 2' increments on line perpendicular to center line.

3 At 2' marks, identify points of arc below perpendicular line (maintain consistent spacing of point) See radius charts on page 17.

4 Connect points to form a smooth arc.

Example: 43' arc using chart on page 19





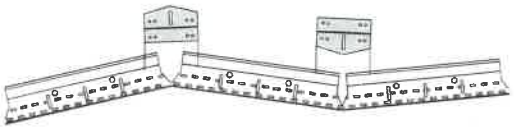
COMPLETING THE TEMPLATE – OPTION 1

1 Cut along the arc and remove section of template.

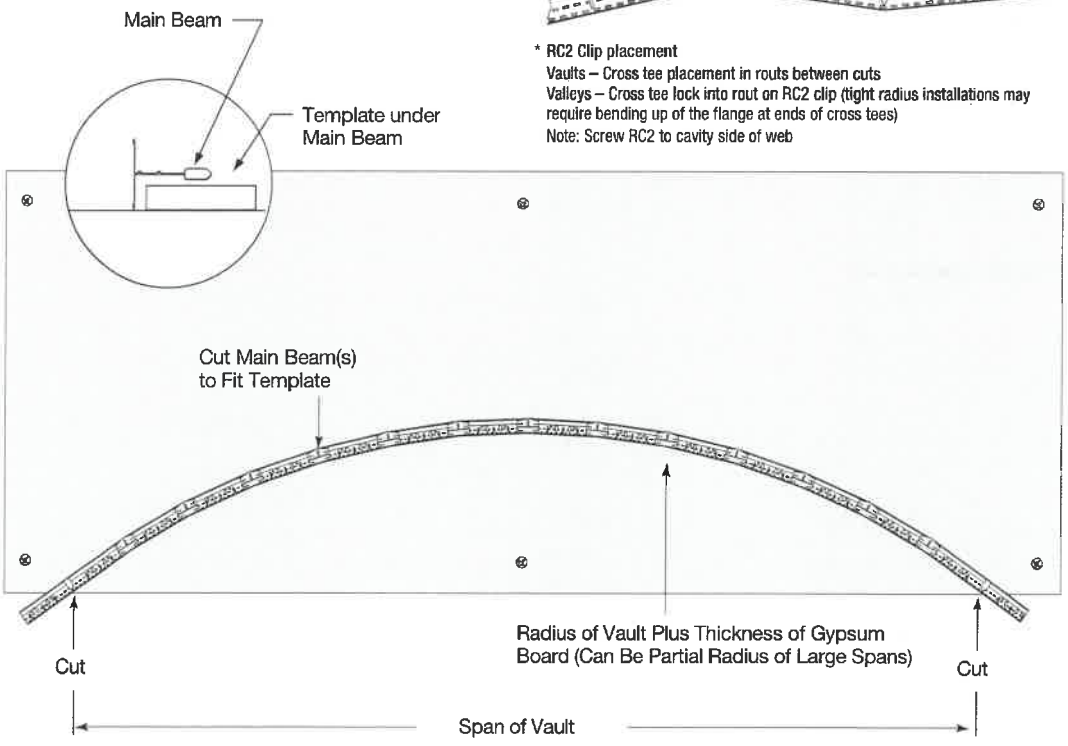
2 Cut main beam as required and position along the cut radius on the template (use chart on page 19).

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.

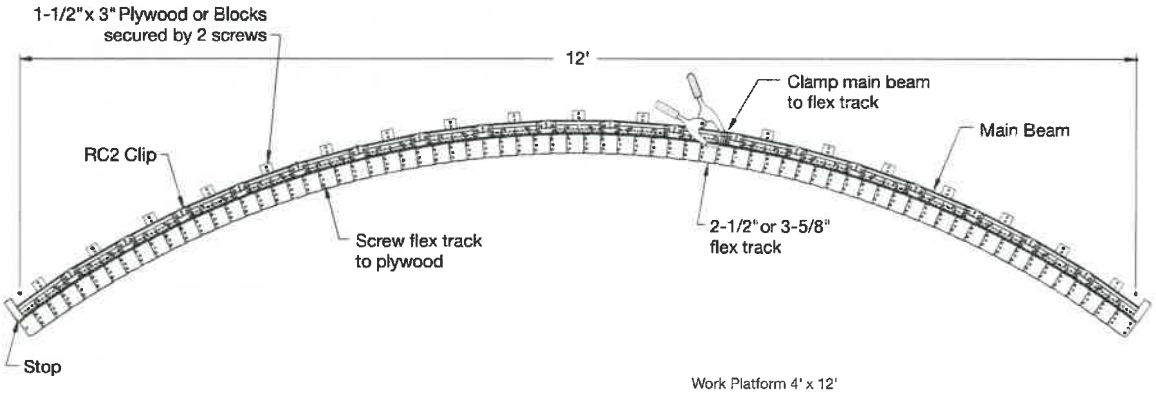


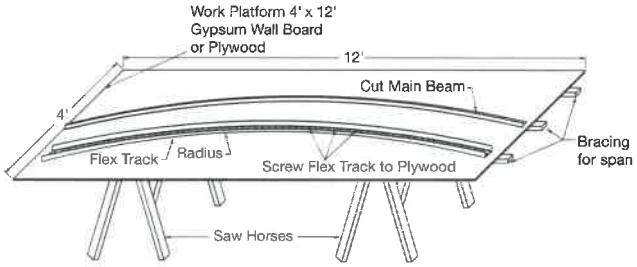
* RC2 Clip placement
Vaults – Cross tee placement in routs between cuts
Valleys – Cross tee lock into rout on RC2 clip (tight radius installations may require bending up of the flange at ends of cross tees)
Note: Screw RC2 to cavity side of web



MAKING A TEMPLATE

COMPLETING THE TEMPLATE – OPTION 2





1. 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 DIMENSIONS

Radius Dimension

2' Increments from Center Line

	10' 0"	11' 0"	12' 0"	13' 0"	14' 0"	15' 0"	16' 0"	17' 0"	18' 0"	19' 0"	20' 0"	21' 0"	22' 0"	23' 0"	24' 0"
2'	2"	2-1/4"	2"	1-7/8"	1-3/4"	1-5/8"	1-1/2"	1-1/2"	1-3/8"	1-1/4"	1-1/4"	1-1/8"	1-1/8"	1-1/8"	1"
4'	10"	9-1/8"	8-1/4"	7-5/8"	7"	6-1/2"	6-1/8"	5-3/4"	5-3/8"	5-1/8"	4-7/8"	4-5/8"	4-3/8"	4-1/4"	4"
6'	2'0"	1'9-3/8"	1'7-3/8"	1'5-5/8"	1'4-1/4"	1'3"	1'2"	1'1-1/8"	1'0-3/8"	11-3/4"	11-1/8"	10-1/2"	10"	9-5/8"	9-1/8"
8'	4'0"	3'5-5/8"	3'0-3/4"	2'9-1/8"	2'6-1/8"	2'3-3/4"	2'1-3/4"	2'0"	1'10-1/2"	1'9-1/4"	1'8-1/8"	1'7"	1'6-1/8"	1'5-1/4"	1'4-1/2"
	25' 0"	26' 0"	27' 0"	28' 0"	29' 0"	30' 0"	31' 0"	32' 0"	33' 0"	34' 0"	35' 0"	36' 0"	37' 0"	38' 0"	39' 0"
2'	1"	1"	7/8"	7/8"	7/8"	7/8"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	5/8"	5/8"	5/8"
4'	3-7/8"	3-3/4"	35/8"	3-1/2"	3-3/8"	3-1/4"	3-1/8"	3"	3"	2-7/8"	2-3/4"	2-3/4"	2-5/8"	2-5/8"	2-1/2"
6'	8-3/4"	8-1/2"	81/2"	7-7/8"	7-1/2"	7-1/4"	7-1/8"	6-7/8"	6-5/8"	6-3/8"	6-1/4"	6-1/8"	5-7/8"	5-3/4"	5-5/8"
8'	1'3-3/4"	1'3-1/8"	1'25/8"	1'2"	1'2-1/2"	1'1-1/8"	1'0-5/8"	1'0-1/4"	11-1/2"	11-1/2"	11-1/8"	10-7/8"	10-1/2"	10-1/4"	10"
	40' 0"	41' 0"	42' 0"	43' 0"	44' 0"	45' 0"	46' 0"	47' 0"	48' 0"	49' 0"	50' 0"	51' 0"	52' 0"	53' 0"	54' 0"
2'	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
4'	2-3/8"	2-3/8"	2-3/8"	2-1/4"	2-1/8"	2-1/8"	2-1/8"	2-1/8"	2"	2"	2"	1-7/8"	1-7/8"	1-3/4"	1-3/4"
6'	5-1/2"	5-3/8"	5-1/4"	5-1/8"	5"	4-7/8"	4-3/4"	4-5/8"	4-1/2"	4-1/2"	4-3/8"	4-1/4"	4-1/4"	4-1/4"	4"
8'	9-3/4"	9-1/2"	9-1/4"	9"	8-7/8"	8-5/8"	8-1/2"	8-1/4 "	8-1/8"	7-7/8"	7-3/4"	7-5/8"	7-1/2"	7-3/8"	7-1/8"
	55' 0"	56' 0"	57' 0"	58' 0"	59' 0"	60' 0"	61' 0"	62' 0"	63' 0"	64' 0"	65' 0"	66' 0"	67' 0"	68' 0"	69' 0"
2'	1/2"	1/2"	1/2"	1/2"	1/2"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
4'	1-3/4"	1-3/4"	1-3/4"	1-3/4"	1-5/8"	1-5/8"	1-5/8"	1-5/8"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-3/8"
6'	4"	3-7/8"	3-7/8"	3-3/4"	3-3/4"	3-5/8"	3-5/8"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	3-1/4"	3-1/4"	3-1/4"	3-1/8"
8'	7"	6-7/8"	6-3/4"	6-5/8"	6-5/8"	6-1/2"	6-3/8"	6-1/4"	6-1/8"	6"	6"	5-7/8"	5-3/4"	5-3/4"	5-5/8"
	70' 0"	71' 0"	72' 0"	73' 0"	74' 0"	75' 0"	76' 0"	77' 0"	78' 0"	79' 0"	80' 0"	81' 0"	82' 0"	83' 0"	84' 0"
2'	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
4'	1-3/8"	1-3/8"	1-3/8"	1-3/8"	1-3/8"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/8"
6'	3-1/8"	3-1/8"	3"	3"	3"	2-7/8"	2-7/8"	2-7/8"	2-3/4"	2-3/4"	2-3/4"	2-3/4"	2-5/8"	2-5/8"	2-5/8"
8'	5-1/2"	5-1/2"	5-3/8"	5-1/4"	5-1/4"	5-1/8"	5-1/8"	5"	5"	4-7/8"	4-7/8"	4-3/4"	4-3/4"	4-5/8"	4-5/8"
	85' 0"	86' 0"	87' 0"	88' 0"	89' 0"	90' 0"	91' 0"	92' 0"	93' 0"	94' 0"	95' 0"	96' 0"	97' 0"	98' 0"	99' 0"
2'	3/8"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
4'	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1"	1"	1"	1"	1"	1"
6'	2-5/8"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-3/8"	2-3/8"	2-3/8"	2-3/8"	2-3/8"	2-1/4"	2-1/4"	2-1/4"	2-1/4"	2-1/4"
8'	4-1/2"	4-1/2"	4-1/2"	4-3/8"	4-3/8"	4-1/4"	4-1/4"	4-1/4"	4-1/8"	4-1/8"	4-1/8"	4"	4"	4"	3-7/8"
	100' 0"	105' 0"	110' 0"	115' 0"	120' 0"	125' 0"	130' 0"	135' 0"	140' 0"	145' 0"	150' 0"	155' 0"	160' 0"	165' 0"	170' 0"
2'	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/8"	1/8"	1/8"
4'	1"	1"	7/8"	7/8"	7/8"	3/4"	3/4"	3/4"	3/4"	3/4"	5/8"	5/8"	5/8"	5/8"	5/8"
6'	2-1/4"	2-1/8"	2"	1-7/8"	1-7/8"	1-3/4"	1-3/4"	1-5/8"	1-5/8"	1-1/2"	1-1/2"	1-3/8"	1-3/8"	1-3/8"	1-1/4"
8'	3-7/8"	3-3/4"	3-1/2"	3-3/8"	3-1/4"	3-1/8"	3"	2-7/8"	2-3/4"	2-3/4"	2-5/8"	2-1/2"	2-3/8"	2-3/8"	2-1/4"
	175' 0"	180' 0"	185' 0"	190' 0"	195' 0"	200' 0"	210' 0"	220' 0"	230' 0"	240' 0"	250' 0"				
2'	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"				
4'	5/8"	5/8"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	3/8"	3/8"	3/8"				
6'	1-1/4"	1-1/4"	1-1/4"	1-1/8"	1-1/8"	1-1/8"	1"	1"	1"	7/8"	7/8"				
8'	2-1/4"	2-1/8"	2-1/8"	2"	2"	2"	1-7/8"	1-3/4"	1-5/8"	1-5/8"	1-1/2"				

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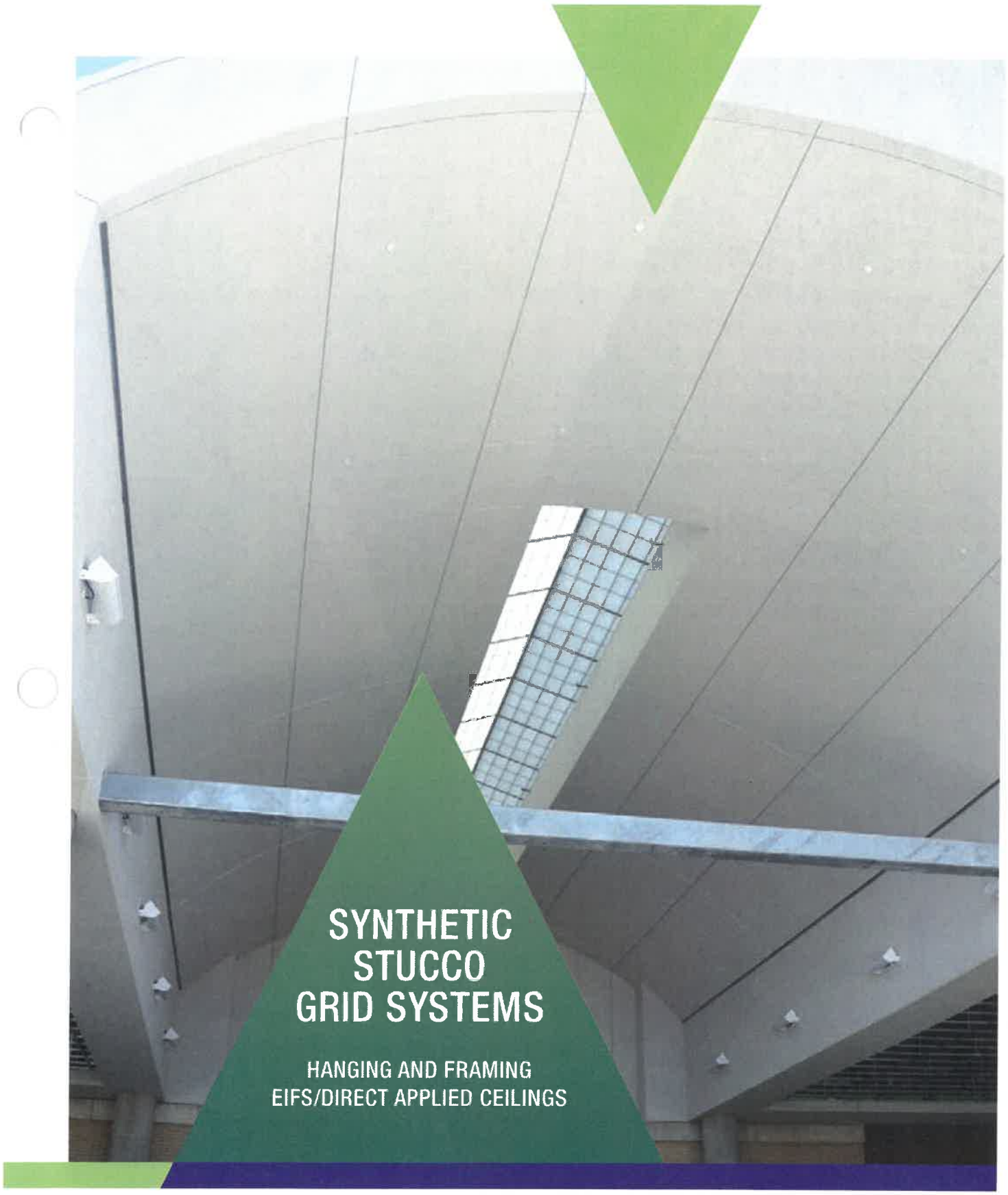

SYNTHETIC STUCCO GRID SYSTEMS

HANGING AND FRAMING EIFS/DIRECT APPLIED CEILINGS

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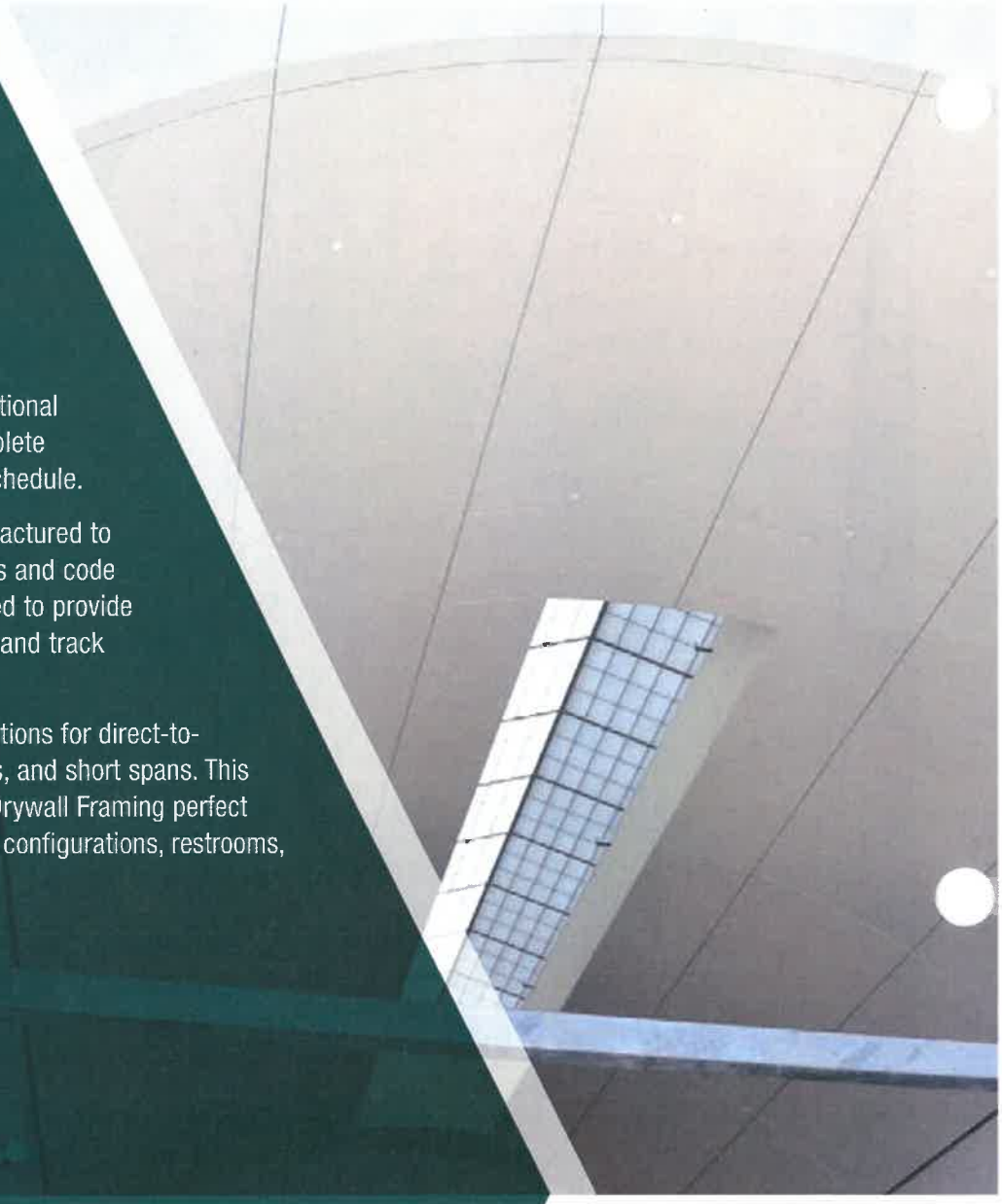


FASTER. EASIER. BETTER.

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.

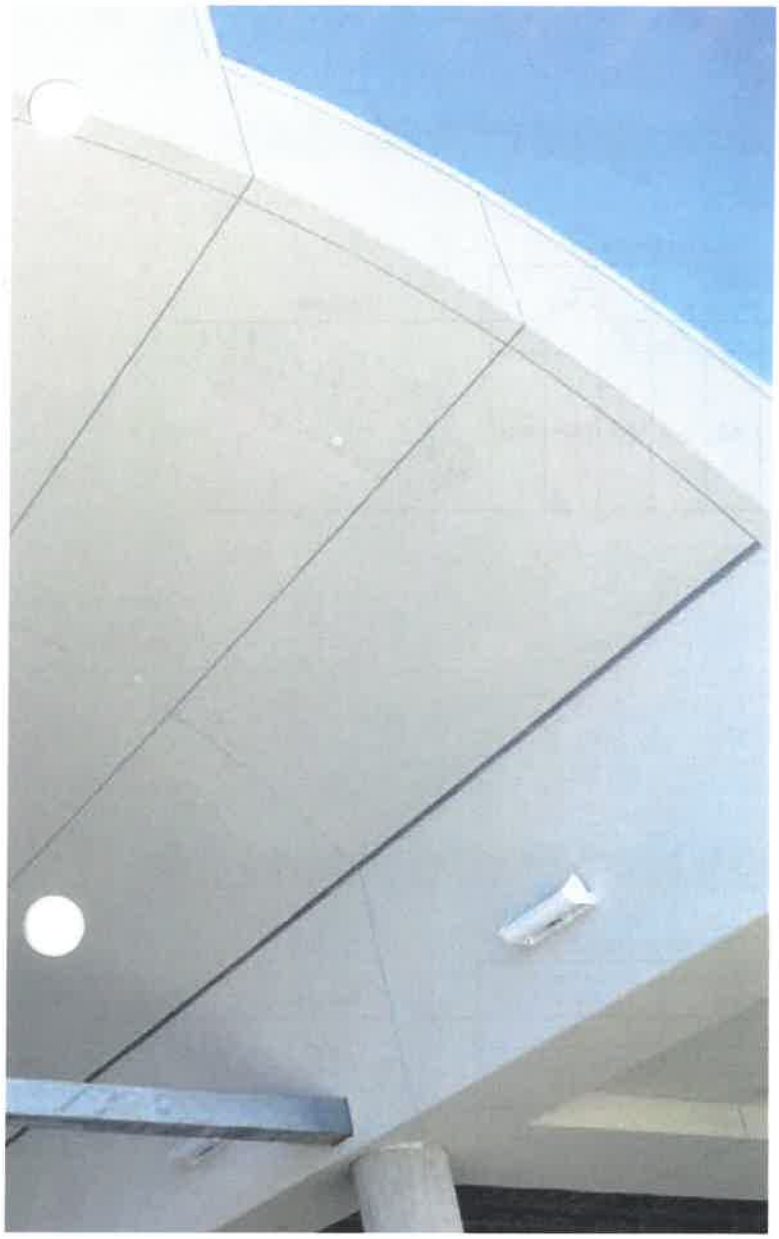
DRYWALL Grid Systems

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 #10-126.04-03/17/15
- Miami/Dade Impact – NOA #09-0512.02-10/07/14
- 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



STUCCO/PLASTER GRID SYSTEMS

TABLE OF CONTENTS

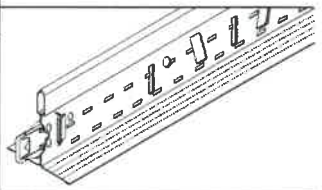
- **Rotary-stitched** – Greater torsional strength and stability
- **1-1/2" wide face** main beams and cross tees – Easy installation of screw applied gypsum wallboard
- **G40 AND G90 hot dipped galvanized coating** – Superior corrosion resistance for exterior applications
- **Heavy-duty load rating** – 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

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 exposture to extreme moisture and salt water, G90 is available per ASTM A653.

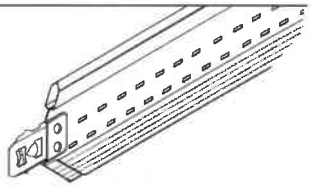
COMPONENTS

MAIN BEAMS

Item Number	Length	Face Dimension	Profile Height	Duty Load	Fire Rated	Routs	Load Test Data (Lbs./LF) L/360 wires at 2'	3'	4'	L/240 wires at 2'	3'	4'	Perspective
HD8906 HD8906G90 HD8906HRC	144"	1-1/2"	1-11/16"	Heavy Duty	Yes	51 routs – starting 2-1/4" from each end†	95.5	35.8	18.76	139.85	52.24	28.14	

† Type "F" fixture compatible

CROSS TEES

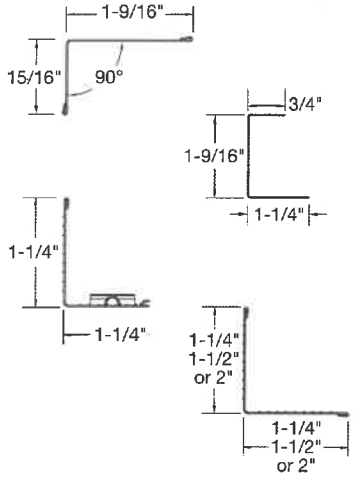
Item Number	Length	Face Dimension	Profile Height	Fire Rated	Routs	Load Test Data (Lbs./LF) L/360 wires at 50°	L/240 wires at 50°	Perspective
XL8947P XL8947PG90	50"	1-1/2"	1-1/2"	Yes	8 routs – starting 10" from each end†	31.3	31.3	

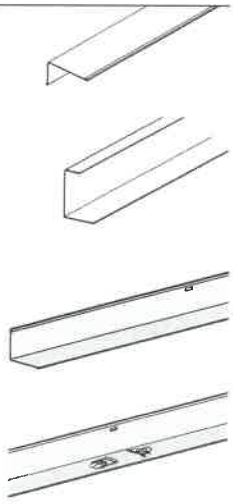
Item Number	Length	Face Dimension	Profile Height	Fire Rated	Routs	L/360 wires at 2'	3'	4'	L/240 wires at 2'	3'	4'
XL8945P XL8945PG90 XL8945HRC	50"	1-1/2"	1-1/2"	Yes	2 routs – 12" from each end†			15.0			22.5
XL7936G90	36"	1-1/2"	1-1/2"	No	none		33.3				50.0
XL8925 XL8925G90	26"	1-1/2"	1-1/2"	Yes	2 routs – 12" from each end†	98.0				117.0	
XL8926 XL8926G90	24"	1-1/2"	1-1/2"	Yes	3 routs – center rout and 10" from each end†	129.0				158.0	
XL7918	14"	1-1/2"	1-1/2"	Yes	none†	71.5				107.0	

Note: All items available in High Recycled Content (HRC) as special order.
† Type "F" fixture compatible

WALL MOLDING

Item Number	Length	Description	Profile	Perspective
7858	144"	Reverse Angle Molding nominal 1-9/16" x 15/16"		
7838	120"	Unhemmed Channel Molding nominal 3/4" x 1-9/16" x 1-1/4"		
KAM10	120"	Knurled Angle Molding nominal 1-1/4" x 1-1/4"		
KAM12 KAM12**G90** KAM12**HRC**	144"	Knurled Angle Molding nominal 1-1/4" x 1-1/4"		
KAM1510 **KAM1512** **KAM151020** **KAM151020EQ**	120" 144"	Knurled Angle Molding nominal 1-1/2" x 1-1/2" (KAM1510 & KAM1512 - 25g.; KAM151020 - 20g.; KAM151020EQ - 22g)		
KAM21020 **KAM21025** **KAM21020EQ**	120" 144"	Knurled Angle Molding nominal 2" x 2" (20 gage) (KAM21020 - 20g.; KAM21025 - 25g.; KAM21020EQ 22g)		
LAM12 LAM12**G90** LAM12**HRC**	144"	Locking Angle Molding nominal 1-1/4" x 1-1/4"		

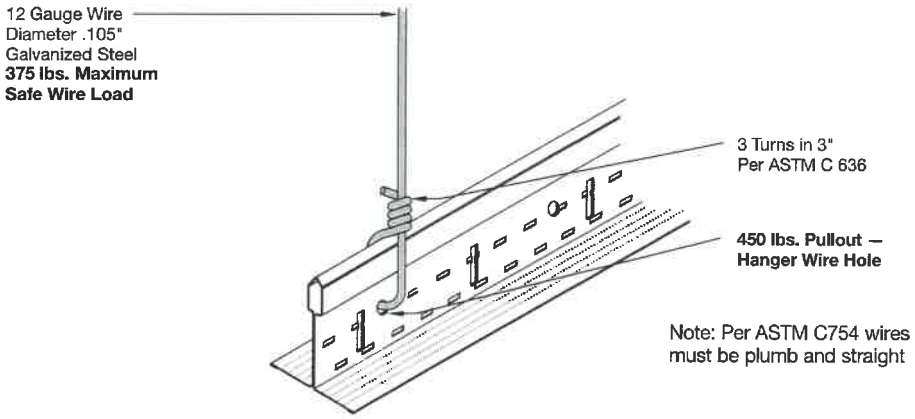




NOTE: All items available in High Recycled Content (HRC) as special order.

WIRE LOAD DETAILS

12 Gauge Wire Breaking Strength and Technical Data



STUCCO/PLASTER
INSTALLATION AND DETAILS

STUCCO/PLASTER GRID SUSPENSION INSTALLATION

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.

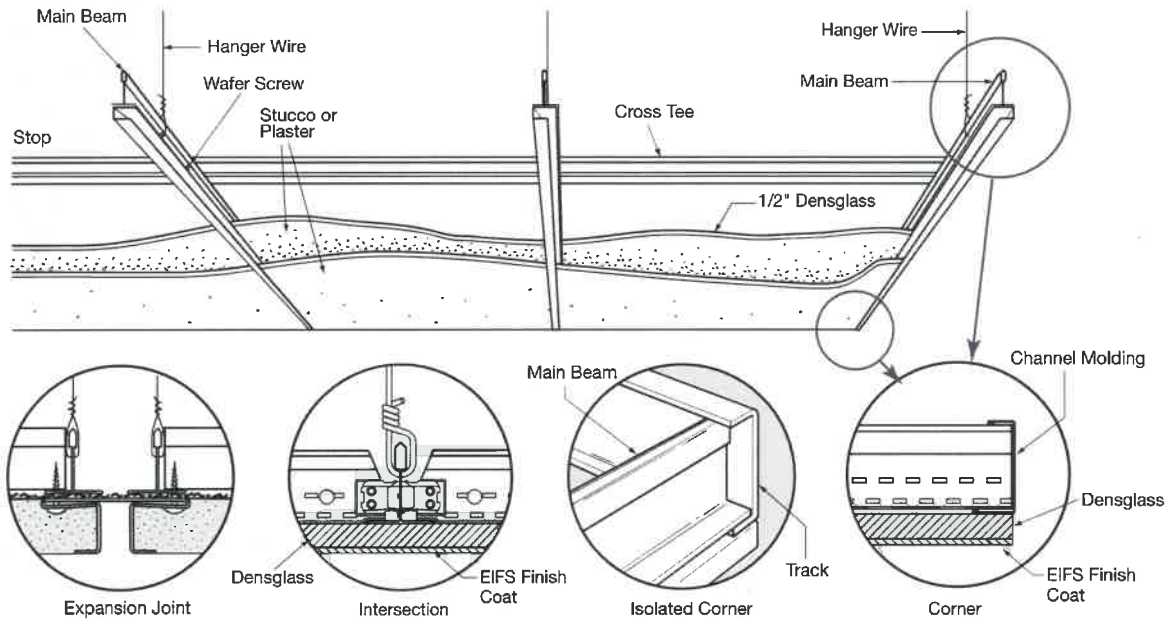
9 Install both control joints and expansion joints to control movement in system, in accordance with ASTM C840.

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.

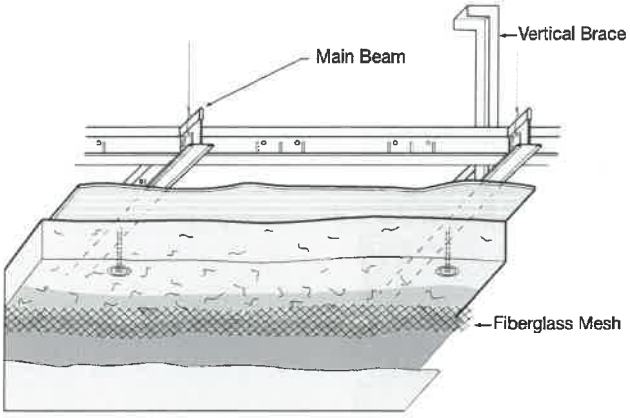
For further information, contact your local representative or TechLine at 1 877 276 7876.

DETAILS OF STUCCO/PLASTER SYSTEMS

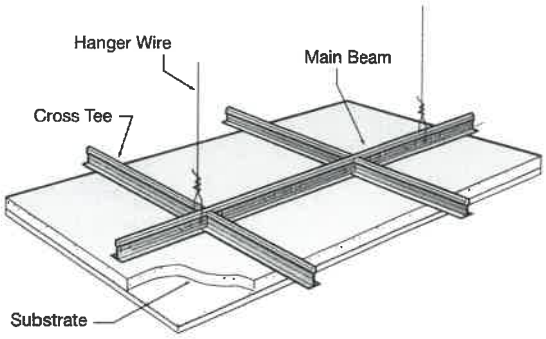


STUCCO/PLASTER GRID SUSPENSION INSTALLATION

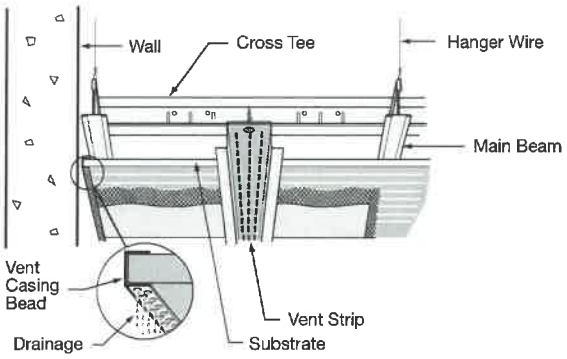
Insulated



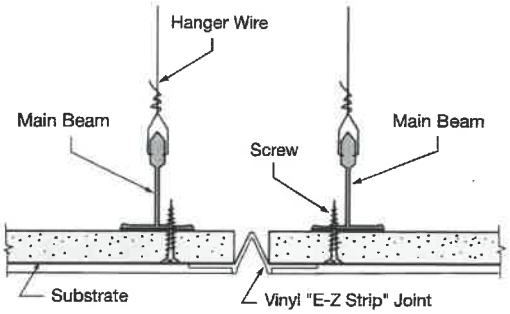
Uninsulated



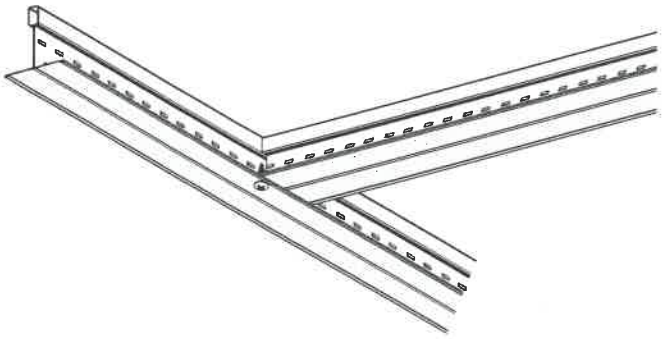
Vent Strip



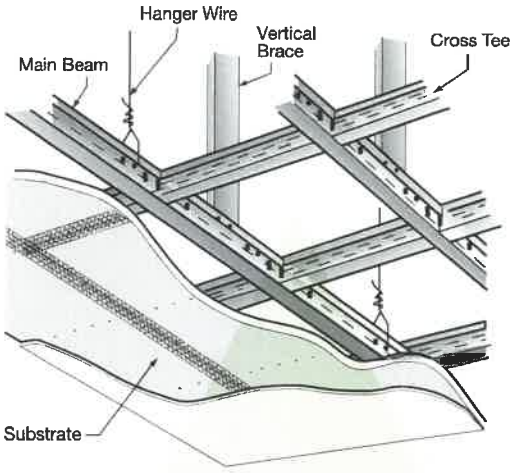
Control Joint



Non-Modular Cut and Screw....

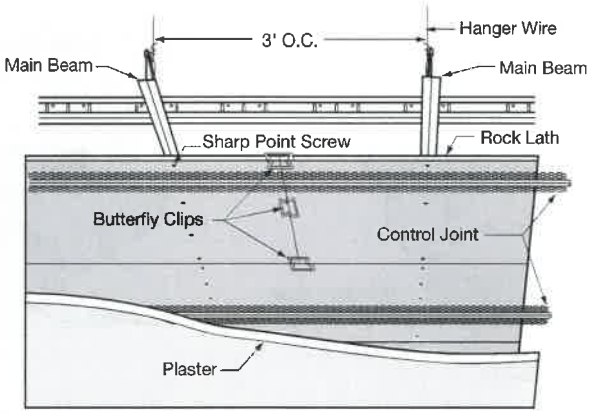


Exterior Wind Loaded (See chart on page 6)

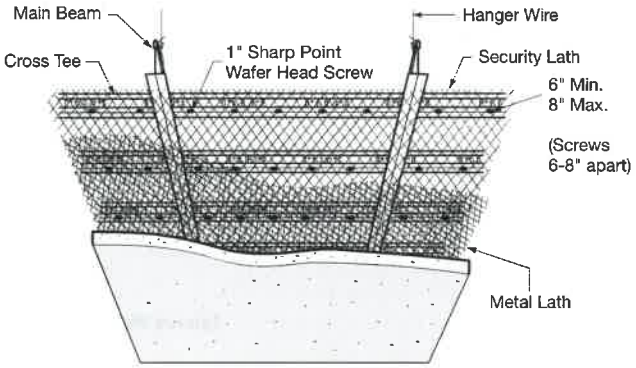


DETAILS OF STUCCO/PLASTER SYSTEMS

Rock Lath and Plaster



Security Metal Lath and Plaster



EIFS SYSTEM EXTERIOR WIND LOAD DESIGN FOR NORTH AMERICA

Plenum Height (Ft - In)	Design Wind Velocity (MPH)	Design Wind Pressure (PSF)	Compression Post Size (Inch)	Compression Post Gauge (Ga. No.)	Sheathing Membrane Substrate 5/8" Drywall Sheet Densglass Gold G-P	Compression Post Spacing (ft.-in.)	Main Runner Spacing (Inch)	Cross Tee Length (Inch)	Hanger Wire Spacing (ft.-in.)	Cross Tee Length (Feet)	Compression Post Load (Lbs.)
0 ↓ 6' ***	15	5.07	2 1/2" CWN	20	5/8" G.P. Densglass & 1/4"-3/8" EIFS	4' - 2"	48"	16"	4'	4'	18
	30	2.03	2 1/2" CWN	20	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3'-10"	48"	16"	4'	4'	49
	45	4.56	2 1/2" CWN	20	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' - 6"	48"	16"	4'	4'	96
	60	8.1	2 1/2" CWN	20	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' - 6"	36"	16"	4'	3'	125
	90	18.24	2 1/2" CWN	20	5/8" G.P. Densglass & 1/4"-3/8" EIFS	2' - 9"	36"	16"	3'	3'	229
	120	32.43	2 1/2" CWN	20	5/8" G.P. Densglass & 1/4"-3/8" EIFS	2' - 8"	24"	16"	2' - 6"	2'	266
	140	44.14	2 1/2" CWN	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	2' - 4"	24"	16"	2' - 6"	2'	331
	172	75	2 1/2" CSJ	18	See NOA 12-0314.05 Design	2'	24"	16"	2'	2'	445
	172	75	2 1/2" CJS	18	See NOA 12-0314.04 Design	2' - 6"	36"	16"	2' - 6"	3'	565
6' 1" ↓ 10' 3" ****	15	5.07	2 1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	4' - 2"	48"	16"	4'	4'	18
	30	2.03	2 1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3'-10"	48"	16"	4'	4'	49
	45	4.56	2 1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' - 6"	48"	16"	4'	4'	96
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	172	75	2 1/2" CSJ	18	See NOA 12-0314.05 Design	2'	24"	16"	2'	2'	445
	172	75	2 1/2" CJS	18	See NOA 12-0314.04 Design	2' - 6"	36"	16"	2' - 6"	3'	565
10' 4" ↓ 15' 0" ****	*15	5.07	2 1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	4' - 2"	48"	16"	4'	4'	18
	*30	2.03	2 1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3'-10"	48"	16"	4'	4'	49
	*45	4.56	2 1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' - 6"	48"	16"	4'	4'	96
	*60	8.1	2 1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	3' - 6"	36"	16"	4'	3'	125
	*90	18.24	2 1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	2' - 9"	36"	16"	3'	3'	229
	*120	32.43	2 1/2" CSJ	18	5/8" G.P. Densglass & 1/4"-3/8" EIFS	2' - 8"	24"	16"	2' - 6"	2'	266
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	*172	75	2 1/2" CSJ	18	See NOA 12-0314.05 Design	2'	24"	16"	2'	2'	445
	*172	75	2 1/2" CJS	18	See NOA 12-0314.04 Design	2' - 6"	36"	16"	2' - 6"	3'	565
15' 1" ↓ 20' 0" ****	**15	5.07	3 5/8" CSJ	18	5/8"G.P. Densglass & 1/4"-3/8" EIFS	4' - 2"	48"	16"	4'	4'	18
	**30	2.03	3 5/8" CSJ	18	5/8"G.P. Densglass & 1/4"-3/8" EIFS	3'-10"	48"	16"	4'	4'	49
	**45	4.56	3 5/8" CSJ	18	5/8"G.P. Densglass & 1/4"-3/8" EIFS	3' - 6"	48"	16"	4'	4'	96
	**60	8.1	3 5/8" CSJ	18	5/8"G.P. Densglass & 1/4"-3/8" EIFS	3' - 6"	36"	16"	4'	3'	125
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	**172	75	3 5/8" CSJ	18	See NOA 12-0314.05 Design	2'	24"	16"	2'	2'	445
	**172	75	3 5/8" CSJ	18	See NOA 12-0314.04 Design	2' - 6"	36"	16"	2' - 6"	3'	565

Ceiling System = HD 8906-G90 Main Runner 12 ft. / XL 8945P-G90 Cross Runner 4 ft. / XL 7936-G90 Cross Runner 3 ft. / XL 8926-G90 Cross Runner 2 ft. / #9 Ga. H.D.G. Hanger Wire

* Note 1-1/2" 16ga. U-Channel Bridging required at Mid Span for 10'4" up to 15'0".
** Note 1-1/2" 16ga. U-Channel Bridging required at 1/3rd Points for 15'1" up to 20'0".
*** Compression Post and Ceiling system tested at the plenum design depth shown here for positive and negative wind speed pressure loads as listed.
**** Compression Post Assemblies at this plenum design depth calculated by Dietrich Design Group.

For building heights over 20 feet refer to ASCE 7-10 chapter 6 Wind Loads
Non-Impact Miami / Dade County EIFS Exterior Ceiling Design NOA 12-0314.05 Hurricane Zone Approved.
Impact Rated EIFS Exterior Ceiling Design with 5/8" F/R plywood added to membrane Miami / Dade County See NOA 12-0314.04 Hurricane Zone Approved.
Stud Products & Properties Based on Dietrich Industries Inc.

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.

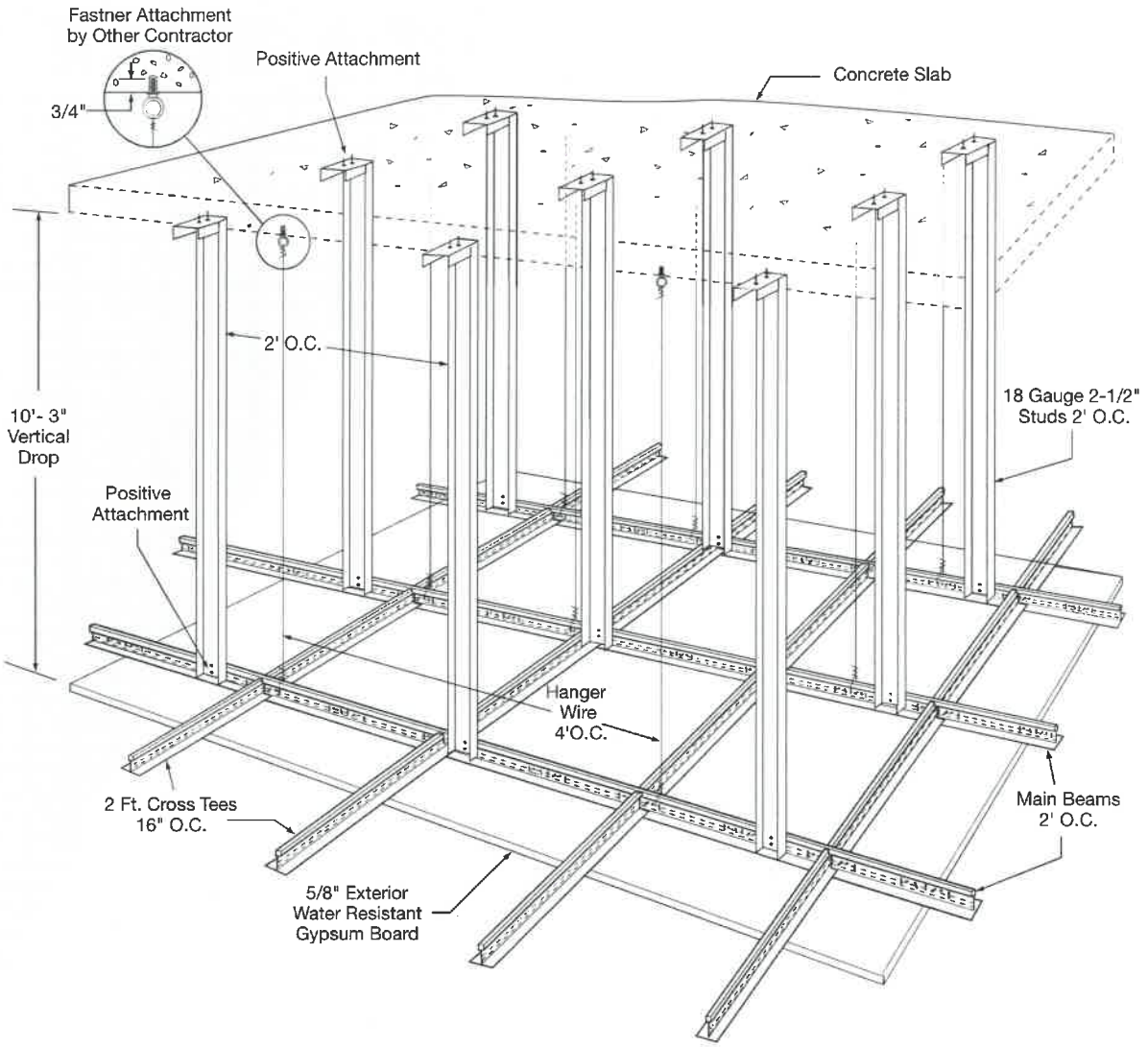
Membrane Load Values

Component Combinations	Maximum Load in lbs./ft.² at Hanger Wire/Cross Tee Spacing 36"/ 16" L/240	L/360
HD8906/XL7936G90 (mains 36" O.C.)	21.77	14.51
HD8906/XL8926 (mains 24" O.C.)	26.13	21.77

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.

WIND LOAD BRACING

EXTERIOR WIND LOAD BRACING TO CONCRETE SLAB



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.

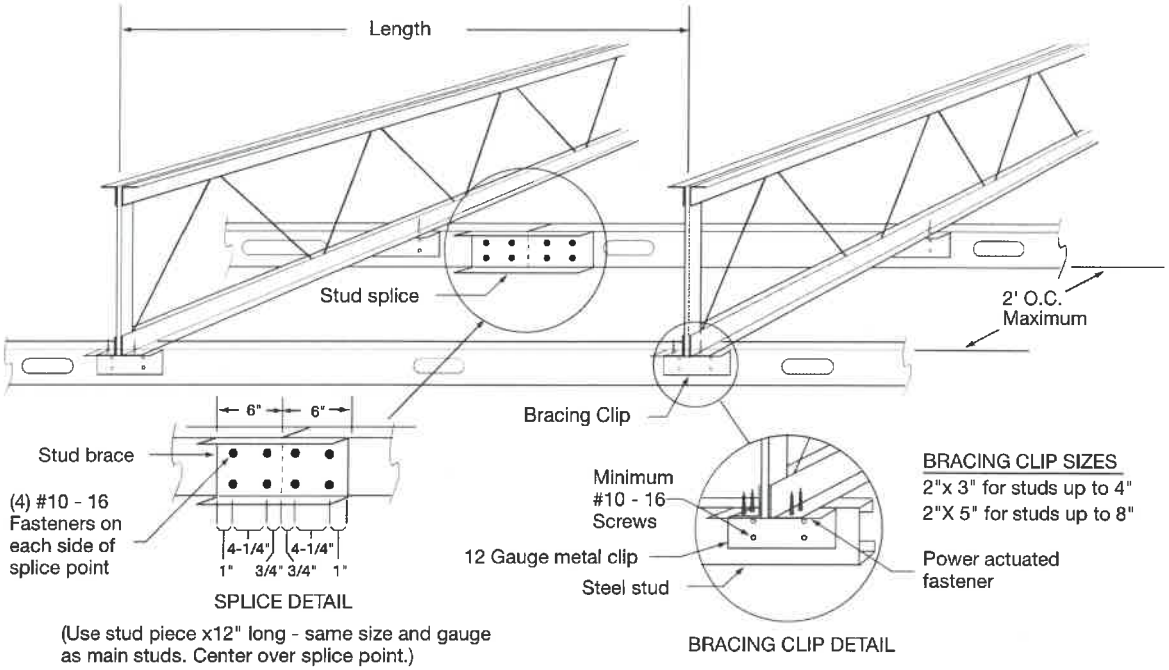
7 Wind load – 75 PSF

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.

EXTERIOR WIND LOAD BRACING TO METAL BAR JOISTS



Steel Stud Bracing 2' O.C. ASTMC – 645

Span Length	3-5/8"	Gauge	4"	Gauge	6"	Gauge	8"	Gauge
48"	362 - CSJ	20						
54"	362 - CSJ	20	4 - CSJ	20				
60"	362 - CSJ	18	4 - CSJ	18				
66"	362 - CSJ	16	4 - CSJ	16				
70"	362 - CSJ	14			6 - CSJ	20		
72"			4 - CSJ	14				
76"					6 - CSJ	18		
80"							8 - CSJ	18
82"					6 - CSJ	16		
86"							8 - CSJ	18
88"					6 - CSJ	14		
92"							8 - CSJ	16
96"							8 - CSJ	14
120"	(For 120" Length Bridging Required @ Midspan (See Note 9)						8 - CSJ	16

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

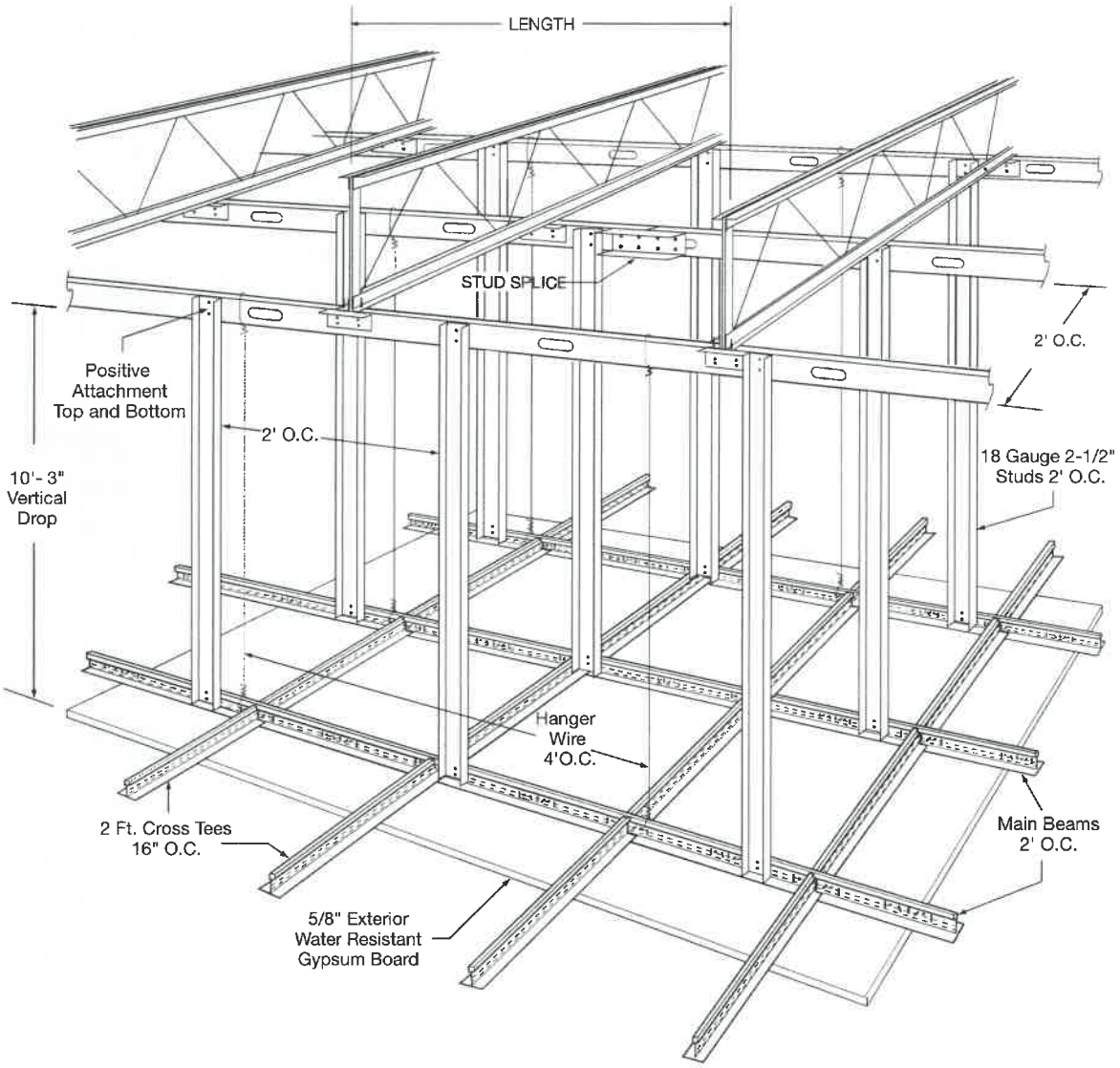
8 Dead load – 10 PSF

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.

WIND LOAD BRACING

EXTERIOR WIND LOAD BRACING TO METAL BAR JOISTS



Notes:

1 Positive Attachment Top and Bottom.

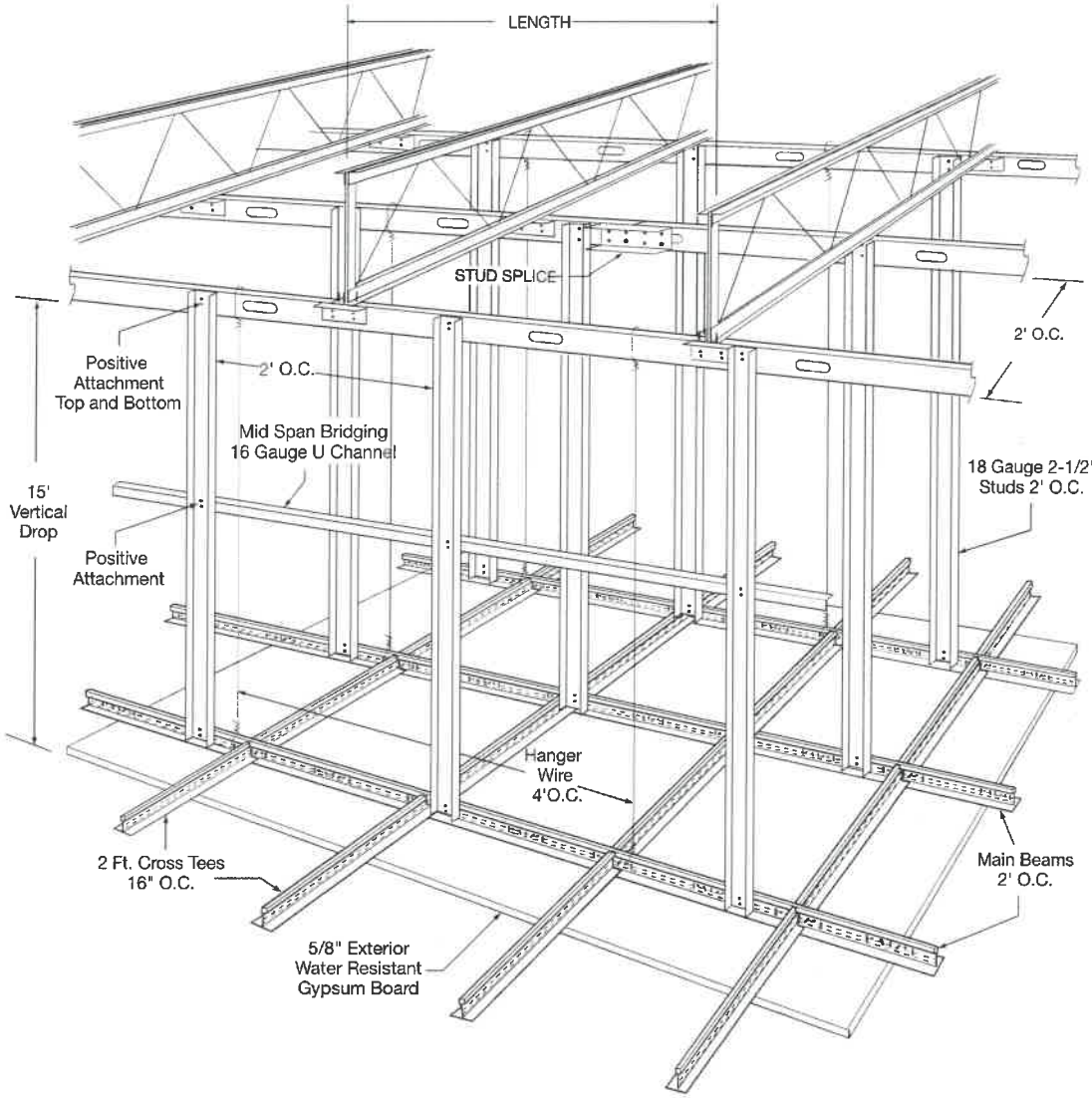
2 22 Gauge 2-1/2" Studs 2' O.C.

3 Main Beams 2' O.C. / Cross Tees 16" O.C 2' Long.

4 Hanger Wire 4' O.C.

5 Vertical Drop 0 - 6' Minimum 22 Gauge. Not shown on drawing. (See Chart)

EXTERIOR WIND LOAD BRACING TO METAL BAR JOISTS



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.

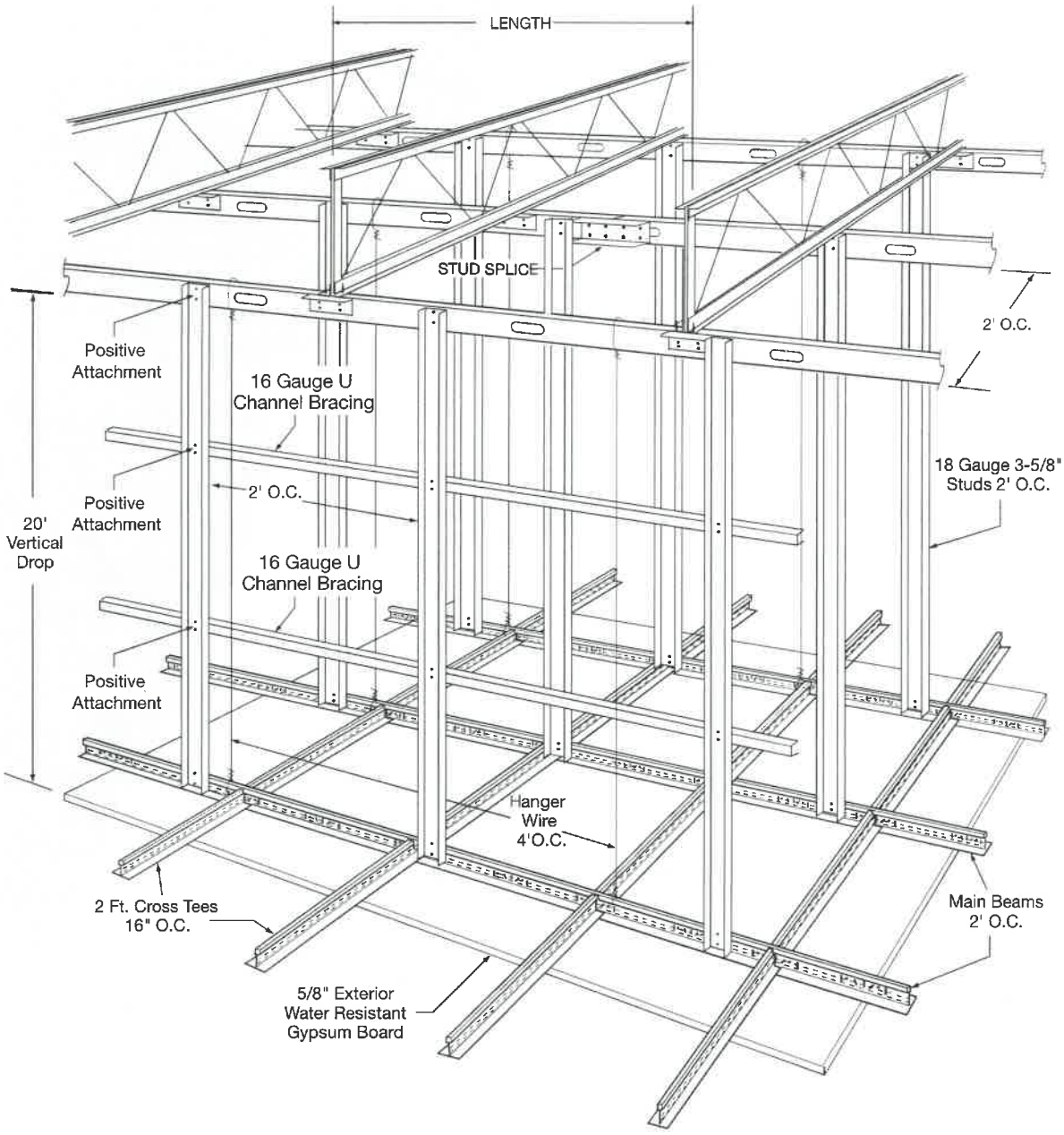
3 18 Gauge 2-1/2" Stud 2' O.C.

4 Main Beams 2' O.C. / Cross Tees 16" O.C 2' Long.

5 Hanger Wire 4' O.C.

WIND LOAD BRACING

EXTERIOR WIND LOAD BRACING TO METAL BAR JOISTS



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

Draw radius on template (plywood, gypsum board, etc.)

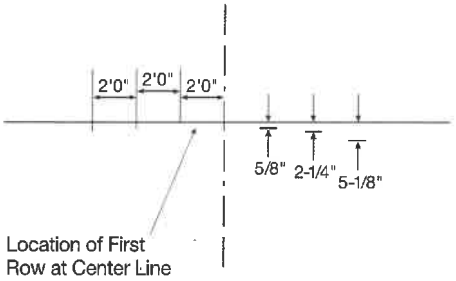
1 Establish a center line.

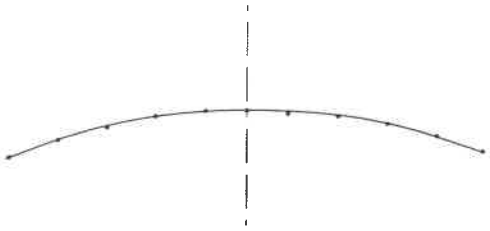
2 Mark 2' increments on line perpendicular to center line.

3 At 2' marks, identify points of arc below perpendicular line (maintain consistent spacing of point) See radius charts on page 17.

4 Connect points to form a smooth arc.

Example: 43' arc using chart on page 17





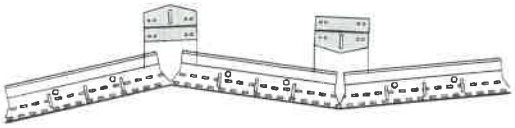
COMPLETING THE TEMPLATE – OPTION 1

1 Cut along the arc and remove section of template.

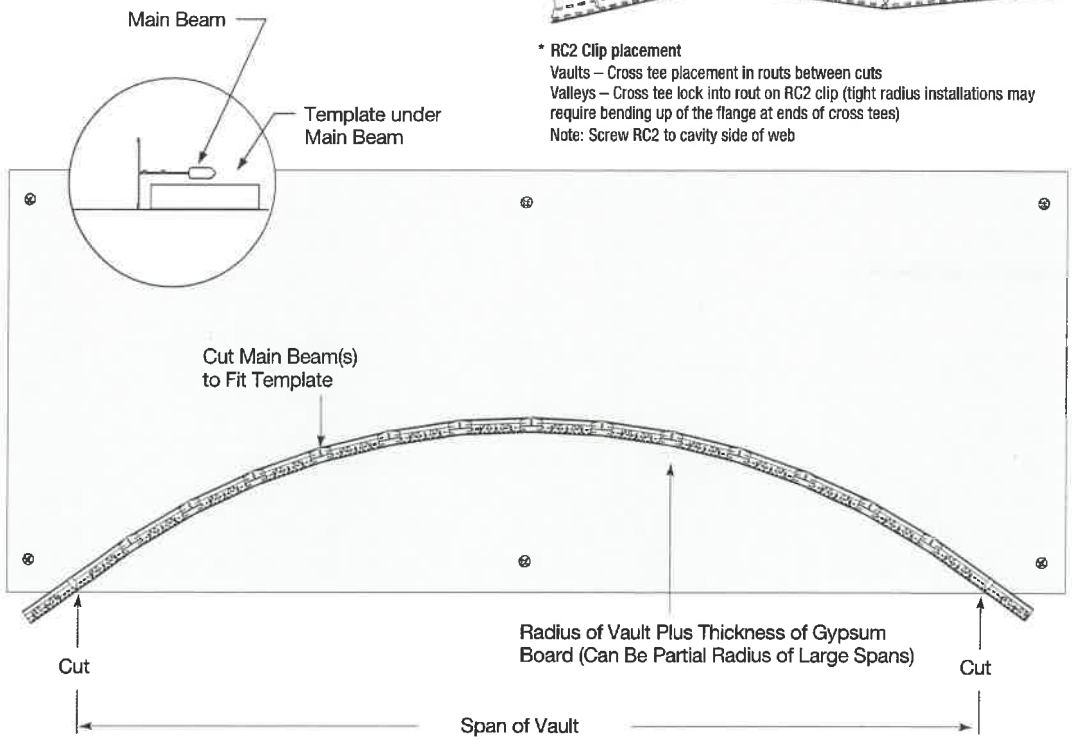
2 Cut main beam as required and position along the cut radius on the template (use chart on page 17).

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.

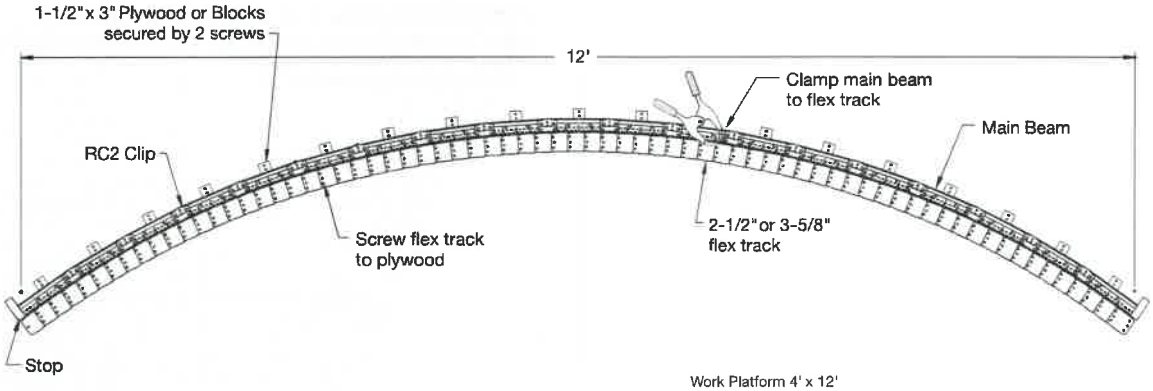


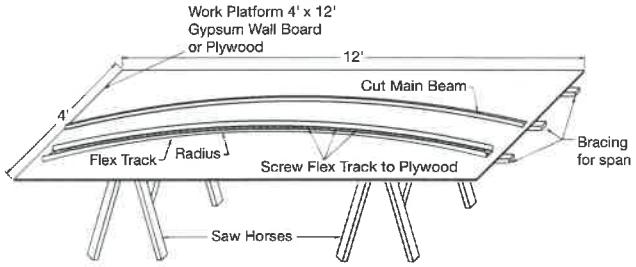
* RC2 Clip placement
Vaults – Cross tee placement in routs between cuts
Valleys – Cross tee lock into rout on RC2 clip (tight radius installations may require bending up of the flange at ends of cross tees)
Note: Screw RC2 to cavity side of web



MAKING A TEMPLATE

COMPLETING THE TEMPLATE – OPTION 2





1. 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

2' Increments from Center Line	10' 0"	11' 0"	12' 0"	13' 0"	14' 0"	15' 0"	16' 0"	17' 0"	18' 0"	19' 0"	20' 0"	21' 0"	22' 0"	23' 0"	24' 0"
2'	2"	2-1/4"	2"	1-7/8"	1-3/4"	1-5/8"	1-1/2"	1-1/2"	1-3/8"	1-1/4"	1-1/4"	1-1/8"	1-1/8"	1-1/8"	1"
4'	10"	9-1/8"	8-1/4"	7-5/8"	7"	6-1/2"	6-1/8"	5-3/4"	5-3/8"	5-1/8"	4-7/8"	4-5/8"	4-3/8"	4-1/4"	4"
6'	2'0"	1'9-3/8"	1'7-3/8"	1'5-5/8"	1'4-1/4"	1'3"	1'2"	1'1-1/8"	1'0-3/8"	11-3/4"	11-1/8"	10-1/2"	10"	9-5/8"	9-1/8"
8'	4'0"	3'5-5/8"	3'0-3/4"	2'9-1/8"	2'6-1/8"	2'3-3/4"	2'1-3/4"	2'0"	1'10-1/2"	1'9-1/4"	1'8-1/8"	1'7"	1'5-1/8"	1'5-1/4"	1'4-1/2"
	25' 0"	26' 0"	27' 0"	28' 0"	29' 0"	30' 0"	31' 0"	32' 0"	33' 0"	34' 0"	35' 0"	36' 0"	37' 0"	38' 0"	39' 0"
2'	1"	1"	7/8"	7/8"	7/8"	7/8"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	5/8"	5/8"	5/8"
4'	3-7/8"	3-3/4"	35/8"	3-1/2"	3-3/8"	3-1/4"	3-1/8"	3"	3"	2-7/8"	2-3/4"	2-3/4"	2-5/8"	2-5/8"	2-1/2"
6'	8-3/4"	8-1/2"	81/2"	7-7/8"	7-1/2"	7-1/4"	7-1/8"	6-7/8"	6-5/8"	6-3/8"	6-1/4"	6-1/8"	5-7/8"	5-3/4"	5-5/8"
8'	1'3-3/4"	1'3-1/8"	1'25/8"	1'2"	1'2-1/2"	1'1-1/8"	1'0-5/8"	1'0-1/4"	11-1/2"	11-1/2"	11-1/8"	10-7/8"	10-1/2"	10-1/4"	10"
	40' 0"	41' 0"	42' 0"	43' 0"	44' 0"	45' 0"	46' 0"	47' 0"	48' 0"	49' 0"	50' 0"	51' 0"	52' 0"	53' 0"	54' 0"
2'	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
4'	2-3/8"	2-3/8"	2-3/8"	2-1/4"	2-1/8"	2-1/8"	2-1/8"	2-1/8"	2"	2"	2"	1-7/8"	1-7/8"	1-3/4"	1-3/4"
6'	5-1/2"	5-3/8"	5-1/4"	5-1/8"	5"	4-7/8"	4-3/4"	4-5/8"	4-1/2"	4-1/2"	4-3/8"	4-1/4"	4-1/4"	4-1/4"	4"
8'	9-3/4"	9-1/2"	9-1/4"	9"	8-7/8"	8-5/8"	8-1/2"	8-1/4 "	8-1/8"	7-7/8"	7-3/4"	7-5/8"	7-1/2"	7-3/8"	7-1/8"
	55' 0"	56' 0"	57' 0"	58' 0"	59' 0"	60' 0"	61' 0"	62' 0"	63' 0"	64' 0"	65' 0"	66' 0"	67' 0"	68' 0"	69' 0"
2'	1/2"	1/2"	1/2"	1/2"	1/2"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
4'	1-3/4"	1-3/4"	1-3/4"	1-3/4"	1-5/8"	1-5/8"	1-5/8"	1-5/8"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-3/8"
6'	4"	3-7/8"	3-7/8"	3-3/4"	3-3/4"	3-5/8"	3-5/8"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	3-1/4"	3-1/4"	3-1/4"	3-1/8"
8'	7"	6-7/8"	6-3/4"	6-5/8"	6-5/8"	6-1/2"	6-3/8"	6-1/4"	6-1/8"	6"	6"	5-7/8"	5-3/4"	5-3/4"	5-5/8"
	70' 0"	71' 0"	72' 0"	73' 0"	74' 0"	75' 0"	76' 0"	77' 0"	78' 0"	79' 0"	80' 0"	81' 0"	82' 0"	83' 0"	84' 0"
2'	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
4'	1-3/8"	1-3/8"	1-3/8"	1-3/8"	1-3/8"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/8"
6'	3-1/8"	3-1/8"	3"	3"	3"	2-7/8"	2-7/8"	2-7/8"	2-3/4"	2-3/4"	2-3/4"	2-3/4"	2-5/8"	2-5/8"	2-5/8"
8'	5-1/2"	5-1/2"	5-3/8"	5-1/4"	5-1/4"	5-1/8"	5-1/8"	5"	5"	4-7/8"	4-7/8"	4-3/4"	4-3/4"	4-5/8"	4-5/8"
	85' 0"	86' 0"	87' 0"	88' 0"	89' 0"	90' 0"	91' 0"	92' 0"	93' 0"	94' 0"	95' 0"	96' 0"	97' 0"	98' 0"	99' 0"
2'	3/8"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
4'	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1-1/8"	1"	1"	1"	1"	1"	1"
6'	2-5/8"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-3/8"	2-3/8"	2-3/8"	2-3/8"	2-3/8"	2-1/4"	2-1/4"	2-1/4"	2-1/4"	2-1/4"
8'	4-1/2"	4-1/2"	4-1/2"	4-3/8"	4-3/8"	4-1/4"	4-1/4"	4-1/4"	4-1/8"	4-1/8"	4-1/8"	4"	4"	4"	3-7/8"
	100' 0"	105' 0"	110' 0"	115' 0"	120' 0"	125' 0"	130' 0"	135' 0"	140' 0"	145' 0"	150' 0"	155' 0"	160' 0"	165' 0"	170' 0"
2'	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/8"	1/8"	1/8"
4'	1"	1"	7/8"	7/8"	7/8"	3/4"	3/4"	3/4"	3/4"	3/4"	5/8"	5/8"	5/8"	5/8"	5/8"
6'	2-1/4"	2-1/8"	2"	1-7/8"	1-7/8"	1-3/4"	1-3/4"	1-5/8"	1-5/8"	1-1/2"	1-1/2"	1-3/8"	1-3/8"	1-3/8"	1-1/4"
8'	3-7/8"	3-3/4"	3-1/2"	3-3/8"	3-1/4"	3-1/8"	3"	2-7/8"	2-3/4"	2-3/4"	2-5/8"	2-1/2"	2-3/8"	2-3/8"	2-1/4"
	175' 0"	180' 0"	185' 0"	190' 0"	195' 0"	200' 0"	210' 0"	220' 0"	230' 0"	240' 0"	250' 0"				
2'	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"				
4'	5/8"	5/8"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	3/8"	3/8"	3/8"				
6'	1-1/4"	1-1/4"	1-1/4"	1-1/8"	1-1/8"	1-1/8"	1"	1"	1"	7/8"	7/8"				
8'	2-1/4"	2-1/8"	2-1/8"	2"	2"	2"	1-7/8"	1-3/4"	1-5/8"	1-5/8"	1-1/2"				

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BPCS-3542-118

How to convert grid lineal foot (LF) load to square foot (SF) uniform membrane load:

1. Find on the grid data page the LF load carrying capacity. example – 28.14 if (HD8906@L/240)

2. What is the on center wire spacing along the main runner? Example – 4'oc (could be 2' or 3'

   depending on load requirements)

3. Multiply both figures together to get what the LF load carrying capacity is for 4'oc wire spacing.

   28.14

   X 4

   112.56lbs (for every 4 feet)

4. Divide your answer above by how many square feet that 4' distance will carry. You will need to know how far apart your main runners will be.

Wire Spacing		Main Runners	
4'	x	4'	=16sf
4'	x	3'	=12sf
4'	x	2'	=8sf
3'	x	3'	=9sf
2'	x	2'	=4sf

The answer is your membrane load per square foot!
112.56/16 = 7.03lbs per sf

Building S & Code Enforcement
451 South State Street, Room 215
PO Box 145490
Salt Lake City, UT 84114
www.slcpermits.com
801-535-6000

Updated 10-2012

Grid Ceiling Construction Guidance

Suspended Acoustical Grid Ceilings

2009 International Building Code

SECTION 808 ACOUSTICAL CEILING SYSTEMS
808.1.1.1 Suspended acoustical ceilings. Suspended acoustical ceiling systems shall be installed in accordance with the provisions of ASTM C 635 and ASTM C 636.

SECTION 1613 EARTHQUAKE LOADS 1613.1 SCOPE

Every structure, and portion thereof, including nonstructural components that are permanently attached to structures and their supports and attachments, shall be designed and constructed to resist the effects of earthquake motions in accordance with ASCE 7, excluding Chapter 14 and Appendix 11A. The seismic design category for a structure is permitted to be determined in accordance with Section 1613 or ASCE 7.

EXCEPTIONS

1. Detached one & two family dwellings, assigned to Seismic Design Category A, B or C, or located where the mapped short-period spectral response acceleration, SS, is less than 0.4 g
2. The seismic-force-resisting system of wood-frame buildings that conform to the provisions of Section 2308 are not required to be analyzed as specified in this section
3. Agricultural storage structures intended only for incidental human occupancy
4. Structures that require special consideration of their response characteristics and environment that are not addressed by this code or ASCE 7 and for which other regulations provide seismic criteria, such as vehicular bridges, electrical transmission towers, hydraulic structures, buried utility lines and their appurtenances and nuclear reactors.

ASCE STANDARD ASCE/SEI 7-10 American Society of Civil Engineers

Minimum Design Loads for Buildings and Other Structures

13.5.6.2.2 SEISMIC DESIGN CATEGORIES D THROUGH F

Acoustical tile or lay-in panel ceilings in Seismic Design Categories D, E, and F shall be designed and installed in accordance with ASTM C635, ASTM C636, and ASTM E580, Section 5—Seismic Design Categories D, E, and F as modified by this section.

Acoustical tile or lay-in panel ceilings shall also comply with the following

a. The width of the perimeter supporting closure angle or channel shall be not less than 2.0 in. (50 mm). Where perimeter supporting clips are used, they shall be qualified in accordance with approved test criteria. In each orthogonal horizontal direction, one end of the ceiling grid shall be attached to the closure angle or channel. The other end in each horizontal direction shall have a 0.75 in. (19 mm) clearance from the wall and shall rest upon and be free to slide on a closure angle or channel.

b. For ceiling areas exceeding 2,500 ft2 (232 m2), a seismic separation joint or full height partition that breaks the ceiling up into areas not exceeding 2,500 ft2 (232 m2), each with a ratio of the long to short dimension less than or equal to 4, shall be provided unless structural analyses are performed of the ceiling bracing system for the prescribed seismic forces that demonstrate ceiling penetrations and closure angles or channels provide sufficient clearance to accommodate the anticipated lateral displacement. Each area shall be provided with closure angles or channels in accordance with Section 13.5.6.2.2.a and horizontal restraints or bracing.

ASTM International, Designation C636/C636M-08

SUMMARY OF STANDARD PRACTICE FOR SUSPENSION CEILING INSTALLATION

1. Hangers for carrying channels or main runners 4 ft 0 in. [1200 mm] on centers.
2. Each suspension wire shall not hang more than one in six out of plumb unless a countersloping wire or horizontal bracing is provided. Suspension wires should not press against ducts or pipes.
3. Wire hangers shall be a minimum of No. 12-gage [2.70 mm] galvanized, soft-annealed, mild steel wire.
4. Local kinks or bends shall not be made in hanger wires as a means of leveling carrying channels.
5. In installations where hanger wires are wrapped around carrying channels, the wire loops shall be tightly formed to prevent any vertical movement or rotation of the member within the loop.

MAIN RUNNERS

1. Install main runners so that they are all level to within 1/4 in. in 10 ft [6 mm in 3000 mm] after completion of the ceiling installations but prior to building occupancy.
2. Local kinks or bends shall not be made in hanger wires as a means of leveling main runners.
3. In installations where hanger wires are wrapped through or around main runners, the wire loops shall be tightly wrapped and sharply bent to prevent any vertical movement or rotation of the member within the loops. The wire must be wrapped around itself a minimum of three full turns (360° each) within a 3-in. [75 mm] length. For safety purposes, the bottom of the hanger wires shall either be cut close to the vertical portion of the wire or shall be bent upward parallel to the vertical portion of the hanger wire.

CROSS RUNNERS

1. Install cross runners supported by either main runners or by other cross runners to within 1/32 in. [.8 mm] of the required center distances. This tolerance shall be noncumulative beyond 12 ft [3600 mm].
2. The exposed surfaces of the two intersecting runners shall lie within a vertical distance of .015 in. [.4 mm] of each other with the abutting (cross) member always above the continuous (main) member.

ASSEMBLY DEVICES

1. Join abutting sections of the main runner by means of suitable connection such as splices, interlocking ends, tab locks, pin locks, and so forth. A joint connection shall be judged suitable both before and after ceiling loads are imposed if the joint provides sufficient alignment so that the exposed surfaces of two abutting main runners lie within a vertical distance of .015 in. [.40 mm] of each other.
2. There shall be no visually app angular displacement of the longitudinal axis of one runner with respect to the other.
3. Assembly devices shall provide sufficient spacing control so that horizontal gaps between exposed surfaces of either abutting or intersecting member shall not exceed .020 in. [.50 mm].
4. Fixtures shall not be supported from main runners or cross runners if the weight of the fixture causes the total dead load to exceed the deflection capability of the ceiling suspension system. In such cases, the fixture load shall be support by supplemental hangers within 6 in. [150 mm] of each corner, or the fixture shall be separately supported.

INSPECTION

1. Ceiling inspection shall be made with final building occupancy lighting conditions. If temporary lighting must be used, temporary conditions will approximate the final lighting condition.

ASTM International, Designation E580/E580M-09a

SUMMARY OF STANDARD PRACTICE FOR SUSPENSION CEILING INSTALLATION IN SEISMIC ACTIVITY ZONES, IN ADDITION TO ASTM 636

1. Ceiling areas of 1000 ft2 [92.9m2] or less are exempt from lateral force bracing requirements.

SUSPENSION SYSTEM COMPONENTS

1. The main runners and cross runners of the ceiling system and their splices, intersection connectors, and expansion devices shall be designed and constructed to carry a mean ultimate test load of not less than 1800 lb [80 kg] in compression and in tension. The tensile test shall allow for a 5° offset of the connection in any direction. Instead of a 5° misalignment, the load can be applied with a 1-in. [25 mm] eccentricity on a sample not more than 24 in. [600 mm] long on each side of the splice or intersection. The connectors at splices and intersection shall be the mechanical interlocking type.
2. The perimeter support angle shall supply a support ledge of not less than 2 in. [50 mm].

3 Main runner and/or cross runner ends shall be attached to the perimeter on two adjacent walls. A clearance of 3/4 in. [18 mm] shall be maintained between the main runner and cross runner ends and the perimeter members on the two opposite walls. On the walls where the terminal end runners are not fixed to the perimeter supporting closure, allow for 3/4 in. [18 mm] of axial movement.

4 Terminal ends of the main runners and cross members shall be tied together or have some other approved means to prevent their spreading. Stabilizer bars, cross tees or other means to percent spreading shall occur within 8 in. [200 mm] of each wall.

5 Direct concealed suspended ceiling systems shall have positively connected stabilizer bars or mechanically connected cross runners at a maximum spacing of 60 in. [1500 mm] perpendicular to the main runners. Stabilization shall occur within 24 in. [600 mm] of each wall.

6 The terminal end of each cross runner and main runner shall be supported independently, a maximum of 8 in. (200 mm) from each wall or ceiling discontinuity with No. 12 gauge [2.70 mm] wire or approval wall support.

SUSPENSION WIRE APPLICATOR

1 Connection devices to the supporting construction shall be capable of carrying not less than a 100-lb [45 kg] allowable load.

2 Wires shall not attach to or bend around interfering material or equipment. A trapeze or equivalent device shall be used where obstructions preclude direct suspension. Trapeze suspensions shall be sized to resist the dead load and lateral forces appropriate for the seismic design category.

LATERAL FORCE BRACING

1 Lateral force bracing is required for all ceiling areas greater than 1000 ft2 [92.9 m2].

2 Horizontal restraints shall be effected be four No. 12-gauge [2.70 mm] wires secured to the main runner within 2 in. [50 mm] of the cross runner intersection and splayed 90° from each other at an angle not exceeding 45° from the plane of the bracing wires shall be extended to and fastened to the structural members supporting the roof or floor above. The strut shall be adequate to resist the vertical component induced by the bracing wires. these horizontal restraint points shall be placed 12 ft [3600 mm] on center in both directions with the first point within 6 ft [1800 mm] from each wall. Attachment of the restraint wires to the structure above and to the main runner shall be adequate for the load imposed.

3 Lateral force bracing members shall be space a minimum of 6 in. [150 mm] from all horizontal piping or duct work that is not provided with bracing restraints for horizontal forces. Bracing wire shall be attached to the grid and to the structure in such a manner that they can support a load of not less than 200 lb [90 kg] or two times the actual design load, whichever is greater.

4 Rigid braces that have been designed to limit relative lateral deflections at the point of attachment of the ceiling grid to less than .25 in. [6 mm] are permitted to be used in the place of diagonal splay wires.

SEISMIC SEPARATION JOINT

1 All continuous ceiling areas exceeding 2500 ft2 [232 m2], shall have a seismic separation joint, bulkhead braced to the structure or full height partition that breaks the ceiling into areas of no more than 2500 ft2 [232 m2] and having a ratio of the long to short dimension less than or equal to 4. Each area shall be capable of allowing ± 3/4 in. [18 mm] axial movement. Areas surrounded by bulkheads or full height partitions shall be provided with closure angles.

2 Each area with a seismic separation joint, bulkhead or full height partition shall have horizontal bracing or restraints.

3 When the load carrying capability of cross tees supporting light fixtures is less than 16 lbs/ft (241.7 N/m), supplemental hanger wires shall be required.

4 Lighting fixtures weighing greater than 10 lb [5 kg] shall have one, No. 12 gauge [2.70 mm] safety wire connect from the fixture housing to the structure above. It is not necessary for these safety wires to be taut.

5 Lighting fixtures weighing greater than 10 lb [5 kg] but less than 56 lb [25 kg] shall have in addition to the requirements outlined in 5.3.4, two No. 12 gauge [2.70 mm] hanger wires connected from the fixture housing (not the detachable end plates) to the structure above that act as safety wires. It is not necessary for these safety wires to be taut.

6 Lighting fixtures weighing 56 lb [25 kg] or more shall be supported directly from the structure above be approved hangers.

7 Pendent-hung lighting fixtures shall be supported directly from the structure above using no less than No. 9-gauge [3.70 mm] wire or an approved alternative support. The ceiling suspension system shall not provide any direct support.

8 Rigid conduit shall not be used for attachment of the fixtures.

SERVICES WITHIN THE CEILING

1 Flexible sprinkler hose fittings, ceiling-mounted air terminals or other services weighing less than 20 lb [9 kg] shall be positively attached to the ceiling suspension main runners or to cross runners that have the same carrying capacity as the main runners.

2 Flexibility sprinkler hose fittings, air terminals or other services weighing less than 20 lb [9 kg] but less than 56 lb [25 kg] shall have, in addition to the requirements in 5.4.1, two No 12-gauge [2.70 mm] hanger wires connected from the terminal or service to the ceiling system hangers or to the structure above that act as safety wires. It is not necessary for these wires to be taut.

3 Flexible sprinkler hose fittings, ceiling-mounted air terminals or other services weighing more that 56 lb [25 kg] shall be supported directly from the structure above by approved hangers.

DRAWINGS & SPECIFICATIONS

1 The drawing shall clearly identify all systems and shall define or show all supporting details, lighting fixture attachment, lateral force bracing, partition bracing, etc. When this standard is referenced in a drawing, this standard shall be considered part of the requirements of the drawing to the prescribed extent of such reference. Where differences occur between provisions of this standard and referenced codes, the provisions of this standard and referenced codes, the provisions of the code shall apply. Deviations or variation shall be shown or defined in details.

Suspended Ceilings and Soffits

Job Sheet 1 - Suspended Ceiling Installation

Job Description

To complete this job successfully, the participant will:

- demonstrate the use of all shop safety rules
- demonstrate the safe use of all hand and power tools
- identify all the components of a suspended drywall grid ceiling
- lay out and install the hangers in the correct location
- lay out and install an Armstrong Drywall Grid ceiling to the given reflected ceiling plant and specifications
- layout a story poll to the dimensions on the template

Materials

- Drywall Grid Main Runners
- 4' cross tees
- 6' cross tees
- #12 hanger wire
- Mini screws
- 1 1/4" drywall screws
- Drywall grid wall Angle

Tools

- screw gun
- extension cord
- metal framing and drywall hand tools

Safety Precautions

Wear the proper PPE for the job and local requirements, including gloves, safety glasses, hardhat, and work boots.
Ensure proper grounding of tools and cords.
Keep the work area clean and safe.
Review general and particular safety requirements.

Procedure

Refer to the **Tech**Line DGS Sub -ceiling RCP to complete the project.

1. Determine the drywall grid layout from the light location and direction shown on the reflected ceiling plan
2. Determine the elevation from the drawings, considering all finishes.
3. Measure to determine the high point of the floor and use it to establish the framing line ceiling elevation.
4. Install the wall angle to the elevation determined in step 4 around the room.
5. Mark the main beams and cross tee centerlines along the wall molding using the information from step1.
6. Install the required 12 gauge hangers 4'-0" along the main runners.
7. Install the two control lines, one along the centerline of the main runner and the other locating the cross tee.
8. Measure the location of the first cross tee.
9. Hook the foot of your tape measure into the center rout hole in the main closest to the measurement determined in step 9.
10. Bend the hanger wire located closest to the uncut end of the main runner to the correct height using the laser level.
11. Install the first main runner on the wall molding and insert the hanger to support the free end.
12. Repeat steps 11 & 12 for the next main runner.
13. Install the cross tees on layout between the first two main runners.
14. Temporarily clamp the main runners to the wall molding in the correct location.
15. Lay the cross tee on the wall molding bump the clip to the wall and cut to the control line, turn the tee around and lock it into the main runner adjusting it to the line and clamp to the correct location.
16. Repeat step 16 for all remaining cross tees.
17. With the cross tees and main runners clamped to the line, check the grid for square by measuring the diagonals of a full bay adjacent to the lines.
18. If adjustment of the grid is necessary to square the grid, realign the control line to the now square grid before proceeding to the next step.
19. Permanently fasten the grid to the wall molding.
20. Level and tie all hangers in an area before moving on to another section of the ceiling.
21. Continue the grid installation in the same manner, following the control lines for a square installation

Suspended Ceilings and Soffits

Job Sheet 1 - Suspended Ceiling Installation

EVALUATION CHECKLIST	YES	NO
Participant used the correct tools for each part of the project	_____	_____
Participant used the correct material for the project.	_____	_____
Participant used the proper amount of material for the project.	_____	_____
Participant followed all shop safety rules.	_____	_____
The procedures followed as described below:		
Laid out determined from the provided ceiling plan.	_____	_____
Identified the high point of floor before determining ceiling elevation.	_____	_____
Installed the wall angle correctly to the elevation determined.	_____	_____
Marked the main beams and cross tee centerlines along the wall molding.	_____	_____
Install the required 12 gauge hangers 4'-0" along the main runners.	_____	_____
Installed the two control lines for the main runner and cross tee.	_____	_____
Installed the first two main runners correctly.	_____	_____
Set the cross tees into the correct location.	_____	_____
Checked the grid for square and readjusted lines if necessary.	_____	_____
Fastened the grid square, leveled the hangers and completed the ceiling.	_____	_____

Comments

_____

_____

Participant _____ Instructor _____ Date _____

Suspended Soffits

Building a Template for a Suspended 2 Step Drywall Grid Soffit, Job Sheet 2

Job Description

- To complete this job successfully, the participant will:
- Demonstrate the use of all shop safety rules
- Demonstrate the safe use of all hand and power tools
- Identify all the components of a suspended drywall grid soffit
- Lay out the template for main runners as directed on the project print and specifications
- Layout a story poll to the dimensions on the template

Materials

- ¾" Plywood
- Drywall Grid Main Runners
- Mini screws
- 1 1/4" drywall screws
- 90° Drywall Angle clips

Tools

- screw gun
- extension cord
- metal framing and drywall hand tools

Safety Precautions

- Wear the proper PPE for the job and local requirements, including gloves, safety glasses, hardhat, and work boots.
- Ensure proper grounding of tools and cords.
- Keep the work area clean and safe.
- Review general and particular safety requirements.

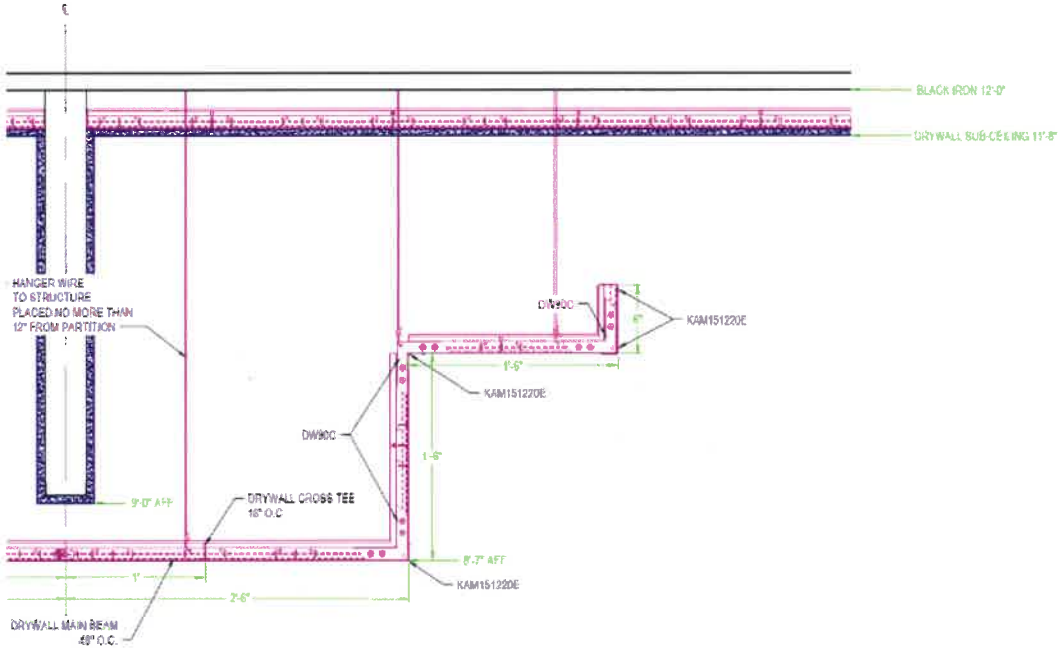
Suspended Soffits

Building a Template for a Suspended 2 Step Drywall Grid Soffit, Job Sheet 2

Procedure

Refer to the Armstrong® **Tech**Line soffit 1 drawing to complete the project.

1. Layout the finish soffit profile on a piece of plywood or workbench.
2. Identify the framing line from the finish layout of the template.
3. Double-check all dimensions before cutting the template along the framing lines.
4. Measure the template to determine, the size of each piece, where to cut, and witch direction to bend the mains.
5. Using the dimensions taken from previous step, Layout the edge of the template to act as a story pole to accurately layout each main runner.
6. Mark and Cut main the first main runner to the story pole and check the fit with the template. (If an adjustments are made to the main runner to fit the template, then adjust the story poll accordingly.)
7. With the main runner in the template and everything lining up, Mark the hanger and cross tee locations on the tee and the template and transfer this to the story pole.



8. When the template and story poll are correct, the fabrication of all the main runners can begin.

Suspended Soffits

Building a Template for a Suspended 2 Step Drywall Grid Soffit, Job Sheet 2

EVALUATION CHECKLIST	YES	NO
Participant used the correct tools for each part of the project	_____	_____
Participant used the correct material for the project.	_____	_____
Participant used the proper amount of material for the project.	_____	_____
Participant followed all shop safety rules.	_____	_____
The procedures were followed as described below:		
Laid out the finish soffit profile correctly on the plywood provided.	_____	_____
Identified the framing line from the finish layout of the template.	_____	_____
Double-check all dimensions before cutting the template along the framing lines.	_____	_____
Used the template to determine:		
The size of each piece.	_____	_____
Where to cut the main runner.	_____	_____
Witch direction to bend the mains.	_____	_____
Used the template dimensions to layout the edge of the template to act as a story pole to accurately layout each main runner.	_____	_____
Marked and Cut main the first main runner to the story pole and check the fit with the template.	_____	_____
Marked the hanger and cross tee locations on the tee and the template, and transfer this to the story pole.	_____	_____

Comments

_____

_____

_____

Participant _____ Instructor _____ Date _____

Suspended Soffits

Building a Template for a Suspended Drywall Grid Stepped Soffit, with 2 light pockets Job Sheet 3

Job Description

- To complete this job successfully, the participant will:
- Demonstrate the use of all shop safety rules
- Demonstrate the safe use of all hand and power tools
- Identify all the components of a suspended drywall grid soffit
- Lay out the template for main runners as directed on the project print and specifications
- Layout a story poll to the dimensions on the template

Materials

- ¾" Plywood
- Drywall Grid Main Runners
- Mini screws
- 1 1/4" drywall screws
- 90° Drywall Angle clips

Tools

- screw gun
- extension cord
- metal framing and drywall hand tools

Safety Precautions

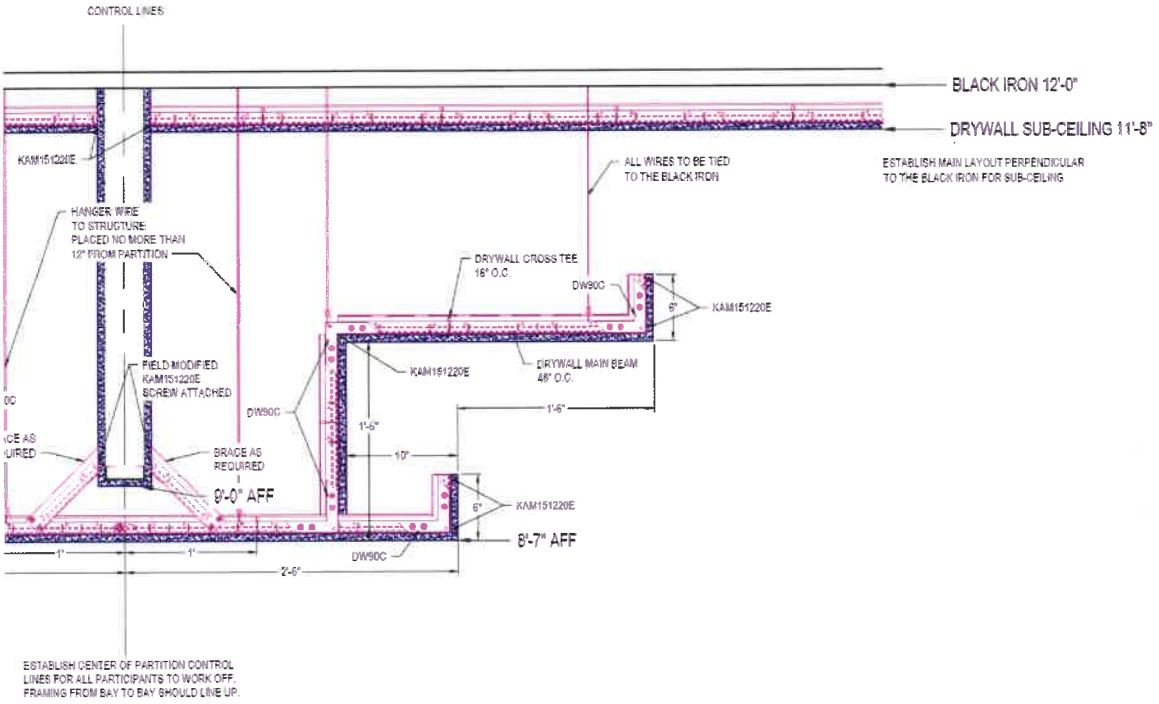
Wear the proper PPE for the job and local requirements, including gloves, safety glasses, hardhat, and work boots.
Ensure proper grounding of tools and cords.
Keep the work area clean and safe.
Review general and particular safety requirements.

Suspended Soffits

Building a Template for a Suspended Drywall Grid Stepped Soffit, with 2 light pockets Job Sheet 3

Procedure

Refer to the Armstrong® **Tech**Line soffit 1 drawing to complete the project.



1. Layout the finish soffit profile on a piece of plywood or workbench starting at the centerline.
2. Identify the framing line from the finish layout of the template.
3. Double-check all dimensions before cutting the template along the framing lines.
4. Measure the template to determine, the size of each piece, where to cut, and witch direction to bend the mains.
5. Using the dimensions taken from previous step, Layout the edge of the table to act as a story pole to accurately layout each main runner.
6. Mark and Cut main the first main runner to the story pole and check the fit with the template. (If an adjustment is made to the main runner to fit the template, then adjust the story poll accordingly.)

Suspended Soffits

Building a Template for a Suspended Drywall Grid Stepped Soffit, with 2 light pockets Job Sheet 3

Procedure (cont.)

Refer to the Armstrong® **Tech**Line soffit 1 drawing to complete the project.

7. With the main runner in the template and everything lining up, Mark the hanger and cross tee locations on the tee and the template and transfer this to the story pole.
8. When the template and story poll are correct, the fabrication of all the main runners can begin.

Suspended Soffits

Building a Template for a Suspended Drywall Grid Stepped Soffit, with 2 light pockets Job Sheet 3

Evaluation Checklist	**Yes**	**No**
Participant used the correct material for the project.	_____	_____
Participant used the proper amount of material for the project.	_____	_____
Participant followed all shop safety rules.	_____	_____
The procedures were followed as described below:		
Laid out the finish soffit profile correctly on the plywood provided.	_____	_____
Identified the framing line from the finish layout of the template.	_____	_____
Double-check all dimensions before cutting the template along the framing lines.	_____	_____
Used the template to determine:		
The size of each piece.	_____	_____
Where to cut the main runner.	_____	_____
Witch direction to bend the mains.	_____	_____
Used the template dimensions to layout the edge of the template to act as a story pole to accurately layout each main runner.	_____	_____
Marked and Cut main the first main runner to the story pole and check the fit with the template.	_____	_____
Marked the hanger and cross tee locations on the tee and the template, and transfer this to the story pole.	_____	_____

Participant _____ Instructor _____ Date _____

Suspended Soffits

Installing The Suspended Drywall Grid Soffit, Job Sheet 4

Job Description

- To complete this job successfully, the participant will:
- Demonstrate the use of all shop safety rules
- Demonstrate the safe use of all hand and power tools
- Identify all the components of a suspended drywall grid soffit
- Lay out the template for main runners as directed on the project print and specifications
- Layout a story poll to the dimensions on the template

Materials

- Drywall Grid Main Beam Brackets
- Mini screws
- 1 1/4″ drywall screws
- 90° Drywall Angle

Tools

- screw gun
- extension cord
- metal framing and drywall hand tools

Safety Precautions

- Wear the proper PPE for the job and local requirements, including gloves, safety glasses, hardhat, and work boots.
- Ensure proper grounding of tools and cords.
- Keep the work area clean and safe.
- Review general and particular safety requirements.

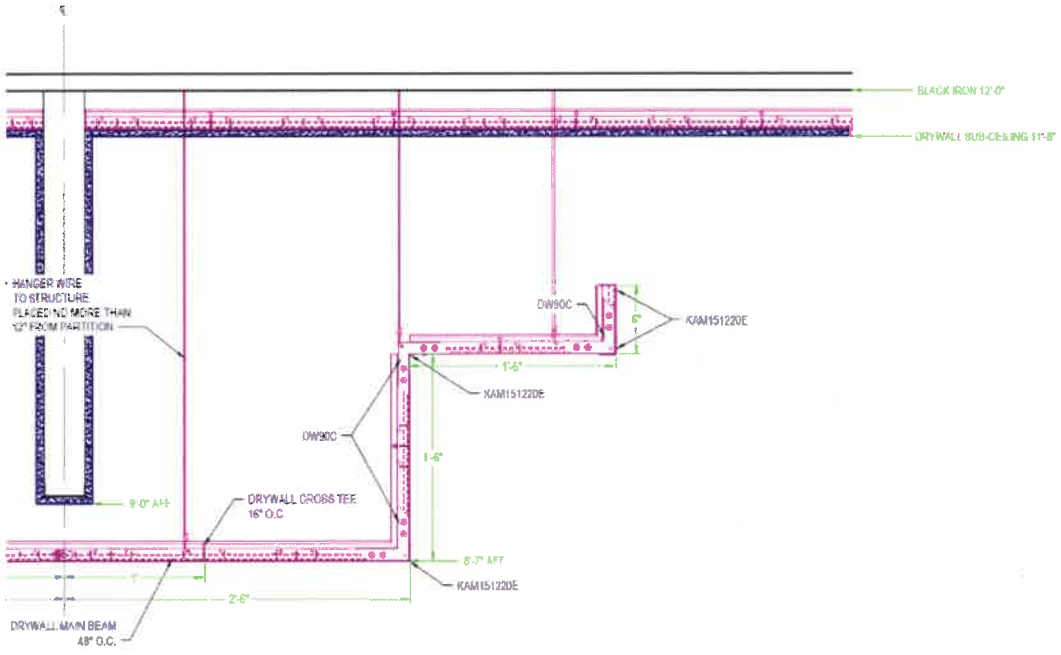
Suspended Soffits

Installing The Suspended Drywall Grid Soffit, Job Sheet 4

Procedure

Refer to the Armstrong® **Tech**Line soffit 1 drawing to complete the project.

1. Determine the location of the Drywall Main beam brackets (for our shop position the brackets under the 1 ½" channel, running in line with the bracket for ease of hanger installation).
2. Install all hanger wires in the pre-determined location on the template.
3. Bend the hangers to the dimensions given on the template.
4. Install the brackets into the pre-bent hangers.
5. Install the cross tees in the correct location.
6. Continue until all main beam brackets and cross tees are installed.
7. Brace the brackets to the wall or soffit centerline.



Suspended Soffits

Installing The Suspended Drywall Grid Soffit, Job Sheet 4

EVALUATION CHECKLIST	YES	NO
Participant used the correct tools for each part of the project	_____	_____
Participant used the correct material for the project.	_____	_____
Participant used the proper amount of material for the project.	_____	_____
Participant followed all shop safety rules.	_____	_____
Laid out hangers under existing 1 ½" CRC.	_____	_____
Used the template to determine:		
The location of the hanger wire.	_____	____
What dimension to pre-bend the hangers.	_____	_____
Installed:		
the brackets into the pre-bent hangers.	_____	_____
the cross tees in the correct location.	_____	_____
all main brackets and cross tees.	_____	_____
The brackets to wall or center line of soffit.	_____	_____

Comments

_____

_____

_____

Participant _____ Instructor _____ Date _____

Suspended Soffits

Building a Template for a Suspended Drywall Grid Stepped Soffit,#3 Job Sheet 5

Job Description

- To complete this job successfully, the participant will:
- Demonstrate the use of all shop safety rules
- Demonstrate the safe use of all hand and power tools
- Identify all the components of a suspended drywall grid soffit
- Lay out the template for main runners as directed on the project print and specifications
- Layout a story poll to the dimensions on the template

Materials

- ¾" Plywood
- Drywall Grid Main Runners
- Mini screws
- 1 1/4" drywall screws
- 90° Drywall Angle clips

Tools

- screw gun
- extension cord
- metal framing and drywall hand tools

Safety Precautions

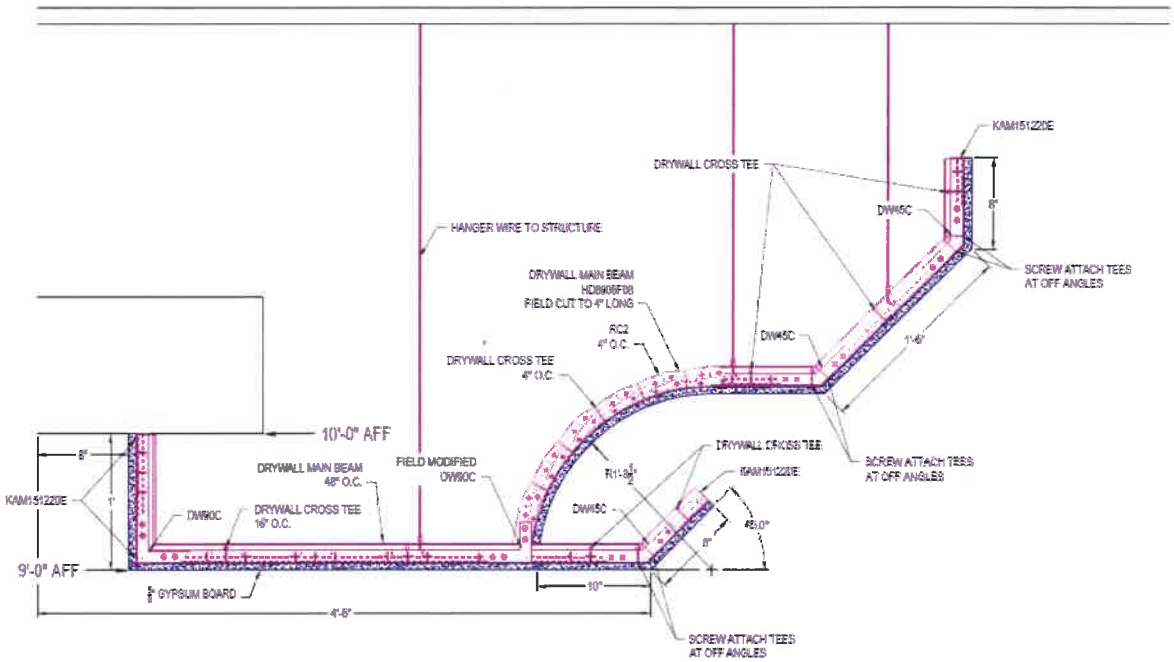
- Wear the proper PPE for the job and local requirements, including gloves, safety glasses, hardhat, and work boots.
- Ensure proper grounding of tools and cords.
- Keep the work area clean and safe.
- Review general and particular safety requirements.

Suspended Soffits

Building a Template for a Suspended Drywall Grid Stepped Soffit,#3 Job Sheet 5

Procedure

Refer to the Armstrong® **Tech**Line soffit 3 drawing to complete the project.



1. Layout the finish soffit profile on a piece of plywood or workbench.
2. Identify the framing line from the finish layout of the template.
3. Double-check all dimensions before cutting the template along the framing lines.
4. Measure the template to determine, the size of each main beam, where to cut, and witch direction to bend the mains.
5. Both pieces of mains are cut from one main beam. Before cutting the main beam, plan the rout spacing to be at the lowest point on the curve (centered in the 4" cut section).
6. Using all the dimensions taken from previous steps, Layout the edge of the table to act as a story pole to accurately layout each main runner.
7. Planning for the rout slot to line up in the center of the 4" cut section will require removal of a section of main beam between the two usable pieces. This unused section must be marked on the story pole for removal.

Suspended Soffits

Building a Template for a Suspended Drywall Grid Stepped Soffit,#3 Job Sheet 5

Procedure (cont.)

Refer to the Armstrong® **Tech**Line soffit 3 drawing to complete the project.

8. Mark and Cut main the first main runner to the story pole and check the fit with the template. (If an adjustments are made to the main runner to fit the template, then adjust the story poll accordingly.)
9. With the main runners in the template and everything lining up, Mark the hanger and cross tee locations on the tee and the template and transfer this to the story pole.
10. When the template and story poll are correct, the fabrication of all the main runners can begin.

Suspended Soffits

Building a Template for a Suspended Drywall Grid Stepped Soffit,#3 Job Sheet 5

EVALUATION CHECKLIST	YES	NO
Participant used the correct material for the project.	_____	_____
Participant used the proper amount of material for the project.	_____	_____
Participant followed all shop safety rules.	_____	_____
The procedures were followed as described below:		
Laid out the finish soffit profile correctly on the plywood provided.	_____	_____
Identified the framing line from the finish layout of the template.	_____	_____
Double-check all dimensions before cutting the template along the framing lines.	_____	_____
Used the template to determine:		
The size of each piece.	_____	_____
Where to cut the main runner.	_____	_____
Both pieces of mains were cut from one main beam.	_____	_____
Witch direction to bend the mains.	_____	_____
Used the template dimensions to layout the edge of the template to act as a story pole to accurately layout each main runner.	_____	_____
Marked and Cut main the first 2 mains to the story pole and check the fit with the template.	_____	_____
Marked the hanger and cross tee locations on the tee and the template, and transfer this to the story pole.	_____	_____

Comments

_____

_____

_____

Participant _____ **Instructor** _____ **Date** _____

Suspended Soffits

Installing The Suspended Drywall Grid Soffit #3, Job Sheet 6

Job Description

- To complete this job successfully, the participant will:
- Demonstrate the use of all shop safety rules
- Demonstrate the safe use of all hand and power tools
- Identify all the components of a suspended drywall grid soffit
- Lay out the template for main runners as directed on the project print and specifications
- Layout a story poll to the dimensions on the template

Materials

- Drywall Grid Main Beam Brackets
- Mini screws
- 1 1/4″ drywall screws
- 90° Drywall Angle

Tools

- screw gun
- extension cord
- metal framing and drywall hand tools

Safety Precautions

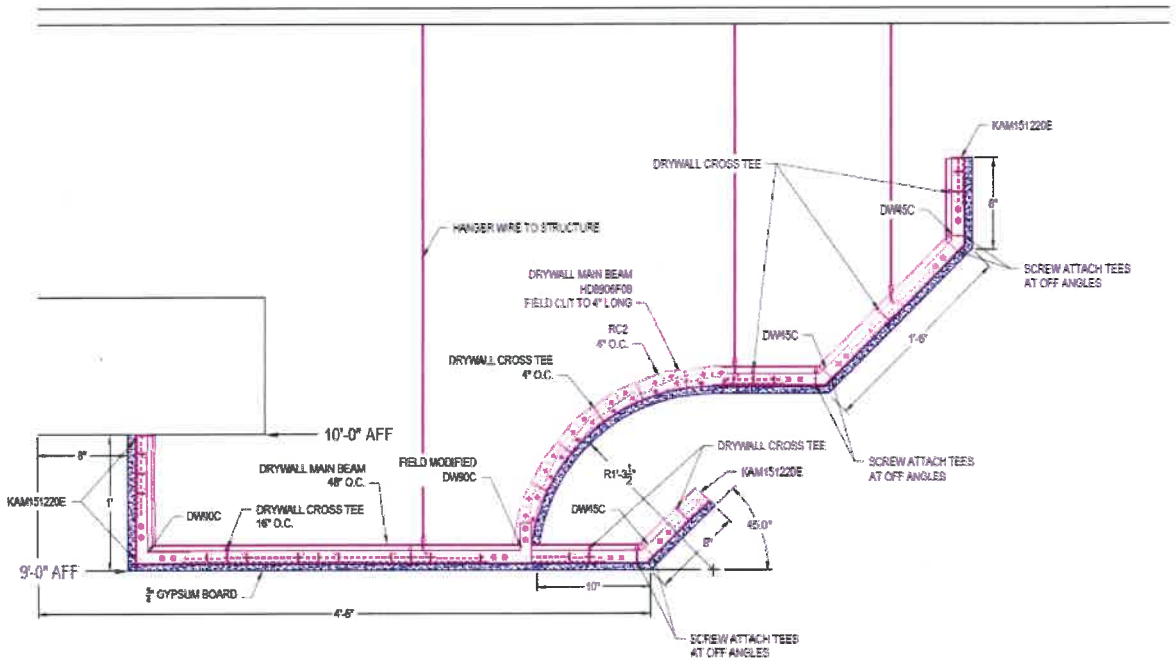
- Wear the proper PPE for the job and local requirements, including gloves, safety glasses, hardhat, and work boots.
- Ensure proper grounding of tools and cords.
- Keep the work area clean and safe.
- Review general and particular safety requirements.

Procedure

Suspended Soffits

Installing The Suspended Drywall Grid Soffit #3, Job Sheet 6

Refer to the Armstrong® **Tech**Line soffit 1 drawing to complete the project.



1. Determine the location of the Drywall Main beam brackets (for our shop position the brackets under the 1 ½" channel, running in line with the bracket for ease of hanger installation).
2. Install the KAM angle 8 5/8" from the outside wall to receive the bracket.
3. Install all hanger wires in the pre-determined location on the template.
4. Bend the hangers to the dimensions given on the template.
5. Install the brackets into the pre-bent hangers and fasten to the KAM angle.
6. Install the cross tees in the correct location.
7. Continue until all main beam brackets and cross tees are installed.
8. Build the corners after the standard brackets are set on both sides.

Suspended Soffits

Installing The Suspended Drywall Grid Soffit #3, Job Sheet 6

EVALUATION CHECKLIST	YES	NO
Participant used the correct tools for each part of the project	_____	_____
Participant used the correct material for the project.	_____	_____
Participant used the proper amount of material for the project.	_____	_____
Participant followed all shop safety rules.	_____	_____
Laid out hangers under existing 1 ½" CRC.	_____	_____
Used the template to determine:		
The location of the hanger wire.	_____	____
What dimension to pre-bend the hangers.	_____	_____
Installed:		
The brackets into the pre-bent hangers.	_____	_____
The cross tees in the correct location.	_____	_____
All main brackets and cross tees.	_____	_____
Screwed brackets to The KAM.	_____	_____
Completed all framing in the assigned area.	_____	_____

Comments

_____

_____

_____

Participant:

_____I

Instructor:

_____

Date:

_____

Workshop Test
Armstrong Certified Installer

Name:_____ Date:_____

True/False
Indicate whether the sentence or statement is true or false.

1. XL7936G90 are rated for 1hr on an exterior application.
    a. True
    b. False

2. XL8965HRC have 6 routes starting 24" from each end so they can accommodate type "f" fixtures?
    a. True
    b. False

3. When laying out drywall grid for type "F" light fixtures, the lights can only be parallel to the main beam.
    a. True
    b. False

4. All standard Drywall Grid System parts come standard with a G90 coating.
    a. True
    b. False

5. DW Clips are used for creating angles in mains & tees in 30, 45, 60 & 90-degree angles.
    a. True
    b. False

6. When screwing the Drywall Grid System together, it is best to use self-tapping framing screws to avoid screws stripping out during installation
    a. True
    b. False

7. Control Joints are installed to separate the metal system when expansion occurs in a ceiling span is over 50'?
    a. True
    b. False

8. 12 gage wire can be used to suspend a drywall grid system
    a. True
    b. False

Workshop Test
Armstrong Certified Installer

Name:_____ Date:_____

True/False (cont.)
Indicate whether the sentence or statement is true or false.

9. Armstrong has wind load ceiling designs for exterior ceilings with EFIS and Lath & Plaster systems.
    a. True
    b. False

10. 12 gage wire can be used to suspend a drywall grid system supporting true lath & plaster
    a. True
    b. False

11. Both wires & compression posts are needed for Armstrong's DGS exterior assemblies.
    a. True
    b. False

12. Armstrong DGS has several UL Fire rated assemblies that can eliminate extra layers of drywall
    a. True
    b. False

13. Armstrong DGS UL Rated assemblies achieve up to a stand-alone 3hr rating
    a. True
    b. False

14. On faceted mains for curved applications the tees are always installed at the high point of the main
    a. True
    b. False

15. When installing a vault ceiling with faceted DGS mains, the tees are installed into the route hole on the RC2 clip and careful placement of the clip is required.
    a. True
    b. False

16. Armstrong will do custom shop drawings for your project. Just contact your local installation specialist with project info and have the CAD files available.
    a. True
    b. False

Workshop Test
Armstrong Certified Installer

Name:_____ Date:_____

True/False (cont.)
Indicate whether the sentence or statement is true or false.

17. The Short Span system consists of main beam profiles without hanger and rout holes and can span up to 7'-0" unsupported when installed 16" OC and support a single layer of 5/8" drywall?
    a. True
    b. False

18. Locking Angle Molding works well with the Short Span Framing System by laying out and maintaining a consistent 16" or 24" OC layout.
    a. True
    b. False

19. Fire Expansion Joints are on one end of every main beam are designed to allow expansion of the grid system during a fire to prevent failure of the system.
    a. True
    b. False

20. QSLPM12 is a framing tee with pre-engineered knockouts every 6 or 8 inches on center for easy bending.
    a. True
    b. False

Multiple Choice
Identify the letter of the choice that best completes the statement or answers the question.

21. What is the proper hot dipped galvanized coating for an exterior application?

    a. G40
    b. G90
    c. G523
    d. G553

22. What is the maximum cross tee spacing for 1/2" Standard drywall?

    a. 13 ½"
    b. 16"
    c. 24"

Workshop Test
Armstrong Certified Installer

Name:_____ Date:_____

Multiple Choice (cont.)
Identify the letter of the choice that best completes the statement or answers the question.

23. What is the allowable load (lbs./ LF) at L/240 deflection for an exterior 24" cross tee?

    a. 4.58
    b. 19.5
    c. 31.33
    d. 158

24. What is the item number for a 144" Knurled Angle Mold nominal 1-1/4" x 1-1/4" - 25g made from High Recycled Content?

    a. KAM12G90
    b. KAM151020EQ
    c. LAM12HRC
    d. KAM12HRC

25. Drywall Angle Clips are used to create positive and secure angles for drywall and ceiling installation on either main beams or cross tees, what clip would be used for 22.5° off angle?

    a. DW30C
    b. DW45C
    c. DW60C
    d. DW90C
    e. RC2

26. Which clip allows for a "second" ceilings to be installed below a drywall grid ceiling after drywall is hung?

    a. DW50LT
    b. DDC
    c. DWC
    d. MBAC

27. When installing a type "F" light fixture with 2x2 grid layout, how many routes must the cross tee be offset?
    a. 1 slot
    b. 2 slots
    c. 3 slots

Workshop Test
Armstrong Certified Installer

Name:_____ Date:_____

Multiple Choice (cont.)
Identify the letter of the choice that best completes the statement or answers the question.

28. How many cartons of HD8906 mains 4' oc. and XL8945P tee's16 oc. would you need to complete 3200 sf ceiling?
    a. 7 boxes mains, 35 boxes of Tee's
    b. 8 boxes mains, 32 boxes of Tee's
    c. 9 boxes mains, 28 boxes of Tee's
    d. 6 boxes mains, 30 boxes of Tee's

29. What is the pullout breaking strength for a 12g wire for the "hanger wire hole"?
    a. 275 lbs.
    b. 450 lbs.
    c. 500 lbs.
    d. 645 lbs.

30. Objects in the plenum may obstruct placement of vertical hanger wire and require counter-splayed wires to support the load, when this occurs _____;
    a. a second wire counter splayed at an equal angle and in vertical-plane the main is required.
    b. a single wire splayed at a 45° in vertical plane with the main is required.
    c. a second wire counter splayed at a 45° and in horizontal plane with the main is required.
    d. a second wire counter splayed at a 60° in vertical plane with the main is required.

31. What is the SF uniform membrane load for HD8906 @ L/360 with 2'-0" wire spacing and main runners at 3'-0"?
    a. 31.83psf
    b. 22.56psf
    c. 7.03psf
    d. 8.68psf

32. What is the best definition of a DDC clip?
    a. To hang suspension system below existing 1-1/2" grid face transferring weight directly to hanger wire above.
    b. Allows for a second ceiling to be installed below a drywall ceiling.
    c. To hang suspension system below existing 15/16" grid face.

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Multiple Choice (cont.)
Identify the letter of the choice that best completes the statement or answers the question.

33. When there is obstruction above and a Trapeze cannot be hung, Gusset Hung Ceiling attached to the walls using wire clips or eye screws, must be screwed into ____?
    a. Drywall
    b. Metal studs
    c. Flat strap
    d. Wood blocking

34. With a design wind pressure of 18.24 psf on an exterior ceiling with 5/8" densglass and 3/8" EIFS the Main Beam spacing is?
    a. 16”
    b. 24”
    c. 36”

35. What is the max listed membrane load with 6’ tees @ 16” OC?
    a. 3.20
    b. 4.66
    c. 7.03
    d. 14.93

36. What is the strongest possible membrane load assembly with mains at 4’ on center?
    a. 21.77
    b. 7.03
    c. 14.93
    d. 26.13

37. L/240 & L/360 are commonly used in ceiling construction to describe an allowable amount deflection for a given member span. Which one offers less deflection?
    a. L/240
    b. L/360

38. What trims are available when a Drywall Grid System & acoustical ceilings meet around the same elevation?
    a. Axiom Building Perimeters
    b. Steel & Axiom Transitions
    c. KAM12

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Multiple Choice (cont.)
Identify the letter of the choice that best completes the statement or answers the question.

39. What is the main route spacing on a Drywall Grid system main runner and why are the routes in groups of 3?
    a. 16" OC & for Access Panels
    b. 24" OC & for Diffusers
    c. 8" OC & for type F light fixtures

40. What are the benefits of making sure the Drywall Grid System is installed square?
    a. Faster and easier drywall installation
    b. Easier layout of Linear Lights and various fixtures.
    c. Easier layout for continuous air diffusers
    d. All of the above

41. What is the Maximum LBS per SF membrane load listed on the load chart that a Drywall Grid System can support?
    a. 26.13
    b. 55.93
    c. 21.77
    d. 14.93

42. What does a proper hanger wrap consist of in a non-seismic area?
    a. 3 wraps in 6"
    b. 3 wraps in 3"
    c. 4 wraps in 2"
    d. 4 wraps in 3"

43. What clip is used to reinforce a cut main beam for curved applications?
    a. DWC clip
    b. DDC clip
    c. RC2 clip
    d. DW90 clip

44. Pre-notched faceted mains are offered with notches every ____ & ____?
    a. 16" & 24"
    b. 8" & 16"
    c. 4" & 8"
    d. 6" & 12"

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Multiple Choice (cont.)
Identify the letter of the choice that best completes the statement or answers the question.

45. What is the minimum radius recommended for installation of 16" faceted main beams?
    a. 15'
    b. 20'
    c. 10'
    d. 30'

46. What is the longest available Short Span available?
    a. 17'
    b. 8'6"
    c. 14'
    d. 12'

47. Why is the factory bulb crimped on each end of Short Span?
    a. For easier cutting
    b. For easier splicing ends together
    c. For easier installation of a StrongBack support
    d. For easier hanger placement

48. What is StrongBack used for in the ShortSpan Framing System?
    a. To eliminate adding a hanger on each Short Span bar for spans over 8'6"
    b. To frame out light fixtures
    c. To use as a trapeze
    d. To layout spacing on the Short Span

49. What clip can be used in uptight applications in place of a hanger wire?
    a. QSUTC
    b. DLCC
    c. MBAC
    d. XTAC

50. What is the max span for a single layer 5/8" drywall between supports when framed at 16" & 24" respectively?
    a. 7' & 6'
    b. 9' & 7'
    c. 7'6" & 8'4"
    d. 8'6" & 7'6"

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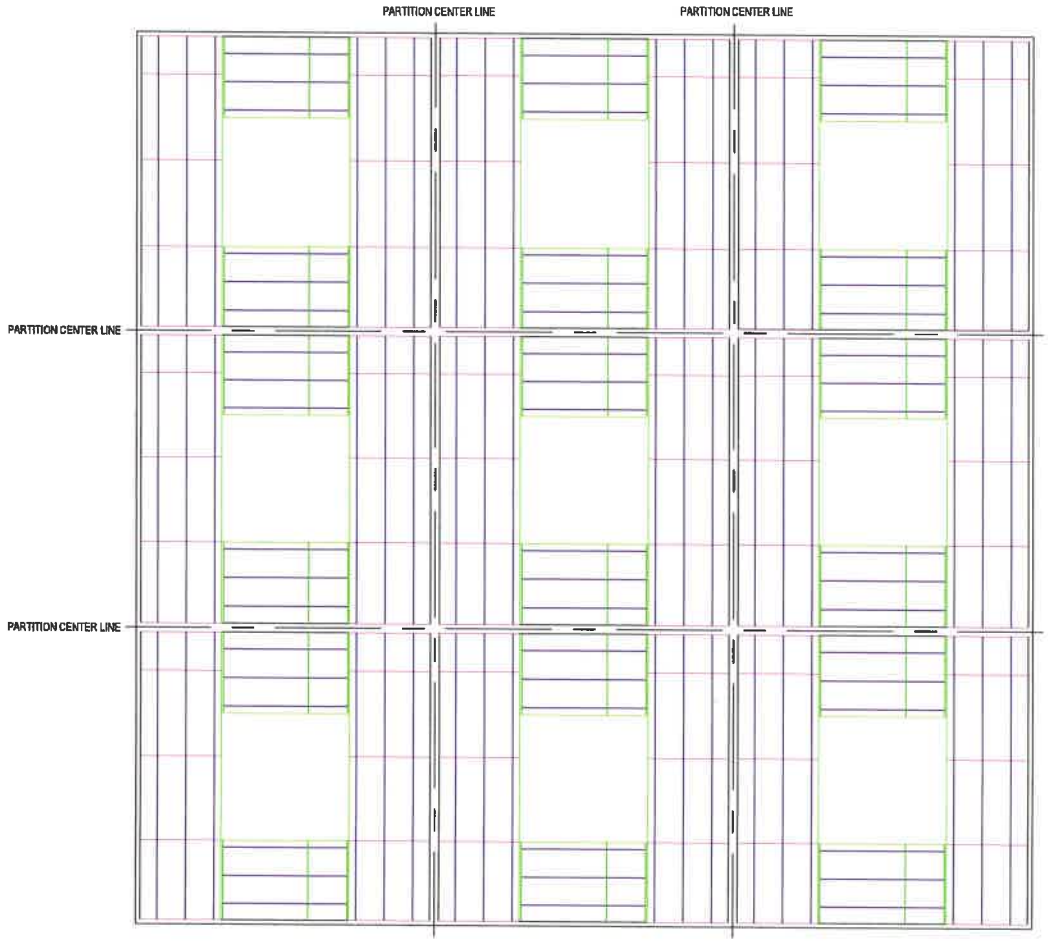
Name:_____ Date:_____

- DRYWALL MAIN BEAM FOR STEP SOFFIT 48" O.C.
- DRYWALL MAIN BEAM FOR LIGHT COVE 48" O.C.
- DRYWALL CROSS TEE 16" O.C.
- KAM151220E



These drawings show typical conditions in which the Armstrong® product depicted is installed. They are not a substitute for an architect's or engineer's plan and do not reflect the unique requirements of local building codes,laws,statutes,ordinances,rules and regulations.(Legal Requirements) that may be applicable for a particular installation.

Armstrong Ceiling Solutions does not warrant, and assumes no liability for the accuracy or completeness of the drawings for a particular installation or their fitness for a particular purpose.

The user is advised to consult with a duly licensed architect or engineer in the particular locale of the installation to ensure compliance with all Legal Requirements.

Armstrong is not licensed to provide professional architecture or engineering design services.

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DWG. NO. OVERALL RCP 1		REV: -	DATE: -
DATE: 2/13/18	SCALE:	DESC.: -	
DRAWN BY: JDL	CHK BY:		

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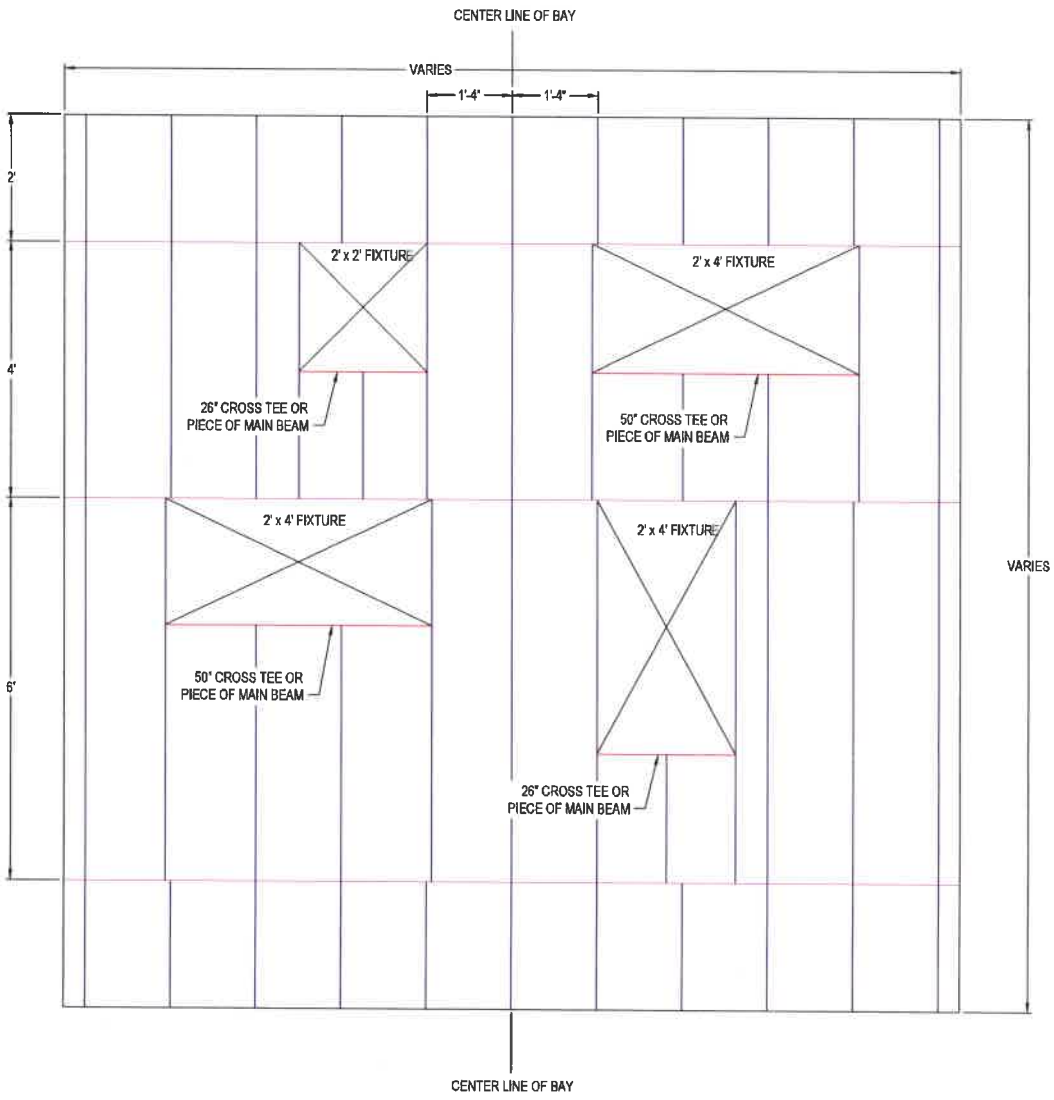
ESTABLISH TEE ROW AT CENTER OF BAY & FRAME LIGHTS ON EACH SIDE OF CENTER WHERE INDICATED.

DRYWALL MAIN BEAM

DRYWALL CROSS TEE 16" O.C.

NOTES:

- MAIN SPLICE & FIRE NOTCH LOCATIONS MUST BE LAID OUT TO FALL AT HANGER LOCATIONS.
- ESTABLISH MAIN LAYOUT PERPENDICULAR TO THE IRON ABOVE & AS DIMENSIONED FROM INSIDE.



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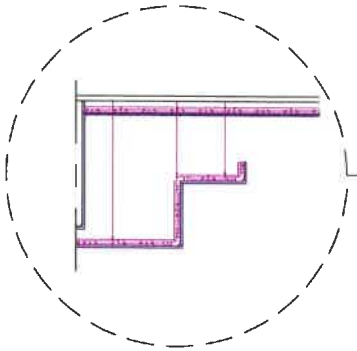
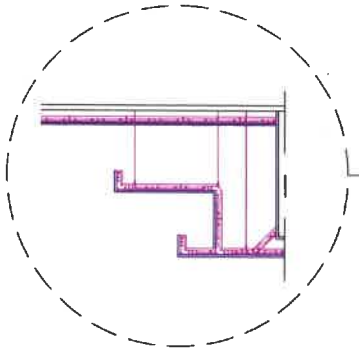
DRYWALL MAIN BEAM FOR STEP SOFFIT
48" O.C.

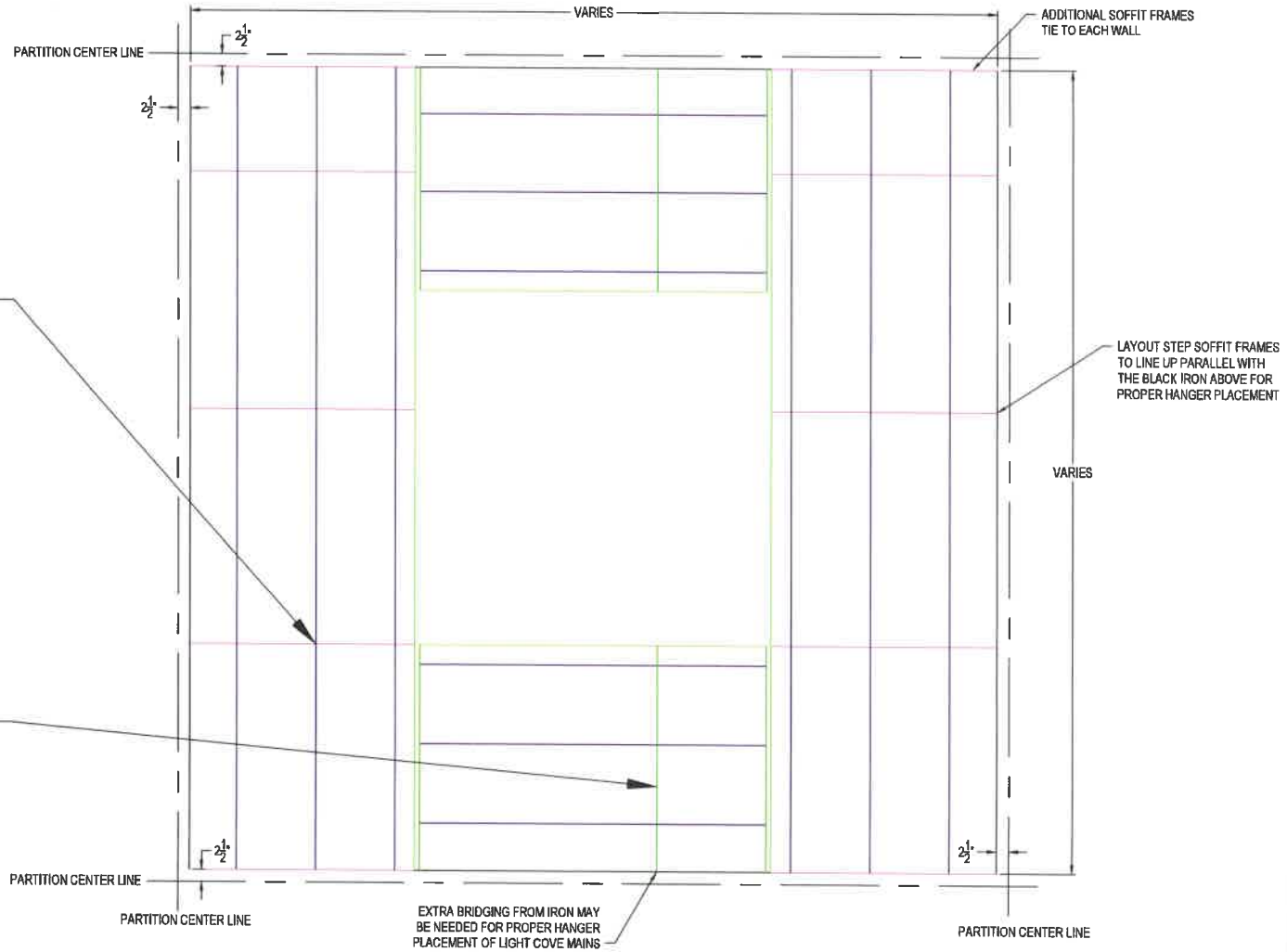
DRYWALL MAIN BEAM FOR LIGHT COVE
48" O.C.

DRYWALL CROSS TEE
16" O.C.

KAM151220E







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DATE: 2/13/18	SCALE:	DESC.: ·	
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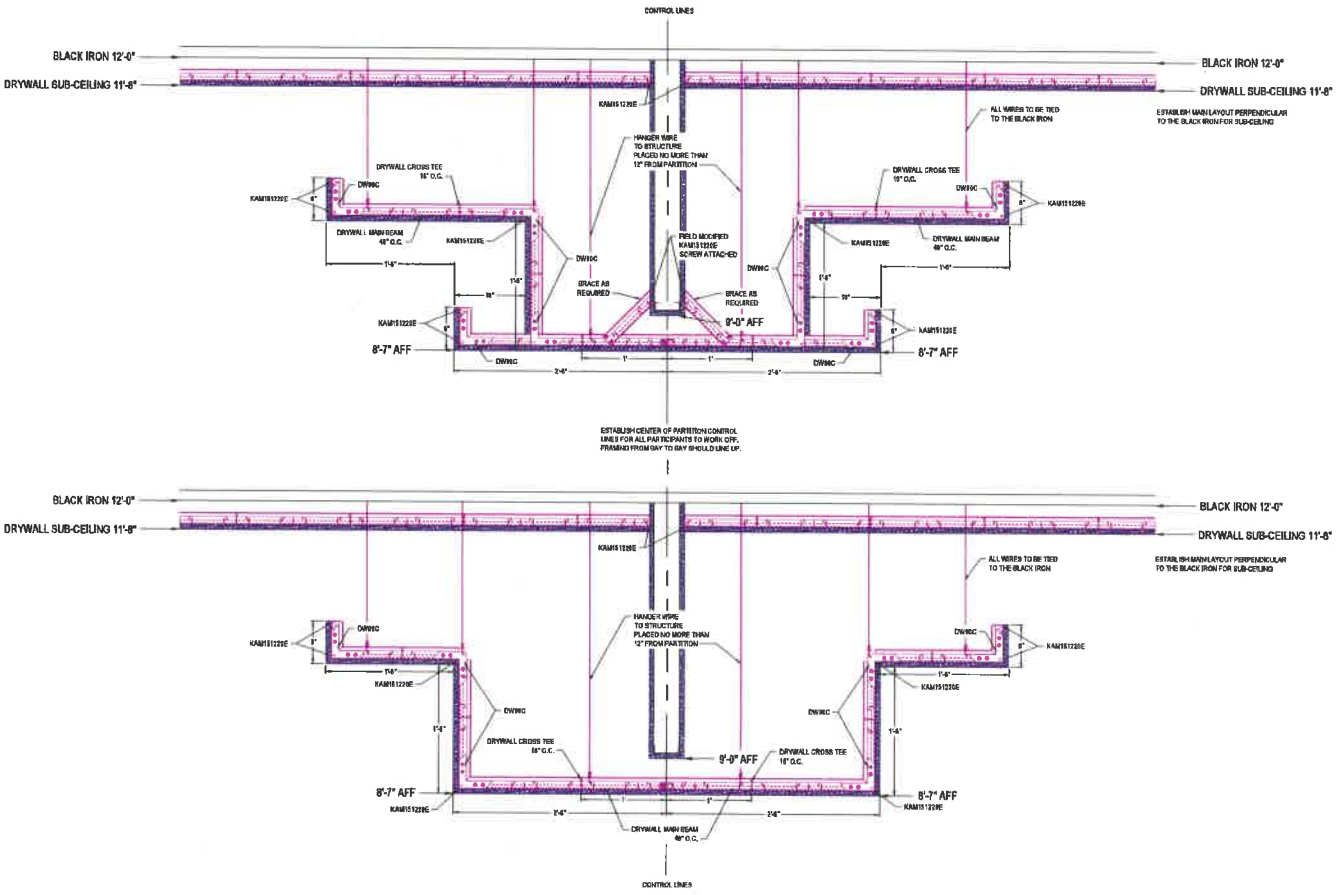

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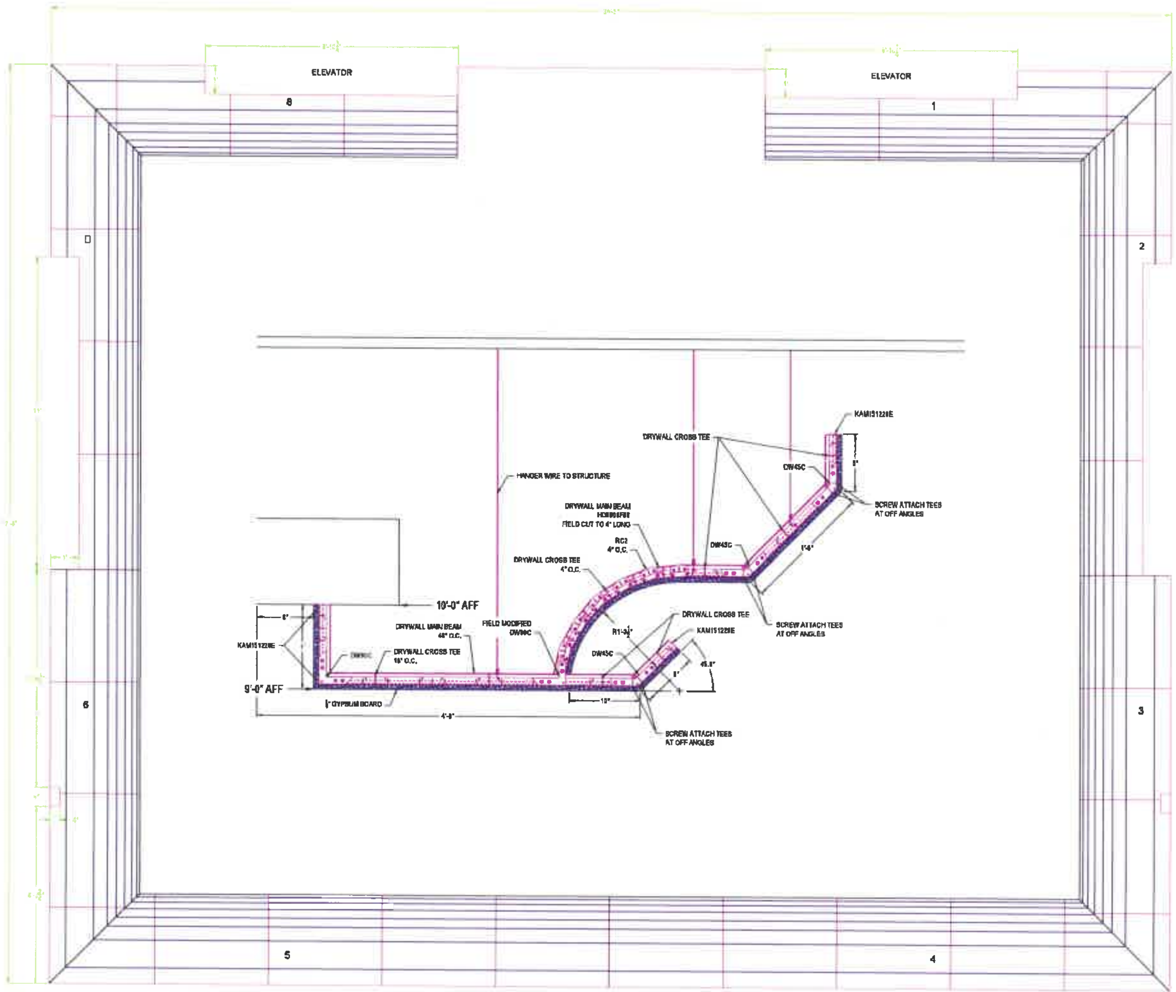

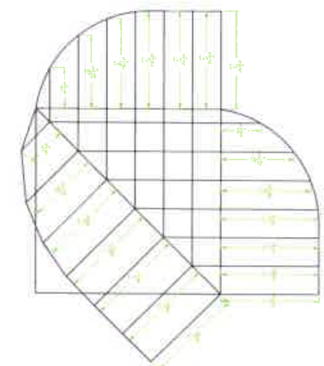

DRYWALL MAIN BEAM
HD8906 4' O.C.

DRYWALL CROSS TEE

PROJECT NAME:	CARPENTERS CERTIFIED TRAINING
DWG. NO. RCP 2	REV: . DATE: .
DATE: 4/20/18	SCALE: 1/2"=1'0" DESC.: .
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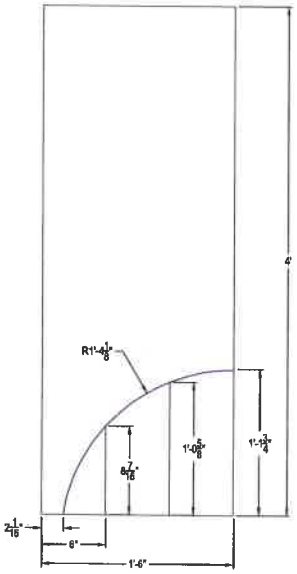

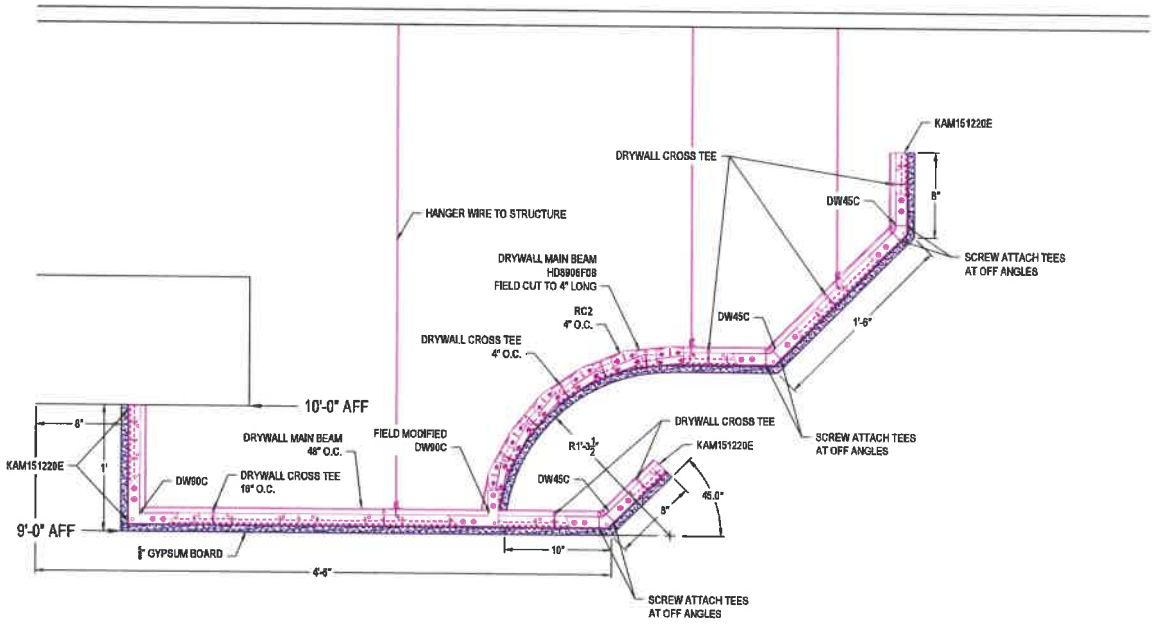

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