CEILING | SYSTEMS

Between us, ideas become reality™

TECHZONE™

Ceiling Systems Technical Guide

This booklet provides drawings, details, and specification information for TechZone Ceiling Systems.

TechZone is an integrated ceiling system that organizes the technical services that penetrate the ceiling into narrow linear technical "zones." The zones organize lighting, air diffusers, air returns and sprinkler heads. Organizing these services results in a more monolithic, uncluttered ceiling visual that is created using standard components. Acoustical field panels can now be large size panels, free from penetrations.

Key Selection Attributes

- Coordinated color finish with ceilings, suspension systems, light fixtures, air diffusers and air returns
- Wide choice of field panel sizes to accommodate technical zone on-center spacing requirements
- Standard ceiling and grid components used to create a custom look
- Non-directional DuraBrite® surface on ceiling panels for excellent durability and superior light reflectance
- Outstanding acoustical performance
- 30-year system performance guarantee against visible sag (HumiGuard® Plus) and against mold/mildew and bacterial growth (Optima – inherent) (Ultima – BioBlock® Plus)

In this Booklet
(also found on armstrong.com/techzone)

Applications

Optima®
- Large ceiling areas
- Open plan offices
- Upscale retail settings
- Airports
- Media centers/libraries

Ultima®
- Private offices
- Conference rooms

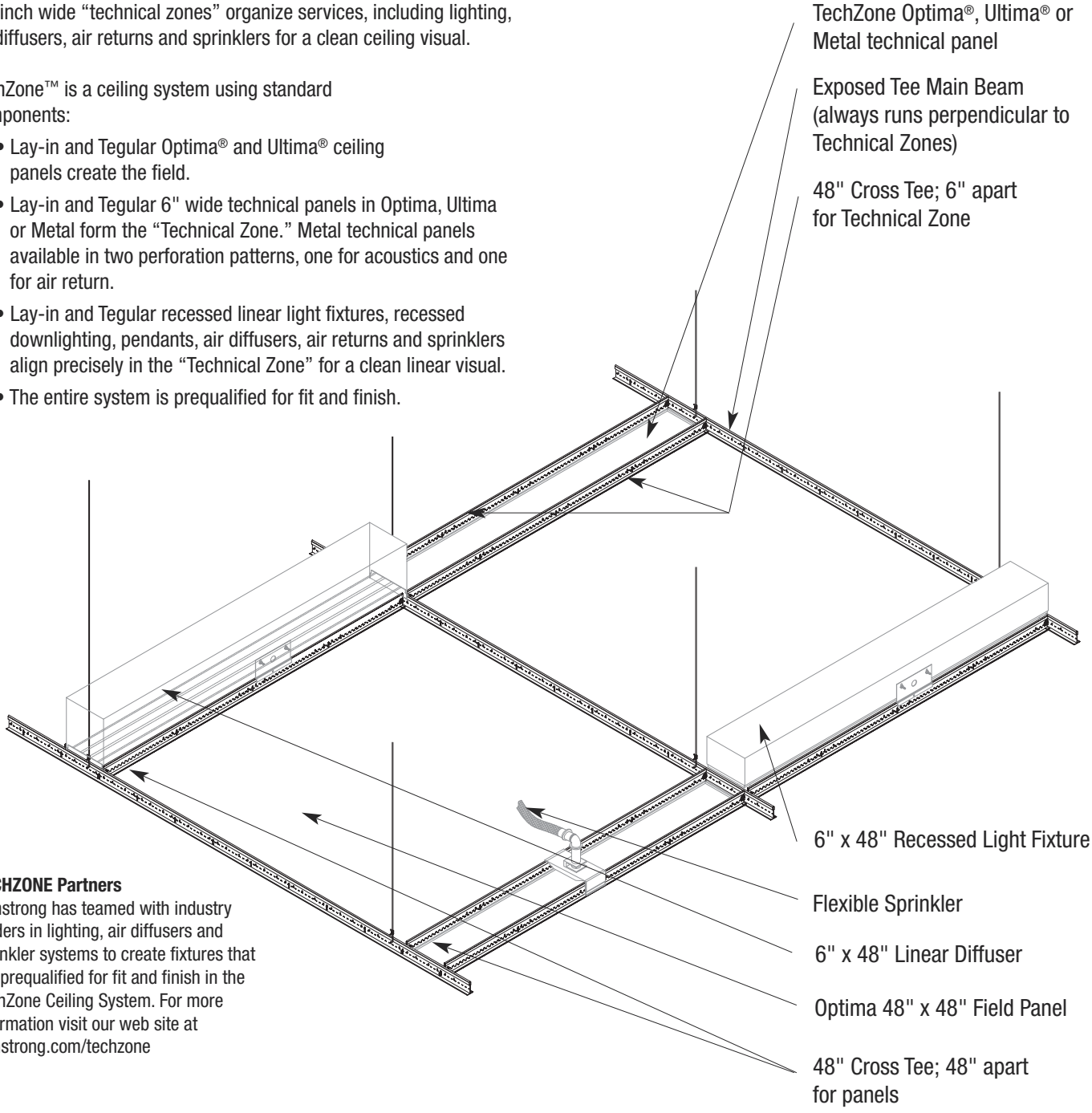
Armstrong®

SYSTEM LAYOUT AND COMPONENTS

Six-inch wide “technical zones” organize services, including lighting, air diffusers, air returns and sprinklers for a clean ceiling visual.

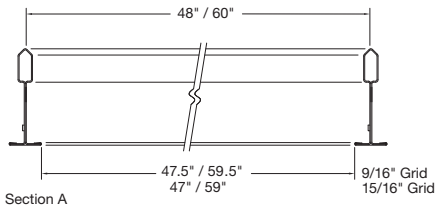
TechZone™ is a ceiling system using standard components:

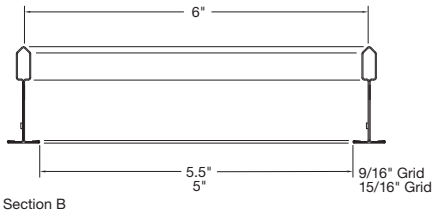
- Lay-in and Tegular Optima® and Ultima® ceiling panels create the field.
- Lay-in and Tegular 6" wide technical panels in Optima, Ultima or Metal form the “Technical Zone.” Metal technical panels available in two perforation patterns, one for acoustics and one for air return.
- Lay-in and Tegular recessed linear light fixtures, recessed downlighting, pendants, air diffusers, air returns and sprinklers align precisely in the “Technical Zone” for a clean linear visual.
- The entire system is prequalified for fit and finish.

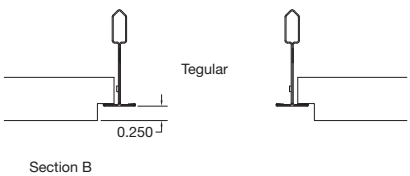


TECHZONE Partners
Armstrong has teamed with industry leaders in lighting, air diffusers and sprinkler systems to create fixtures that are prequalified for fit and finish in the TechZone Ceiling System. For more information visit our web site at armstrong.com/techzone

Technical Zone Dimensions







Metal Technical Panels

Available Options:

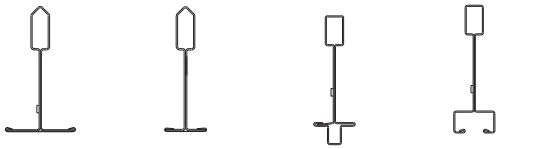
- 9/16" or 15/16" Square Lay-in
- 9/16" or 15/16" Square Tegular

Perforation Options:

- Unperforated
- Microperforated (with acoustical fleece)
- Air Return Perforated (51% open)

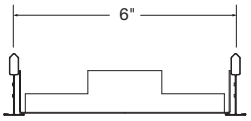
Compatible Suspension Systems:

- Prelude® XL® 15/16" Exposed Tee System
- Suprafine® XL 9/16" Exposed Tee System
- Interlude® XL 9/16" Dimensional Tee System
- Silhouette® XL 9/16" Bolt-Slot System

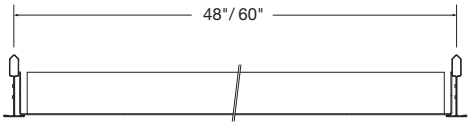


PRELUDE XL 15/16" Main Beam | SUPRAFINE XL 9/16" Main Beam | INTERLUDE XL 9/16" Main Beam | SILHOUETTE XL 9/16" Main Beam with 1/4" Reveal

9/16" Metal Lay-in Technical Panel

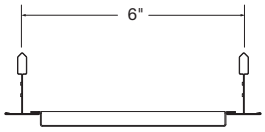


Cross Section



Longitudinal Section

15/16" Metal Square Tegular Technical Panel



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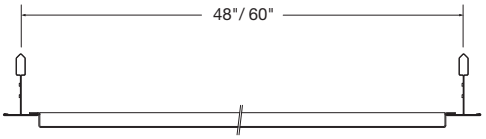
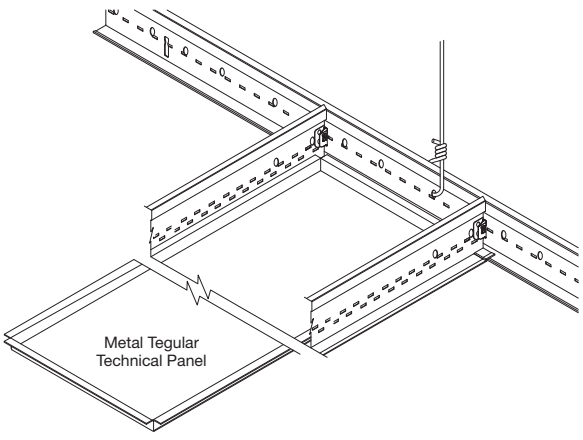
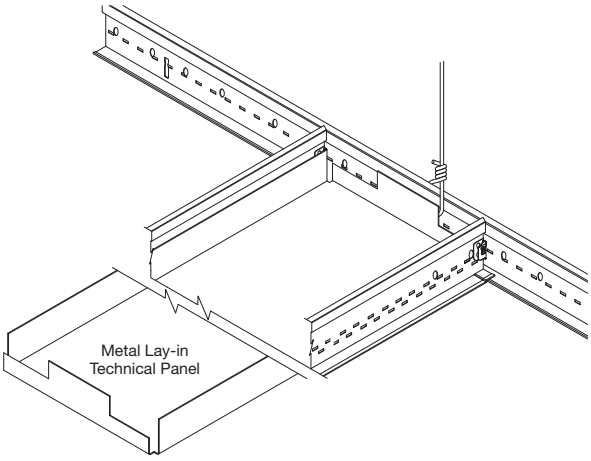


Longitudinal Section





Optima® and Ultima® Technical Panels

Available Options:

Optima

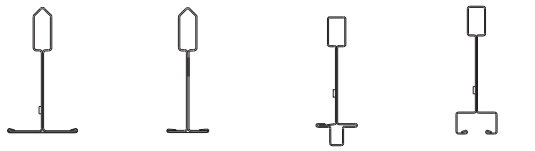
- 9/16" or 15/16" Square Lay-in
- 9/16" or 15/16" Square Tegular

Ultima

- 9/16" or 15/16" Square Lay-in
- 9/16" or 15/16" Beveled Tegular

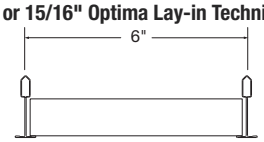
Compatible Suspension Systems:

- Prelude® XL® 15/16" Exposed Tee System
- Suprafine® XL 9/16" Exposed Tee System
- Interlude® XL 9/16" Dimensional Tee System
- Silhouette® XL 9/16" Bolt-Slot System

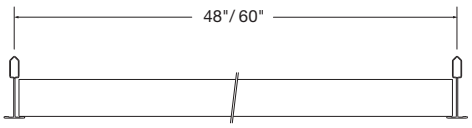


PRELUDE XL 15/16" Main Beam | SUPRAFINE XL 9/16" Main Beam | INTERLUDE XL 9/16" Main Beam | SILHOUETTE XL 9/16" Main Beam with 1/4" Reveal

9/16" or 15/16" Optima Lay-in Technical Panel

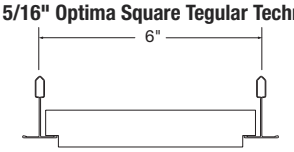


Cross Section

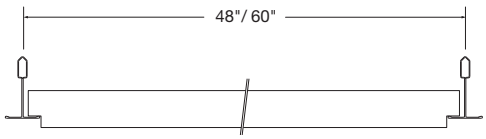


Longitudinal Section

9/16" or 15/16" Optima Square Tegular Technical Panel

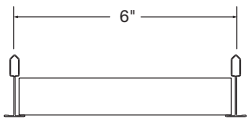


Cross Section

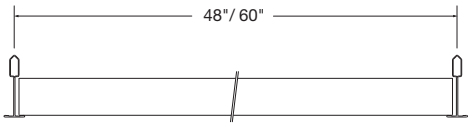


Longitudinal Section

9/16" or 15/16" Ultima Lay-in Technical Panel

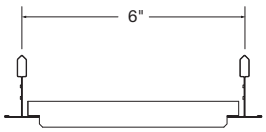


Cross Section



Longitudinal Section

9/16" or 15/16" Ultima Beveled Tegular Technical Panel



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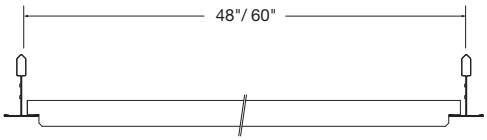
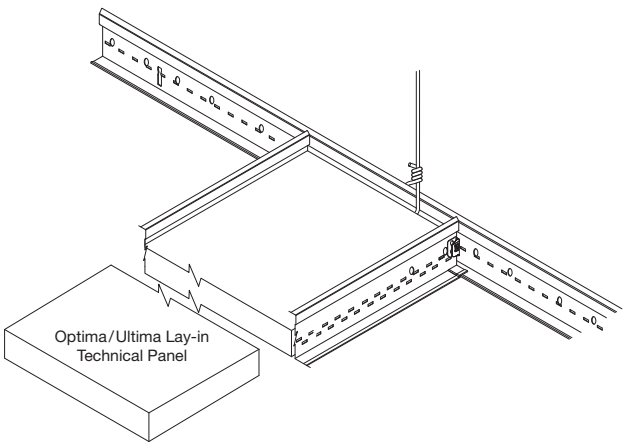
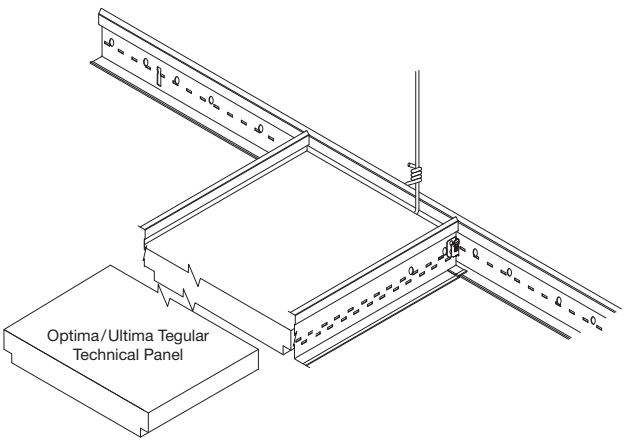


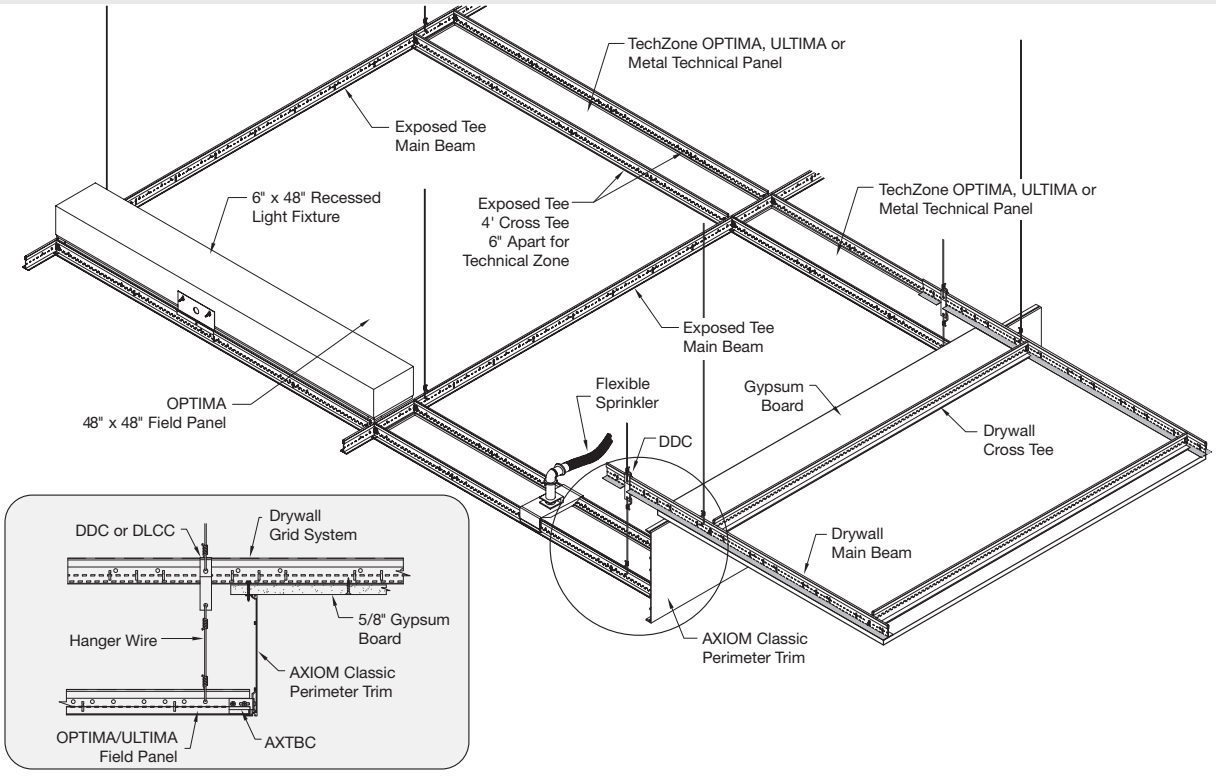
Longitudinal Section



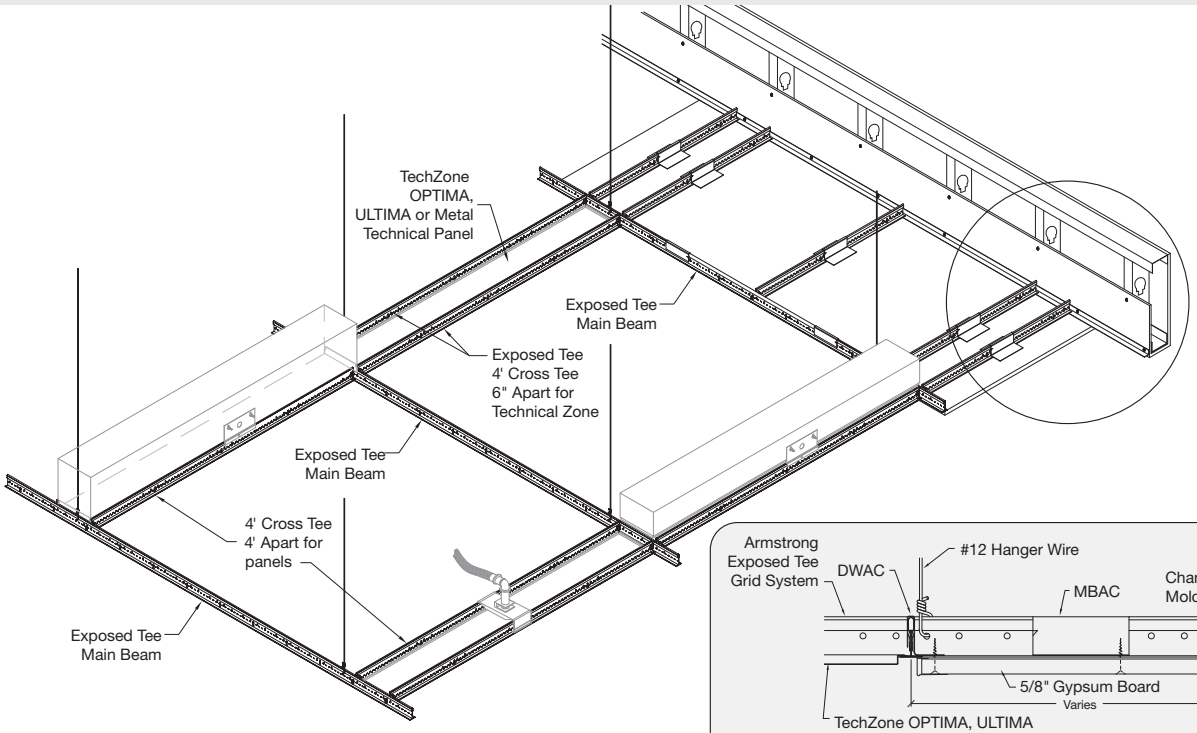


Perimeters

AXIOM® Transition – Acoustical to Drywall

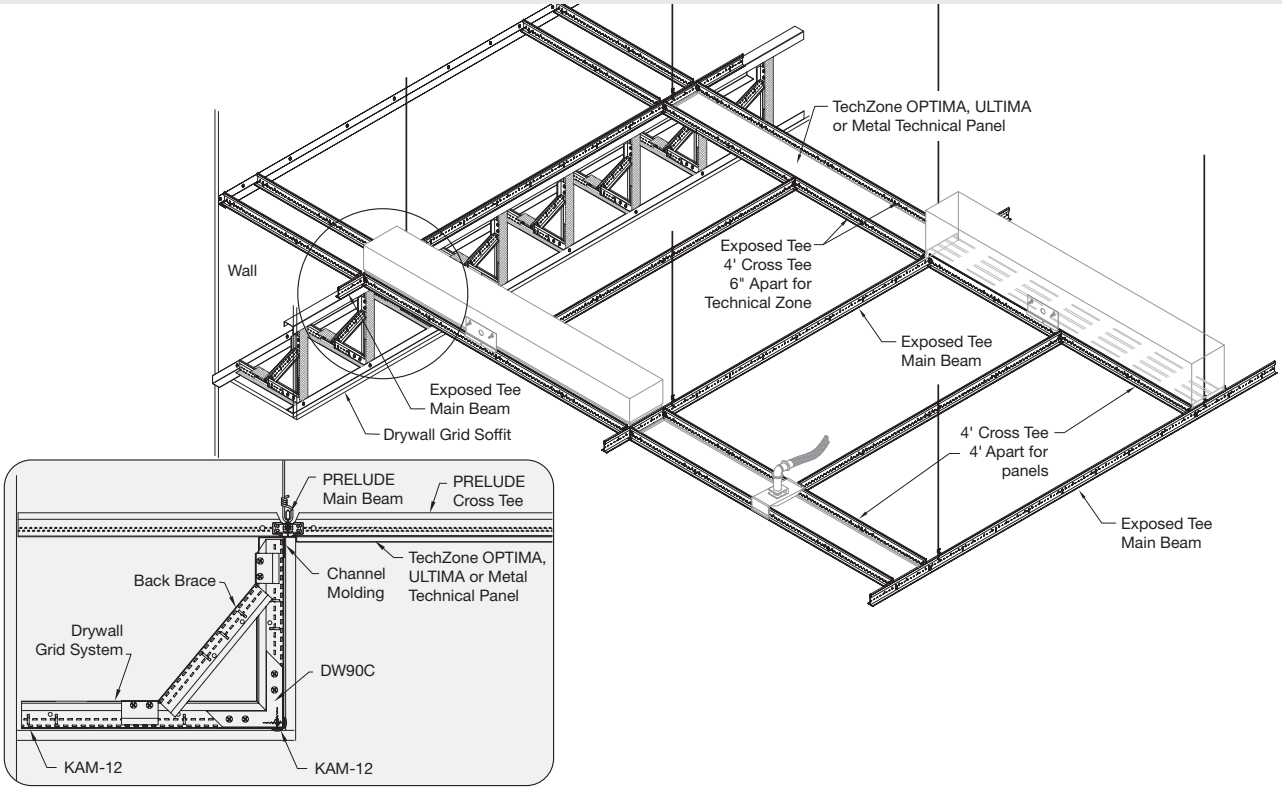


Drywall Surround with Acoustical Ceiling

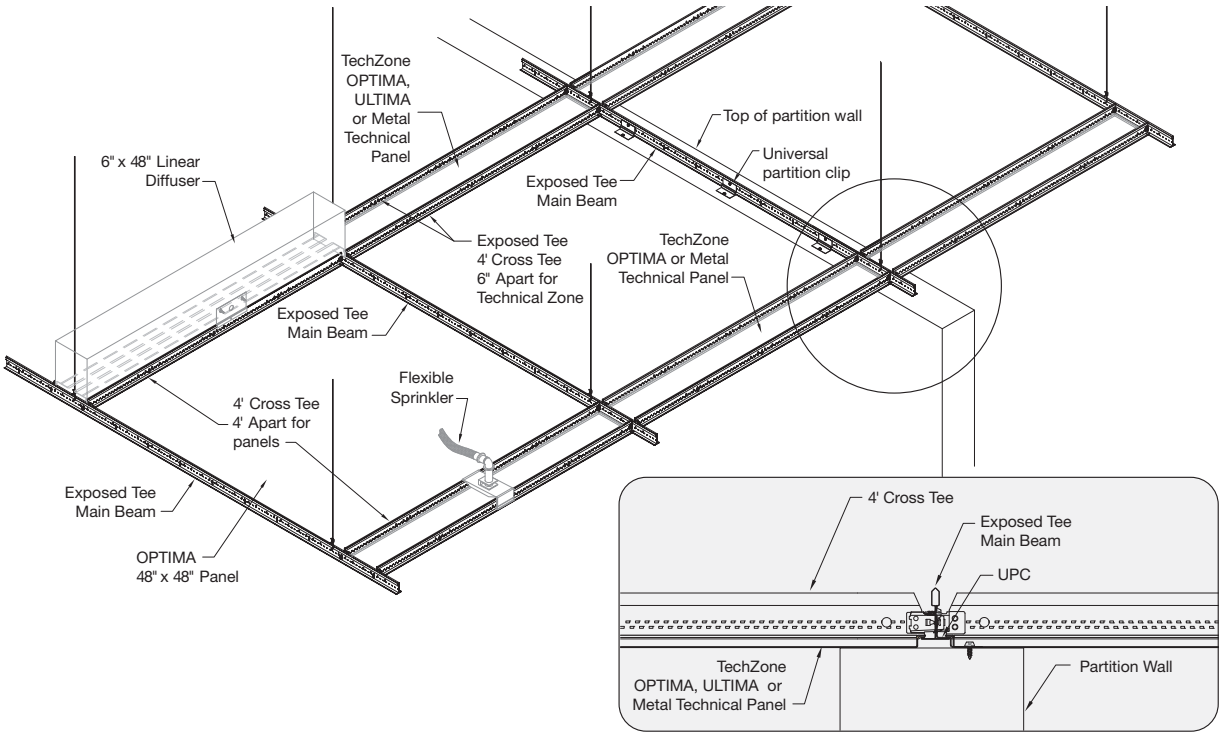


Perimeters

Drywall Transition – Drywall to Acoustical Ceilings

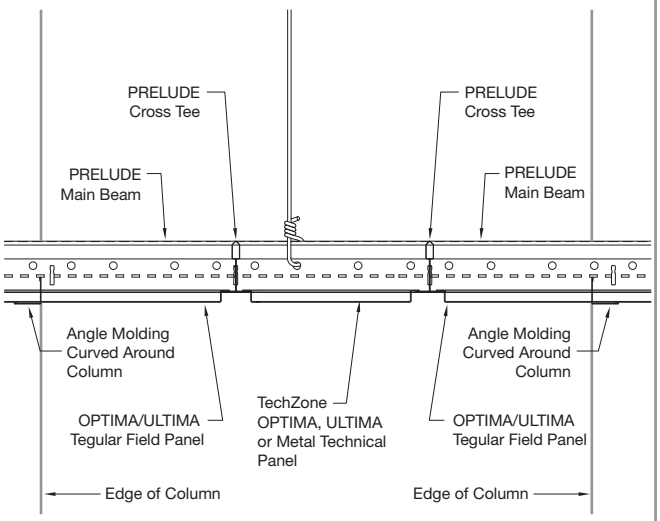


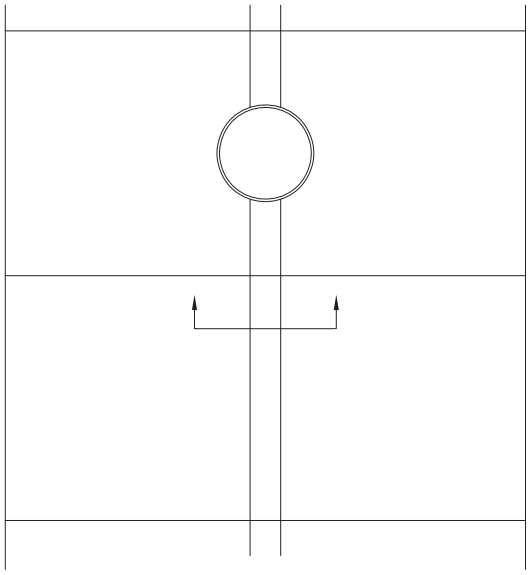
Partition Attachment



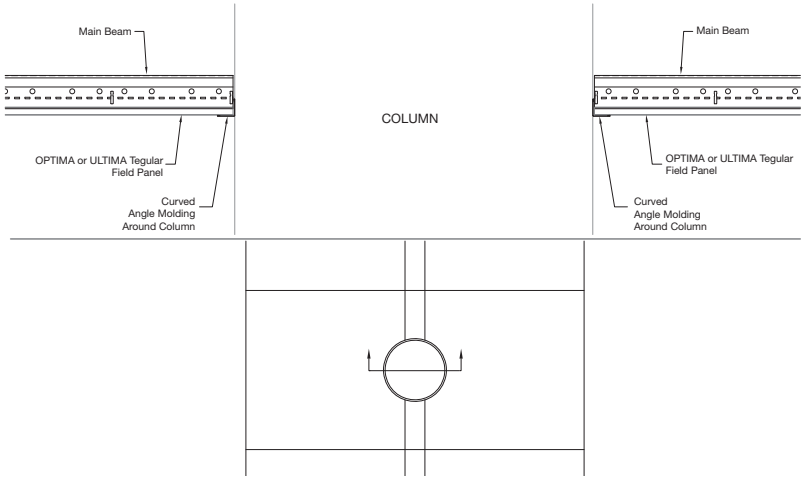
Columns

TechZone™ Around a Column Using Angle Molding

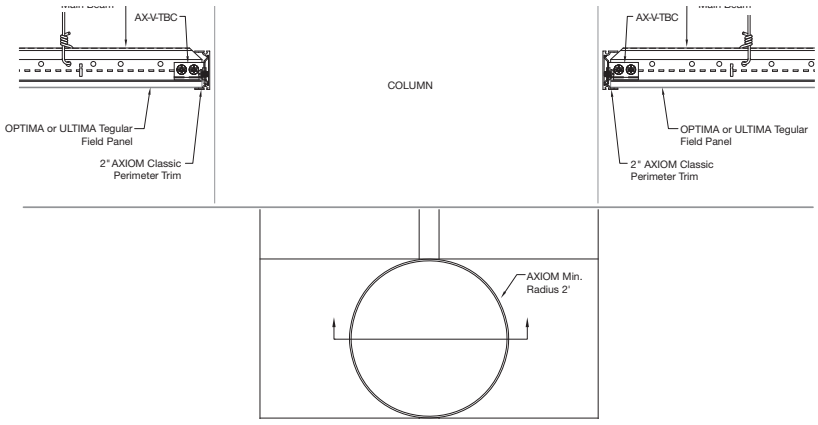




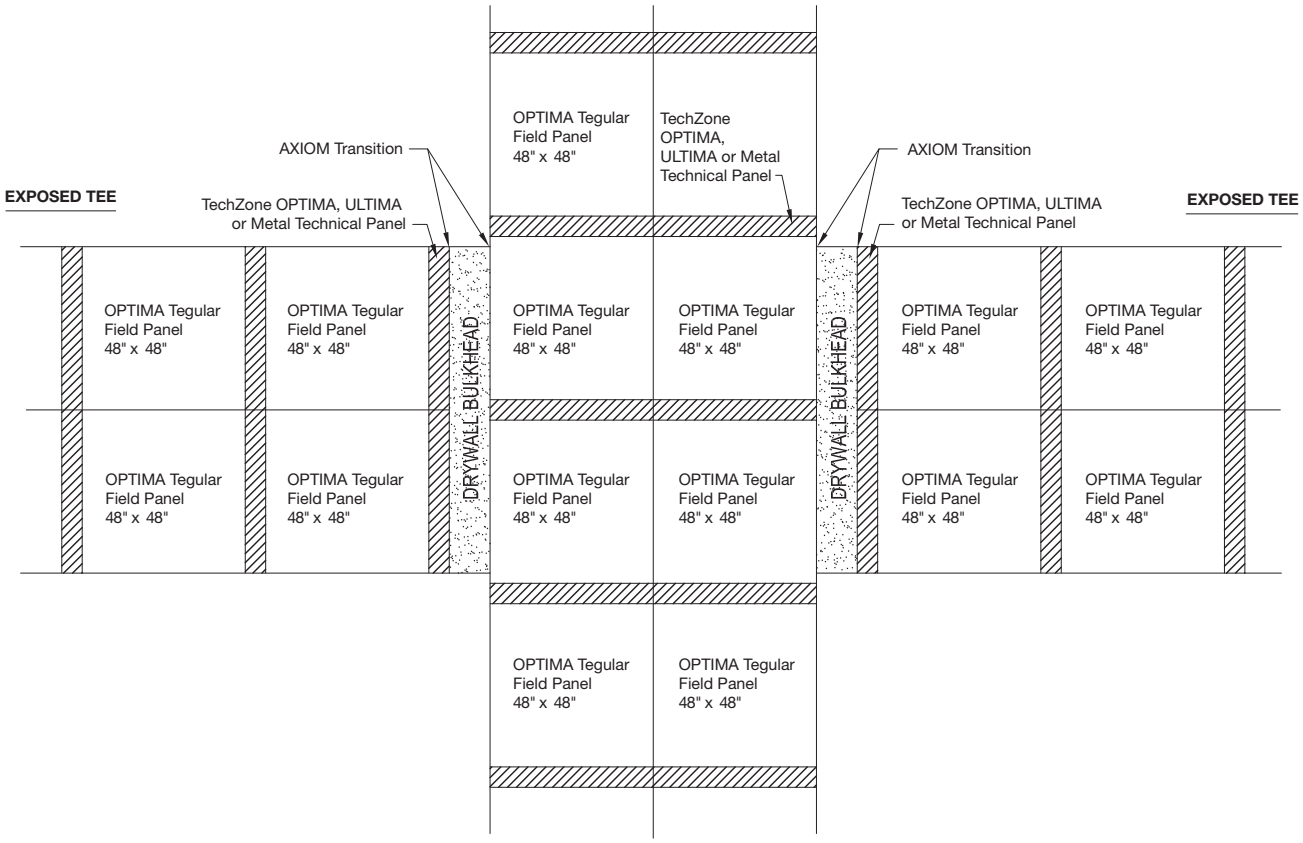
TechZone Around a Column



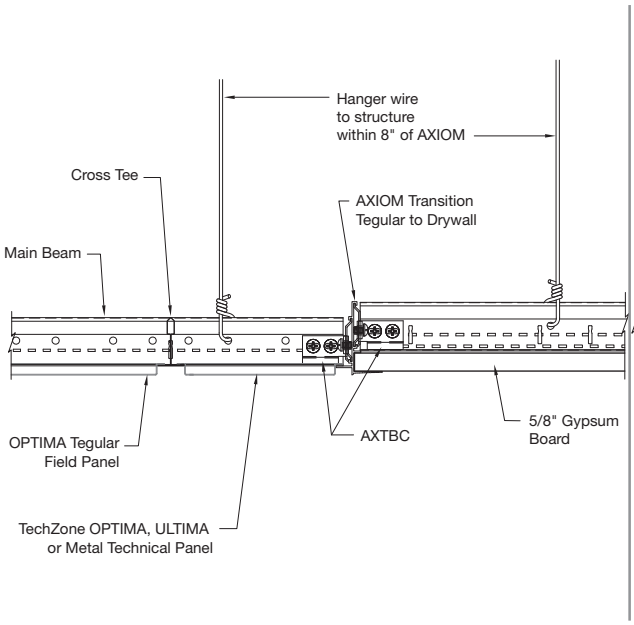
TechZone Around a Column Using AXIOM® Classic



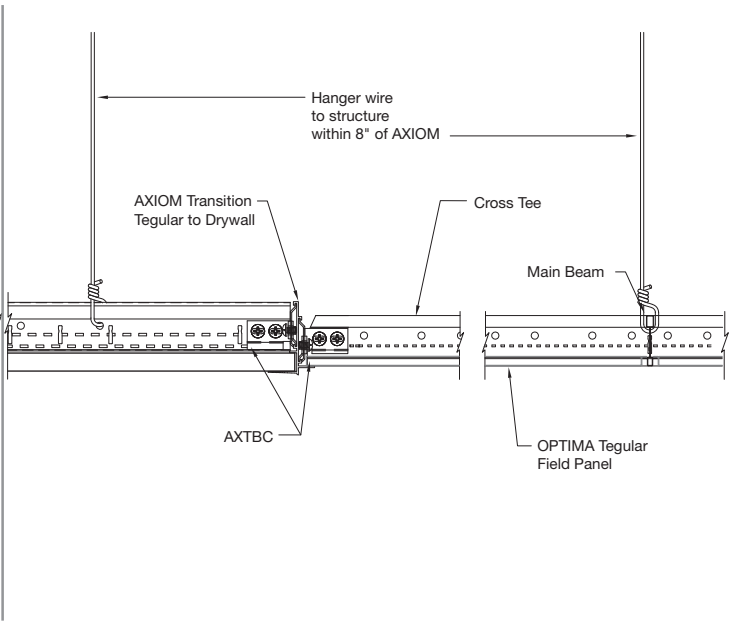
Corridor Transitions/System Direction Change



EXPOSED TEE - Prelude XL & Suprafine XL



Silhouette XL & Interlude XL



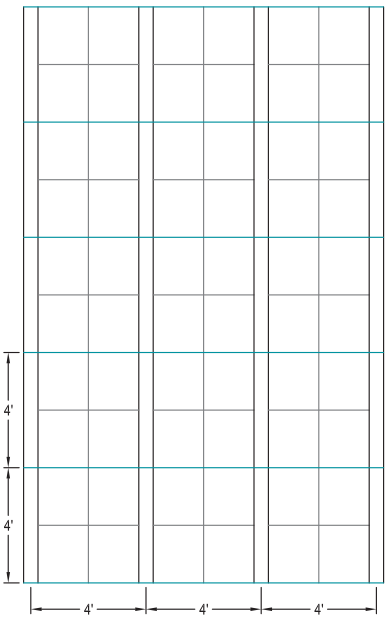
4' TechZone™ Module

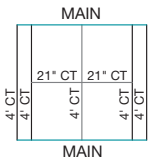
4'-0" On-Center Technical Zone Spacing

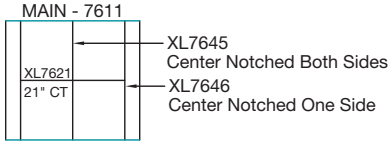
21" x 24" Field Panels,
6" x 48" Technical Panels

9/16" GRID		
DESCRIPTION	**ITEM #**	✔
Field Panels		
Optima 21" x 24" x 1" Sq. Tegular	3279	☐
Technical Panels		
Optima 6" x 48" x 1" Sq. Lay-in	1401	☐
Optima 6" x 48" x 1" Sq. Tegular	1403	☐
Ultima 6" x 48" x 3/4" Sq. Lay-in	1420	☐
Ultima 6" x 48" x 3/4" Beveled Tegular	1423	☐
Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1652	☐
Metal 6" x 48" x .025" Sq. Tegular Unperforated	1656	☐
Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1612	☐
Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1642	☐
Metal 6" x 48" x .025" Sq. Tegular Microperforated	1616	☐
Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1646	☐
Grid Components		
Suprafine XL 12' ID/HD Main Beam	7500/7501*	☐
Suprafine XL 4' Cross Tee	XL7540/7541**	☐
Suprafine XL 21" Cross Tee	XL7561	☐
Interlude XL 12' HD Main Beam	6121	☐
Interlude XL 4' Cross Tee	XL6140	☐
Interlude XL 21" Cross Tee	XL6164	☐
Silhouette XL 12' HD Main Beam	7611	☐
Silhouette XL 4' Cross Tee - center notched one side	XL7646	☐
Silhouette XL 4' Cross Tee - center notched both sides	XL7645	☐
Silhouette XL 21" Cross Tee	XL7621	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement







COMPONENTS:
Panels and Main Beams (Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.875
MB EF = 0.25
Cross Tees (Suprafine XL, Interlude XL)
4' CT EF = 0.75 XL7540/7541; XL6140
21" CT EF = 0.219 XL7561; XL6161
Cross Tees (Silhouette XL)
4' CT EF = 0.25 XL7645
4' CT EF = 0.50 XL7646
21" CT EF = 0.219 XL7621

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

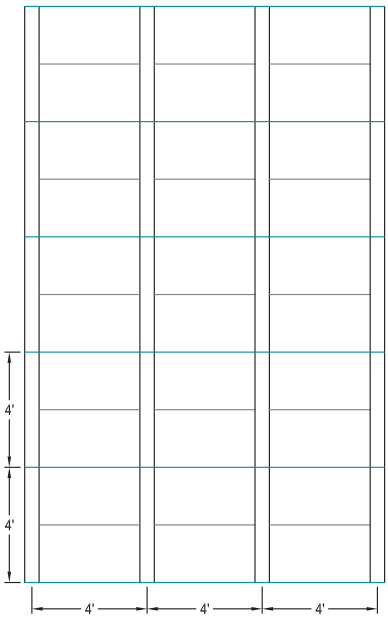
4' TechZone™ Module

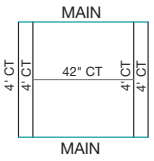
4'-0" On-Center Technical Zone Spacing

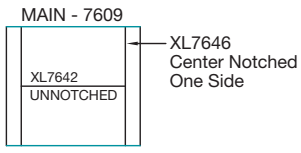
24" x 42" Field Panels,
6" x 48" Technical Panels

9/16" GRID		
DESCRIPTION	**ITEM #**	✔
Field Panels		
Optima 24" x 42" x 1" Sq. Tegular	3280	☐
Technical Panels		
Optima 6" x 48" x 1" Sq. Lay-in	1401	☐
Optima 6" x 48" x 1" Sq. Tegular	1403	☐
Ultima 6" x 48" x 3/4" Sq. Lay-in	1420	☐
Ultima 6" x 48" x 3/4" Beveled Tegular	1423	☐
Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1652	☐
Metal 6" x 48" x .025" Sq. Tegular Unperforated	1656	☐
Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1612	☐
Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1642	☐
Metal 6" x 48" x .025" Sq. Tegular Microperforated	1616	☐
Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1646	☐
Grid Components		
Suprafine XL 12' ID/HD Main Beam	7500/7501*	☐
Suprafine XL 4' Cross Tee	XL7540/7541**	☐
Suprafine XL 42" Cross Tee	XL7562	☐
Interlude XL 12' ID/HD Main Beam	6100/6101A*	☐
Interlude XL 4' Cross Tee	XL6140	☐
Interlude XL 42" Cross Tee	XL6162	☐
Silhouette XL 12' HD Main Beam	7609	☐
Silhouette XL 4' Cross Tee - center notched one side	XL7646	☐
Silhouette XL 42" Cross Tee	XL7642	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement







COMPONENTS:
Panels and Main Beams (Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.876
MB EF = 0.25
Cross Tees (Suprafine XL, Interlude XL)
4' CT EF = 0.50 XL7540/7541; XL6140
42" CT EF = 0.219 XL7562; XL6162
Cross Tees (Silhouette XL)
4' CT EF = 0.50 XL7646
42" CT EF = 0.219 XL7642

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

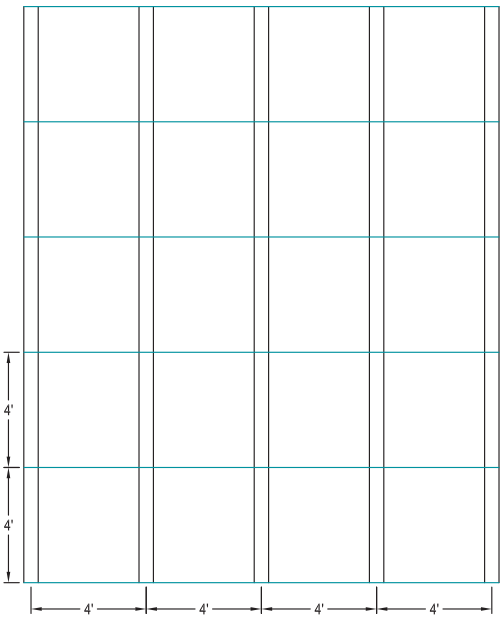
4' TechZone™ Module

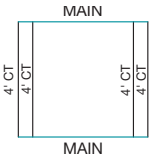
4'-0" On-Center Technical Zone Spacing

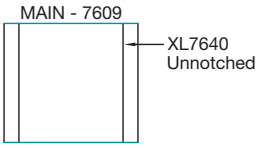
42" x 48" Field Panels,
6" x 48" Technical Panels

9/16" GRID		
DESCRIPTION	**ITEM #**	✔
Field Panels		
Optima 42" x 48" x 1" Sq. Tegular	3267	☐
Technical Panels		
Optima 6" x 48" x 1" Sq. Lay-in	1401	☐
Optima 6" x 48" x 1" Sq. Tegular	1403	☐
Ultima 6" x 48" x 3/4" Sq. Lay-in	1420	☐
Ultima 6" x 48" x 3/4" Beveled Tegular	1423	☐
Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1652	☐
Metal 6" x 48" x .025" Sq. Tegular Unperforated	1656	☐
Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1612	☐
Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1642	☐
Metal 6" x 48" x .025" Sq. Tegular Microperforated	1616	☐
Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1646	☐
Grid Components		
Suprafine XL 12' ID/HD Main Beam	7500/7501*	☐
Suprafine XL 4' Cross Tee	XL7540/7541**	☐
Interlude XL 12' ID/HD Main Beam	6100/6101A*	☐
Interlude XL 4' Cross Tee	XL6140	☐
Silhouette XL 12' HD Main Beam	7609	☐
Silhouette XL 4' Cross Tee	XL7640	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement







COMPONENTS:
Panels and Main Beams (Suprafine XL, Interlude XL, Silhouette XL)

PANEL EF = 0.875
MB EF = 0.25
Cross Tees (Suprafine XL, Interlude XL)
4' CT EF = 0.50 XL7540/7541; XL6140
Cross Tees (Silhouette XL)
4' CT EF = 0.50 XL7640

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

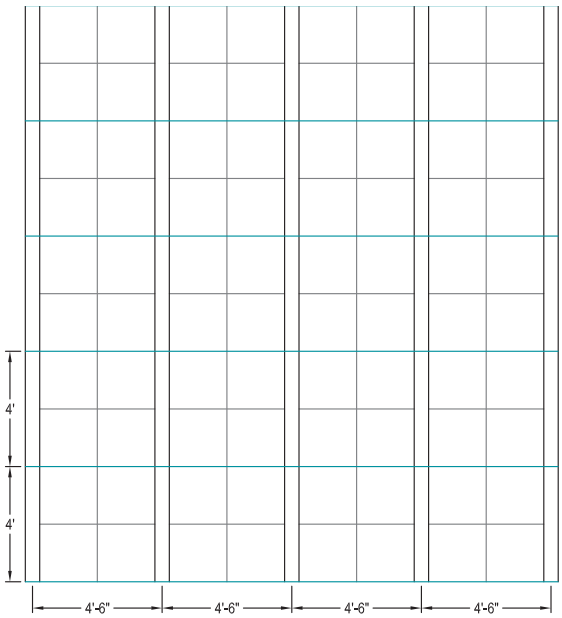
4' TechZone™ Module

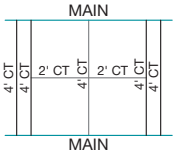
4'-6" On-Center Technical Zone Spacing

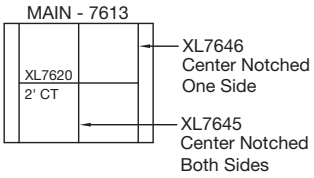
24" x 24" Field Panels,
6" x 48" Technical Panels

15/16" GRID			9/16" GRID		
DESCRIPTION	**ITEM #**	✔	**DESCRIPTION**	**ITEM #**	✔
Field Panels					
Optima 48" x 48" x 1" Sq. Lay-in	3160	☐	Optima 48" x 48" x 1" Sq. Tegular	3256	☐
Optima 48" x 48" x 1" Sq. Tegular	3255	☐			
Technical Panels					
Optima 6" x 48" x 1" Sq. Lay-in	1400	☐	Optima 6" x 48" x 1" Sq. Lay-in	1401	☐
Optima 6" x 48" x 1" Sq. Tegular	1402	☐	Optima 6" x 48" x 1" Sq. Tegular	1403	☐
Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1650	☐	Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1652	☐
Metal 6" x 48" x .025" Sq. Tegular Unperforated	1654	☐	Metal 6" x 48" x .025" Sq. Tegular Unperforated	1656	☐
Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1610	☐	Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1612	☐
Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1640	☐	Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1642	☐
Metal 6" x 48" x .025" Sq. Tegular Microperforated	1614	☐	Metal 6" x 48" x .025" Sq. Tegular Microperforated	1616	☐
Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1644	☐	Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1646	☐
Grid Components					
Prelude XL 12' ID/HD Main Beam	7300/7301*	☐	Suprafine XL 12' ID/HD Main Beam	7500/7501*	☐
Prelude XL 4' Cross Tee	XL7340/7341**	☐	Suprafine XL 4' Cross Tee	XL7540/7541 **	☐
Prelude XL 4' Cross Tee	XL7342/7348	☐	Interlude XL 12' ID/HD Main Beam	6100/6101A*	☐
			Interlude XL 4' Cross Tee	XL6140	☐
			Silhouette XL 9' HD Main Beam	7613	☐
			Silhouette XL 4' Cross Tee - center notched both sides	XL7645	☐
			Silhouette XL 4' Cross Tee - center notched one side	XL7646	☐
			Silhouette XL 2' Cross Tee	XL7620	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement







COMPONENTS:

Panels and Main Beams (Prelude XL, Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.889
MB EF = 0.25

Cross Tees (Prelude XL, Suprafine XL, Interlude XL)
4' CT EF = 0.666 XL7340/7341; XL7342/7348; XL7540/7541; XL6140
2' CT EF = 0.222 XL7328; XL7520; XL6120

Cross Tees (Silhouette XL)
4' CT EF = 0.222 XL7645
4' CT EF = 0.444 XL7646
2' CT EF = 0.222 XL7620

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

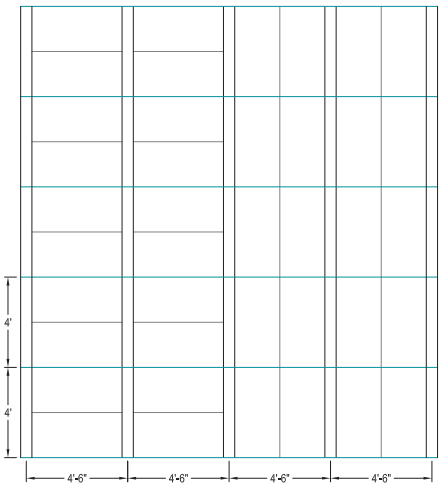
4' TechZone™ Module

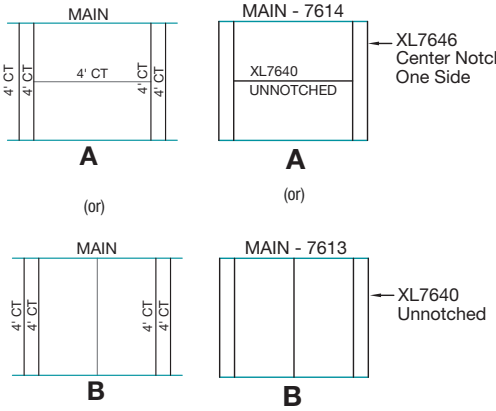
4'-6" On-Center Technical Zone Spacing

24" x 48" Field Panels,
6" x 48" Technical Panels

15/16" GRID			9/16" GRID		
DESCRIPTION	**ITEM #**	✔	**DESCRIPTION**	**ITEM #**	✔
Field Panels					
Optima 24" x 48" x 1" Sq. Lay-in	3153	☐	Optima 24" x 48" x 1" Sq. Tegular	3257	☐
Optima 24" x 48" x 1" Sq. Tegular	3252	☐	Ultima 24" x 48" x 3/4" Bev. Tegular	1915	☐
Ultima 24" x 48" x 3/4" Sq. Lay-in	1913	☐			
Ultima 24" x 48" x 3/4" Bev. Tegular	1914	☐			
Technical Panels					
Optima 6" x 48" x 1" Sq. Lay-in	1400	☐	Optima 6" x 48" x 1" Sq. Lay-in	1401	☐
Optima 6" x 48" x 1" Sq. Tegular	1402	☐	Optima 6" x 48" x 1" Sq. Tegular	1403	☐
Ultima 6" x 48" x 3/4" Sq. Lay-in	1420	☐	Ultima 6" x 48" x 3/4" Sq. Lay-in	1420	☐
Ultima 24" x 48" x 3/4" Bev. Tegular	1422	☐	Ultima 6" x 48" x 3/4" Bev. Tegular	1423	☐
Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1650	☐	Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1652	☐
Metal 6" x 48" x .025" Sq. Tegular Unperforated	1654	☐	Metal 6" x 48" x .025" Sq. Tegular Unperforated	1656	☐
Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1610	☐	Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1612	☐
Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1640	☐	Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1642	☐
Metal 6" x 48" x .025" Sq. Tegular Microperforated	1614	☐	Metal 6" x 48" x .025" Sq. Tegular Microperforated	1616	☐
Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1644	☐	Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1646	☐
Grid Components					
Prelude XL 12' ID/HD Main Beam	7300/7301*	☐	Suprafine XL 12' ID/HD Main Beam	7500/7501*	☐
Prelude XL 4' Cross Tee	XL7340/7341**	☐	Suprafine XL 4' Cross Tee	XL7540/7541**	☐
Prelude XL 4' Cross Tee	XL7342/7348	☐	Interlude XL 12' ID/HD Main Beam	6100/6101A*	☐
			Interlude XL 4' Cross Tee	XL6140	☐
			Silhouette XL 9' HD Main Beam (installs w/panel long side parallel to technical zone)	7613	☐
			Silhouette XL 9' HD Main Beam (installs w/panel long side perpendicular to technical zone)	7614	☐
			Silhouette XL 4' Cross Tee	XL7640	☐
			Silhouette XL 4' Cross Tee - center notched one side	XL7646	☐
			Silhouette XL 2' Cross Tee	XL7620	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement





COMPONENTS:

Panels and Main Beams (Prelude XL, Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.889
MB EF = 0.25

Cross Tees (Prelude XL, Suprafine XL, Interlude XL)
4' CT EF = 0.666 XL7340/7341; XL7342/7348; XL7540/7541; XL6140

Cross Tees (Silhouette XL)
A Configuration
4' CT EF = 0.222 XL7640
4' CT EF = 0.444 XL7646
B Configuration
4' CT EF = 0.666 XL7640

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

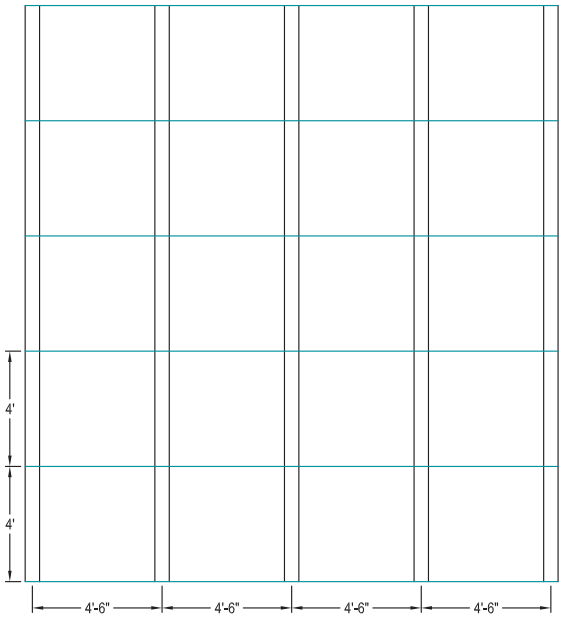
4' TechZone™ Module

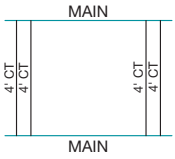
4'-6" On-Center Technical Zone Spacing

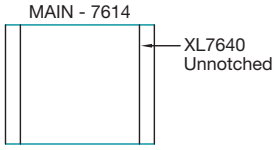
48" x 48" Field Panels,
6" x 48" Technical Panels

15/16" GRID			9/16" GRID		
DESCRIPTION	**ITEM #**	✔	**DESCRIPTION**	**ITEM #**	✔
Field Panels					
Optima 48" x 48" x 1" Sq. Lay-in	3160	☐	Optima 48" x 48" x 1" Sq. Tegular	3256	☐
Optima 48" x 48" x 1" Sq. Tegular	3255	☐			
Technical Panels					
Optima 6" x 48" x 1" Sq. Lay-in	1400	☐	Optima 6" x 48" x 1" Sq. Lay-in	1401	☐
Optima 6" x 48" x 1" Sq. Tegular	1402	☐	Optima 6" x 48" x 1" Sq. Tegular	1403	☐
Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1650	☐	Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1652	☐
Metal 6" x 48" x .025" Sq. Tegular Unperforated	1654	☐	Metal 6" x 48" x .025" Sq. Tegular Unperforated	1656	☐
Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1610	☐	Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1612	☐
Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1640	☐	Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1642	☐
Metal 6" x 48" x .025" Sq. Tegular Microperforated	1614	☐	Metal 6" x 48" x .025" Sq. Tegular Microperforated	1616	☐
Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1644	☐	Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1646	☐
Grid Components					
Prelude XL 12' ID/HD Main Beam	7300/7301*	☐	Suprafine XL 12' ID/HD Main Beam	7500/7501*	☐
Prelude XL 4' Cross Tee	XL7340/7341**	☐	Suprafine XL 4' Cross Tee	XL7540/7541**	☐
Prelude XL 4' Cross Tee	XL7342/7348	☐	Interlude XL 12' ID/HD Main Beam	6100/6101A*	☐
			Interlude XL 4' Cross Tee	XL6140	☐
			Silhouette XL 9' HD Main Beam (installs w/panel long side perpendicular to technical zone)	7614	☐
			Silhouette XL 4' Cross Tee	XL7640	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement







COMPONENTS:

Panels and Main Beams (Prelude XL, Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.889
MB EF = 0.25

Cross Tees (Prelude XL , Suprafine XL, Interlude XL)
4' CT EF = 0.666 XL7340/7341; XL7342/7348; XL7540/7541; XL6140

Cross Tees (Silhouette XL)
4' CT EF = 0.444 XL7640

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

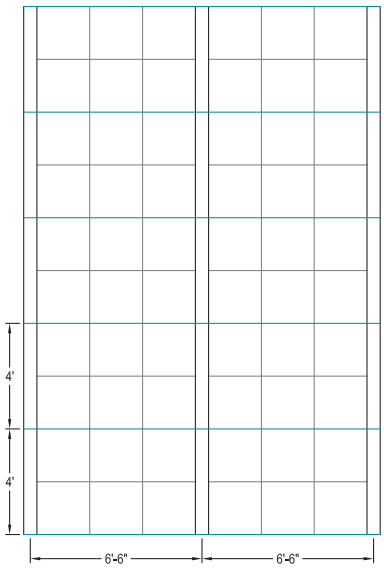
4' TechZone™ Module

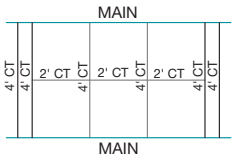
6'-6" On-Center Technical Zone Spacing

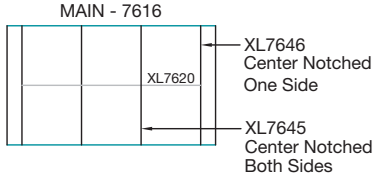
24" x 24" Field Panels,
6" x 48" Technical Panels

15/16" GRID			9/16" GRID		
DESCRIPTION	**ITEM #**	✔	**DESCRIPTION**	**ITEM #**	✔
Field Panels					
Optima 24" x 24" x 1" Sq. Lay-in	3152	☐	Optima 24" x 24" x 1" Sq. Tegular	3251	☐
Optima 24" x 24" x 1" Sq. Tegular	3250	☐	Ultima 24" x 24" x 3/4" Bev. Tegular	1912	☐
Ultima 24" x 24" x 3/4" Sq. Lay-in	1910	☐			
Ultima 24" x 24" x 3/4" Bev. Tegular	1911	☐			
Technical Panels					
Optima 6" x 48" x 1" Sq. Lay-in	1400	☐	Optima 6" x 48" x 1" Sq. Lay-in	1401	☐
Optima 6" x 48" x 1" Sq. Tegular	1402	☐	Optima 6" x 48" x 1" Sq. Tegular	1403	☐
Ultima 6" x 48" x 3/4" Sq. Lay-in	1420	☐	Ultima 6" x 48" x 3/4" Sq. Lay-in	1420	☐
Ultima 24" x 48" x 3/4" Bev. Tegular	1422	☐	Ultima 6" x 48" x 3/4" Bev. Tegular	1423	☐
Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1650	☐	Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1652	☐
Metal 6" x 48" x .025" Sq. Tegular Unperforated	1654	☐	Metal 6" x 48" x .025" Sq. Tegular Unperforated	1656	☐
Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1610	☐	Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1612	☐
Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1640	☐	Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1642	☐
Metal 6" x 48" x .025" Sq. Tegular Microperforated	1614	☐	Metal 6" x 48" x .025" Sq. Tegular Microperforated	1616	☐
Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1644	☐	Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1646	☐
Grid Components					
Prelude XL 12' ID/HD Main Beam	7300/7301*	☐	Suprafine XL 12' ID/HD Main Beam	7500/7501*	☐
Prelude XL 4' Cross Tee	XL7340/7341**	☐	Suprafine XL 4' Cross Tee	XL7540/7541**	☐
			Suprafine XL 2' Cross Tee	XL7520	☐
			Interlude XL 12' ID/HD Main Beam	6100/6101A*	☐
			Interlude XL 4' Cross Tee	XL6140	☐
			Interlude XL 2' Cross Tee	XL6120	☐
			Silhouette XL 78" HD Main Beam	7616	☐
			Silhouette XL 4' Cross Tee - center notched one side	XL7646	☐
			Silhouette XL 4' Cross Tee - center notched both sides	XL7645	☐
			Silhouette XL 2' Cross Tee	XL7620	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement







COMPONENTS:

Panels and Main Beams (Prelude XL, Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.938
MB EF = 0.25

Cross Tees (Prelude XL, Suprafine XL, Interlude XL)
4' CT EF = 0.615 XL7340/7341; XL7540/7541; XL6140
2' CT EF = 0.231 XL7328; XL7520; XL6120

Cross Tees (Silhouette XL)
4' CT EF = 0.308 XL7645
4' CT EF = 0.308 XL7646
2' CT EF = 0.231 XL7620

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

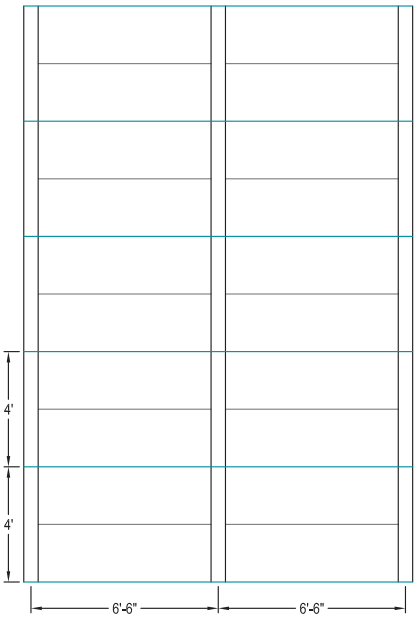
4' TechZone™ Module

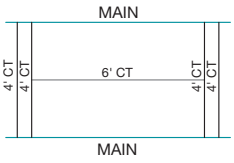
6'-6" On-Center Technical Zone Spacing

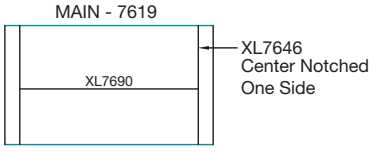
24" x 72" Field Panels,
6" x 48" Technical Panels

15/16" GRID			9/16" GRID		
DESCRIPTION	**ITEM #**	✔	**DESCRIPTION**	**ITEM #**	✔
Field Panels					
Optima 24" x 72" x 1" Sq. Lay-in	3161	☐	Optima 24" x 24" x 1" Sq. Tegular	3251	☐
Optima 24" x 72" x 1" Sq. Tegular	3281	☐	Optima 24" x 72" x 1" Sq. Tegular	3261	☐
Technical Panels					
Optima 6" x 48" x 1" Sq. Lay-in	1400	☐	Optima 6" x 48" x 1" Sq. Lay-in	1401	☐
Optima 6" x 48" x 1" Sq. Tegular	1402	☐	Optima 6" x 48" x 1" Sq. Tegular	1403	☐
Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1650	☐	Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1652	☐
Metal 6" x 48" x .025" Sq. Tegular Unperforated	1654	☐	Metal 6" x 48" x .025" Sq. Tegular Unperforated	1656	☐
Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1610	☐	Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1612	☐
Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1640	☐	Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1642	☐
Metal 6" x 48" x .025" Sq. Tegular Microperforated	1614	☐	Metal 6" x 48" x .025" Sq. Tegular Microperforated	1616	☐
Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1644	☐	Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1646	☐
Grid Components					
Prelude XL 12' ID/HD Main Beam	7300/7301*	☐	Suprafine XL 12' ID/HD Main Beam	7500/7501*	☐
Prelude XL 4' Cross Tee	XL7340/7341**	☐	Suprafine XL 4' Cross Tee	XL7540/7541**	☐
			Suprafine XL 2' Cross Tee	XL7520	☐
			Interlude XL 12' ID/HD Main Beam	6100/6101A*	☐
			Interlude XL 4' Cross Tee	XL6140	☐
			Interlude XL 2' Cross Tee	XL6120	☐
			Silhouette XL 78" HD Main Beam	7619	☐
			Silhouette XL 6' Cross Tee	XL7690	☐
			Silhouette XL 4' Cross Tee - center notched one side	XL7646	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement







COMPONENTS:

Panels and Main Beams (Prelude XL, Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.923
MB EF = 0.25

Cross Tees (Prelude XL, Suprafine XL, Interlude XL)
6' CT EF = 0.231 XL7390; XL7590; XL6190
4' CT EF = 0.308 XL7340/7341; XL7342/7348; XL7540/7541; XL6120

Cross Tees (Silhouette XL)
6' CT EF = 0.231 XL7690
4' CT EF = 0.308 XL7646

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

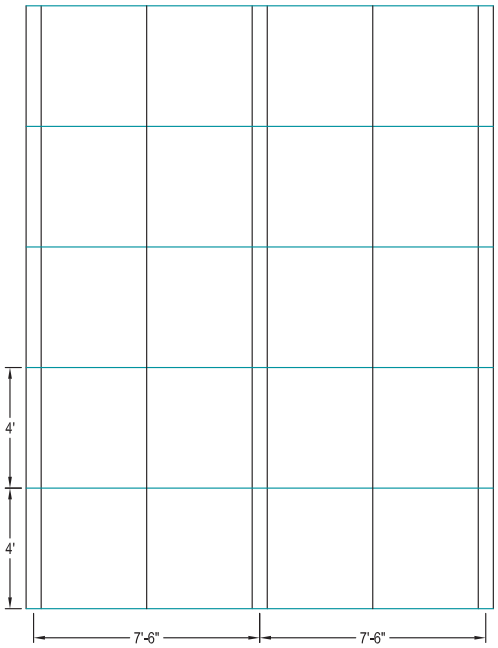
4' TechZone™ Module

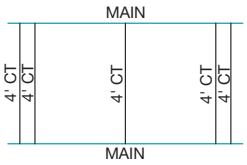
7'-6" On-Center Technical Zone Spacing

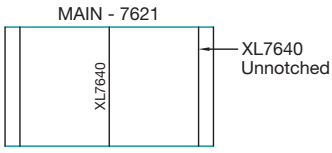
42" x 48" Field Panels,
6" x 48" Technical Panels

9/16" GRID		
DESCRIPTION	**ITEM #**	✔
Field Panels		
Optima 42" x 48" x 1" Sq. Tegular	3287	☐
Technical Panels		
Optima 6" x 48" x 1" Sq. Lay-in	1401	☐
Optima 6" x 48" x 1" Sq. Tegular	1403	☐
Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1652	☐
Metal 6" x 48" x .025" Sq. Tegular Unperforated	1656	☐
Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1612	☐
Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1642	☐
Metal 6" x 48" x .025" Sq. Tegular Microperforated	1616	☐
Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1646	☐
Grid Components		
Suprafine XL 12' ID/HD Main Beam	7500/7501*	☐
Suprafine XL 4' Cross Tee	XL7540/7541**	☐
Interlude XL 12' ID/HD Main Beam	6100/6101A*	☐
Interlude XL 4' Cross Tee	XL6140	☐
Silhouette XL 11' HD Main Beam	7621	☐
Silhouette XL 4' Cross Tee	XL7640	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement







COMPONENTS:
Panels and Main Beams (Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.93
MB EF = 0.25
Cross Tees (Suprafine XL, Interlude XL)
4' CT EF = 0.40 XL7540/7541; XL6140
Cross Tees (Silhouette XL)
4' CT EF = 0.40 XL7640

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

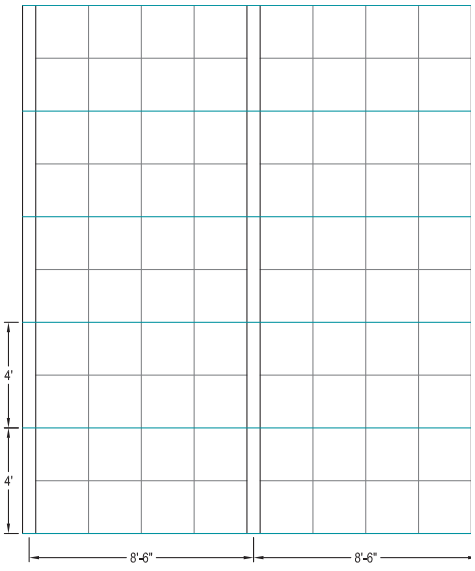
4' TechZone™ Module

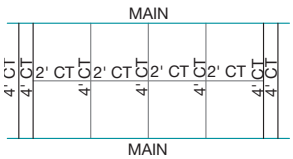
8'-6" On-Center Technical Zone Spacing

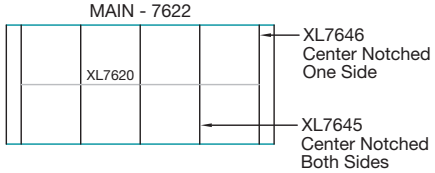
24" x 24" Field Panels,
6" x 48" Technical Panels

15/16" GRID			9/16" GRID		
DESCRIPTION	**ITEM #**	✔	**DESCRIPTION**	**ITEM #**	✔
Field Panels					
Optima 24" x 24" x 1" Sq. Lay-in	3152	☐	Optima 24" x 24" x 1" Sq. Tegular	3251	☐
Optima 24" x 24" x 1" Sq. Tegular	3250	☐	Ultima 24" x 24" x 3/4" Bev. Tegular	1912	☐
Ultima 24" x 24" x 3/4" Sq. Lay-in	1910	☐			
Ultima 24" x 24" x 3/4" Bev. Tegular	1911	☐			
Technical Panels					
Optima 6" x 48" x 1" Sq. Lay-in	1400	☐	Optima 6" x 48" x 1" Sq. Lay-in	1401	☐
Optima 6" x 48" x 1" Sq. Tegular	1402	☐	Optima 6" x 48" x 1" Sq. Tegular	1403	☐
Ultima 6" x 48" x 3/4" Sq. Lay-in	1420	☐	Ultima 6" x 48" x 3/4" Sq. Lay-in	1420	☐
Ultima 24" x 48" x 3/4" Bev. Tegular	1422	☐	Ultima 6" x 48" x 3/4" Bev. Tegular	1423	☐
Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1650	☐	Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1652	☐
Metal 6" x 48" x .025" Sq. Tegular Unperforated	1654	☐	Metal 6" x 48" x .025" Sq. Tegular Unperforated	1656	☐
Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1610	☐	Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1612	☐
Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1640	☐	Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1642	☐
Metal 6" x 48" x .025" Sq. Tegular Microperforated	1614	☐	Metal 6" x 48" x .025" Sq. Tegular Microperforated	1616	☐
Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1644	☐	Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1646	☐
Grid Components					
Prelude XL 12' ID/HD Main Beam	7300/7301*	☐	Suprafine XL 12' ID/HD Main Beam	7500/7501*	☐
Prelude XL 4' Cross Tee	XL7340/7341**	☐	Suprafine XL 4' Cross Tee	XL7540/7541**	☐
Prelude XL 4' Cross Tee	XL7342/7348	☐	Suprafine XL 2' Cross Tee	XL7520	☐
			Interlude XL 12' ID/HD Main Beam	6100/6101A*	☐
			Interlude XL 4' Cross Tee	XL6140	☐
			Interlude XL 2' Cross Tee	XL6120	☐
			Silhouette XL 9' HD Main Beam	7622	☐
			Silhouette XL 4' Cross Tee - center notched one side	XL7646	☐
			Silhouette XL 4' Cross Tee - center notched both sides	XL7645	☐
			Silhouette XL 2' Cross Tee	XL7620	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement







COMPONENTS:

Panels and Main Beams (Prelude XL, Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.941
MB EF = 0.25

Cross Tees (Prelude XL, Suprafine XL, Interlude XL)
4' CT EF = 0.588 XL7340/7341; XL7342/7348; XL7540/7541; XL6140
2' CT EF = 0.235 XL7328; XL7520; XL6120

Cross Tees (Silhouette XL)
4' CT EF = 0.235 XL7646
4' CT EF = 0.353 XL7645
2' CT EF = 0.235 XL7620

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

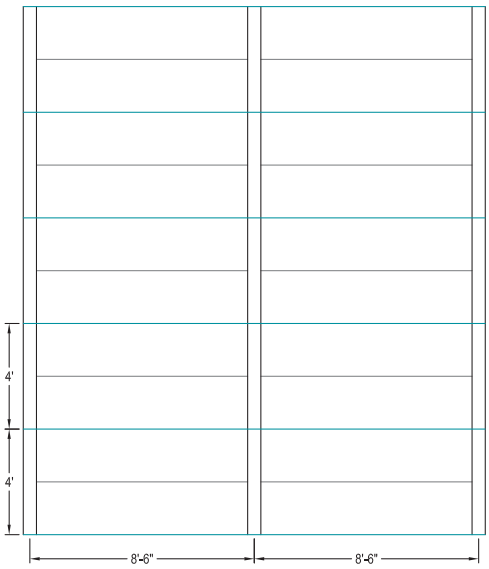
4' TechZone™ Module

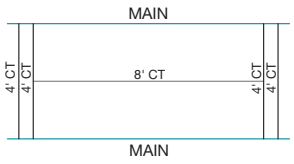
8'-6" On-Center Technical Zone Spacing

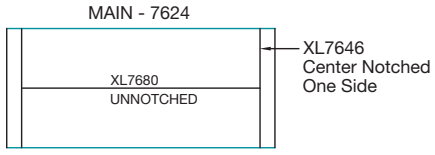
24" x 96" Field Panels,
6" x 48" Technical Panels

15/16" GRID			9/16" GRID		
DESCRIPTION	**ITEM #**	✔	**DESCRIPTION**	**ITEM #**	✔
Field Panels					
Optima 24" x 96" x 3/4" Sq. Lay-in	3162	☐	Optima 24" x 96" x 1" Sq. Tegular	3262	☐
Optima 24" x 96" x 1" Sq. Tegular	3282	☐			
Technical Panels					
Optima 6" x 48" x 1" Sq. Lay-in	1400	☐	Optima 6" x 48" x 1" Sq. Lay-in	1401	☐
Optima 6" x 48" x 1" Sq. Tegular	1402	☐	Optima 6" x 48" x 1" Sq. Tegular	1403	☐
Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1650	☐	Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1652	☐
Metal 6" x 48" x .025" Sq. Tegular Unperforated	1654	☐	Metal 6" x 48" x .025" Sq. Tegular Unperforated	1656	☐
Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1610	☐	Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1612	☐
Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1640	☐	Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1642	☐
Metal 6" x 48" x .025" Sq. Tegular Microperforated	1614	☐	Metal 6" x 48" x .025" Sq. Tegular Microperforated	1616	☐
Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1644	☐	Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1646	☐
Grid Components					
Prelude XL 12' ID/HD Main Beam	7300/7301*	☐	Suprafine XL 12' ID/HD Main Beam	7500/7501*	☐
Prelude XL 4' Cross Tee	XL7340/7341**	☐	Suprafine XL 8' Cross Tee	XL7580	☐
Prelude XL 4' Cross Tee	XL7342/7348	☐	Suprafine XL 4' Cross Tee	XL7540/7541**	☐
			Interlude XL 12' ID/HD Main Beam	6100/6101A*	☐
			Interlude XL 8' Cross Tee	XL6180	☐
			Interlude XL 4' Cross Tee	XL6140	☐
			Silhouette XL 102" HD Main Beam	7624	☐
			Silhouette XL 8' Cross Tee	XL7680	☐
			Silhouette XL 4' Cross Tee - center notched one side	XL7646	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement







COMPONENTS:

Panels and Main Beams (Prelude XL, Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.941
MB EF = 0.25

Cross Tees (Prelude XL, Suprafine XL, Interlude XL)
8' CT EF = 0.235 XL7380; XL7580; XL6180
4' CT EF = 0.235 XL 7340/7341; XL7342/7348; XL7540/7541; XL6140

Cross Tees (Silhouette XL)
8' CT EF = 0.235 XL7680
4' CT EF = 0.235 XL7646

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

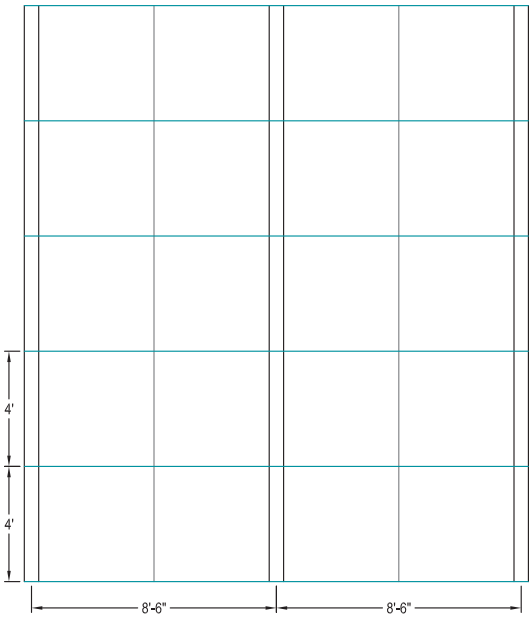
4' TechZone™ Module

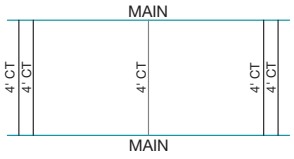
8'-6" On-Center Technical Zone Spacing

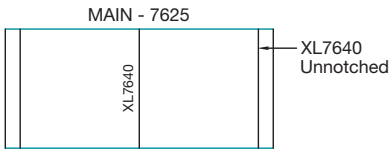
48" x 48" Field Panels,
6" x 48" Technical Panels

15/16" GRID			9/16" GRID		
DESCRIPTION	**ITEM #**	✔	**DESCRIPTION**	**ITEM #**	✔
Field Panels					
Optima 48" x 48" x 1" Sq. Lay-in	3160	☐	Optima 48" x 48" x 1" Sq. Tegular	3256	☐
Optima 48" x 48" x 1" Sq. Tegular	3255	☐			
Technical Panels					
Optima 6" x 48" x 1" Sq. Lay-in	1400	☐	Optima 6" x 48" x 1" Sq. Lay-in	1401	☐
Optima 6" x 48" x 1" Sq. Tegular	1402	☐	Optima 6" x 48" x 1" Sq. Tegular	1403	☐
Metal 6" x 48" x .025" Sq. Lay-in Unperforated	1650	☐	Metal 6" x 48" x .025" Sq. Lay-in	1652	☐
Metal 6" x 48" x .025" Sq. Tegular Unperforated	1654	☐	Metal 6" x 48" x .025" Sq. Tegular	1656	☐
Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1610	☐	Metal 6" x 48" x .025" Sq. Lay-in Microperforated	1612	☐
Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1640	☐	Metal 6" x 48" x .025" Sq. Lay-in Air Return Perforated	1642	☐
Metal 6" x 48" x .025" Sq. Tegular Microperforated	1614	☐	Metal 6" x 48" x .025" Sq. Tegular Microperforated	1616	☐
Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1644	☐	Metal 6" x 48" x .025" Sq. Tegular Air Return Perforated	1646	☐
Grid Components					
Prelude XL 12' ID/HD Main Beam	7300/7301*	☐	Suprafine XL 12' ID/HD Main Beam	7500/7501*	☐
Prelude XL 4' Cross Tee	XL7340/7341**	☐	Suprafine XL 4' Cross Tee	XL7540/7541**	☐
Prelude XL 4' Cross Tee	XL7342/7348	☐	Interlude XL 12' ID/HD Main Beam	6100/6101A*	☐
			Interlude XL 4' Cross Tee	XL6140	☐
			Silhouette XL 102" HD Main Beam	7625	☐
			Silhouette XL 4' Cross Tee	XL7640	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement







COMPONENTS:

Panels and Main Beams (Prelude XL, Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.941
MB EF = 0.25

Cross Tees (Prelude XL, Suprafine XL, Interlude XL)
4' CT EF = 0.353 7340/7341; 7342/7348; 7540/7541; 6140

Cross Tees (Silhouette XL)
4' CT EF = 0.353 XL7640

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

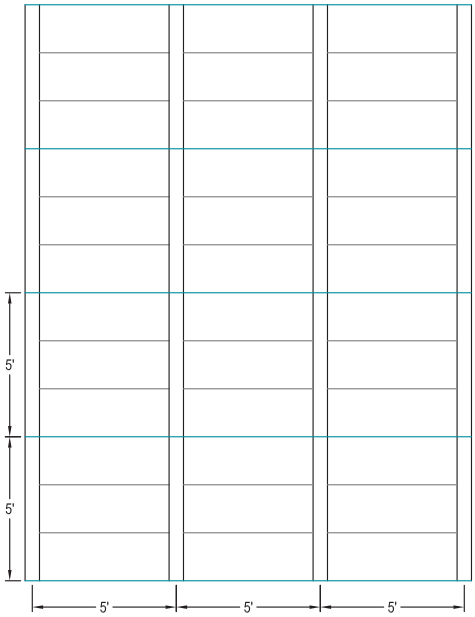
5' TechZone™ Module

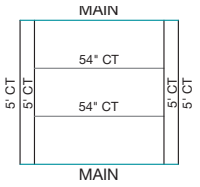
5'-0" On-Center Technical Zone Spacing

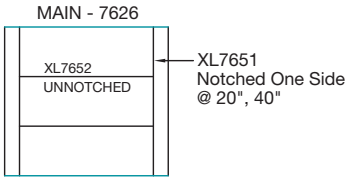
20" x 54" Field Panels,
6" x 60" Technical Panels

9/16" GRID		
DESCRIPTION	**ITEM #**	✔
Field Panels		
Optima 20" x 54" x 1" Sq. Tegular	3276	☐
Technical Panels		
Optima 6" x 60" x 1" Sq. Lay-in	1405	☐
Optima 6" x 60" x 1" Sq. Tegular	1407	☐
Metal 6" x 60" x .025" Sq. Lay-in Unperforated	1653	☐
Metal 6" x 60" x .025" Sq. Tegular Unperforated	1657	☐
Metal 6" x 60" x .025" Sq. Lay-in Microperforated	1613	☐
Metal 6" x 60" x .025" Sq. Lay-in Air Return Perforated	1643	☐
Metal 6" x 60" x .025" Sq. Tegular Microperforated	1617	☐
Metal 6" x 60" x .025" Sq. Tegular Air Return Perforated	1647	☐
Grid Components		
Suprafine XL 12' ID/HD Main Beam	7500/7501*	☐
Suprafine XL 5' Cross Tee	XL7558	☐
Suprafine XL 54" Cross Tee	XL7564	☐
Interlude XL 12' ID/HD Main Beam	6100/6101A*	☐
Interlude XL 5' Cross Tee	XL6152	☐
Interlude XL 54" Cross Tee	XL6162	☐
Silhouette XL 10' HD Main Beam	7626	☐
Silhouette XL 5' Cross Tee - notched one side at 20", 40"	XL7651	☐
Silhouette XL 54" Cross Tee	XL7652	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement







COMPONENTS:

Panels and Main Beams (Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.90
MB EF = 0.20

Cross Tees (Suprafine XL, Interlude XL)
5' CT EF = 0.40 XL7558; XL6152
54" CT EF = 0.36 XL7564; XL6164

Cross Tees (Silhouette XL)
5' CT EF = 0.40 XL7651
54" CT EF= 0.36 XL7652

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

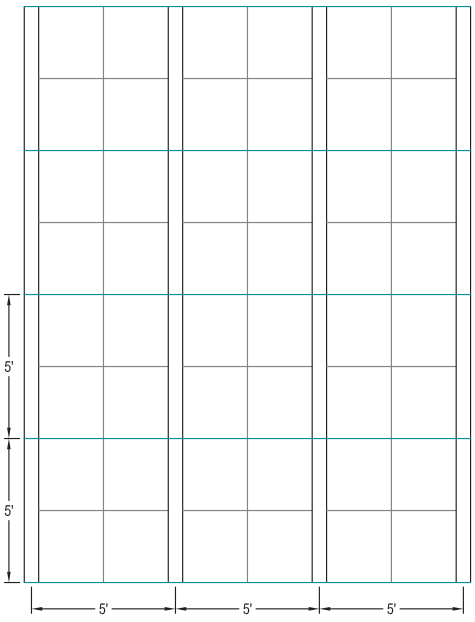
5' TechZone™ Module

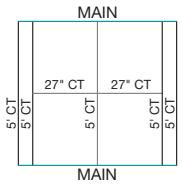
5'-0" On-Center Technical Zone Spacing

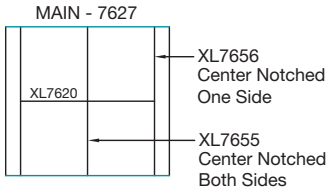
27" x 30" Field Panels,
6" x 60" Technical Panels

9/16" GRID		
DESCRIPTION	**ITEM #**	✔
Field Panels		
Optima 27" x 30" x 1" Sq. Tegular	3283	☐
Technical Panels		
Optima 6" x 60" x 1" Sq. Lay-in	1405	☐
Optima 6" x 60" x 1" Sq. Tegular	1407	☐
Metal 6" x 60" x .025" Sq. Lay-in Unperforated	1653	☐
Metal 6" x 60" x .025" Sq. Tegular Unperforated	1657	☐
Metal 6" x 60" x .025" Sq. Lay-in Microperforated	1613	☐
Metal 6" x 60" x .025" Sq. Lay-in Air Return Perforated	1643	☐
Metal 6" x 60" x .025" Sq. Tegular Microperforated	1617	☐
Metal 6" x 60" x .025" Sq. Tegular Air Return Perforated	1647	☐
Grid Components		
Suprafine XL 10' HD Main Beam	7504	☐
Suprafine XL 5' Cross Tee	XL7558	☐
Suprafine XL 27" Cross Tee	XL7567	☐
Interlude XL 10' HD Main Beam	6127A	☐
Interlude XL 5' Cross Tee	XL6153	☐
Interlude XL 27" Cross Tee	XL6167	☐
Silhouette XL 10' HD Main Beam	7627	☐
Silhouette XL 5' Cross Tee - center notched both sides	XL7655	☐
Silhouette XL 5' Cross Tee - center notched one side	XL7656	☐
Silhouette XL 27" Cross Tee	XL7652	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement







COMPONENTS:

Panels and Main Beams (Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.90
MB EF = 0.20

Cross Tees (Suprafine XL, Interlude XL)
5' CT EF = 0.60 XL7558; XL6153
27" CT EF = 0.20 XL7567; XL6167

Cross Tees (Silhouette XL)
5' CT EF = 0.2 XL7655
5' CT EF = 0.4 XL7656
27" CT EF = 0.18 XL7627

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

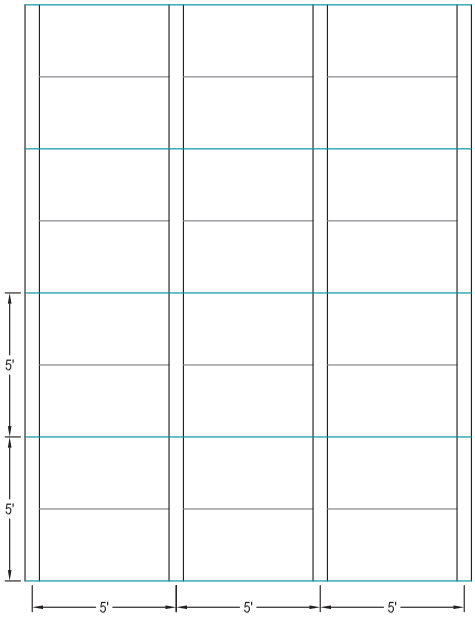
5' TechZone™ Module

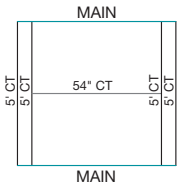
5'-0" On-Center Technical Zone Spacing

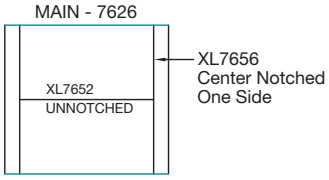
30" x 54" Field Panels,
6" x 60" Technical Panels

9/16" GRID		
DESCRIPTION	**ITEM #**	✔
Field Panels		
Optima 30" x 54" x 1" Sq. Tegular	3284	☐
Technical Panels		
Optima 6" x 60" x 1" Sq. Lay-in	1405	☐
Optima 6" x 60" x 1" Sq. Tegular	1407	☐
Metal 6" x 60" x .025" Sq. Lay-in Unperforated	1653	☐
Metal 6" x 60" x .025" Sq. Tegular Unperforated	1657	☐
Metal 6" x 60" x .025" Sq. Lay-in Microperforated	1613	☐
Metal 6" x 60" x .025" Sq. Lay-in Air Return Perforated	1643	☐
Metal 6" x 60" x .025" Sq. Tegular Microperforated	1617	☐
Metal 6" x 60" x .025" Sq. Tegular Air Return Perforated	1647	☐
Grid Components		
Suprafine XL 10' HD Main Beam	7504	☐
Suprafine XL 10' ID Main Beam	7502	☐
Suprafine XL 5' Cross Tee	XL7558	☐
Suprafine XL 54" Cross Tee	XL7564	☐
Interlude XL 12' ID/HD Main Beam	6100/6101A*	☐
Interlude XL 5' Cross Tee	XL6153	☐
Silhouette XL 10' HD Main Beam	7626	☐
Silhouette XL 5' Cross Tee - center notched one side	XL7656	☐
Silhouette XL 54" Cross Tee	XL7652	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement







COMPONENTS:

Panels and Main Beams (Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.90
MB EF = 0.20

Cross Tees (Suprafine XL, Interlude XL)
5' CT EF = 0.40 XL7558; XL6153
54" CT EF = 0.18 XL7564; XL6164

Cross Tees (Silhouette XL)
5' CT EF = 0.40 XL7656
54" CT EF = 0.18 XL7652

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

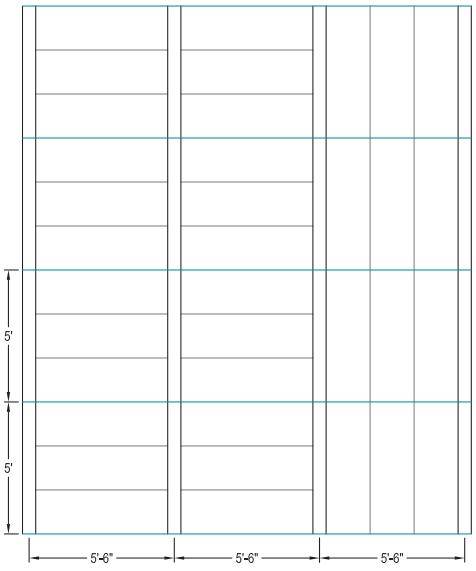
5' TechZone™ Module

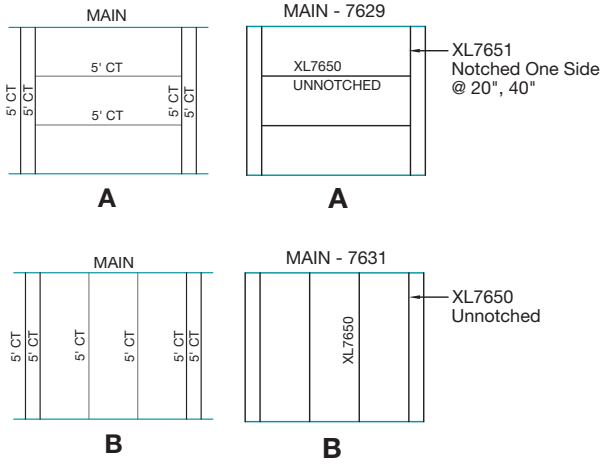
5'-6" On-Center Technical Zone Spacing

20" x 60" Field Panels,
6" x 60" Technical Panels

15/16" GRID			9/16" GRID		
DESCRIPTION	**ITEM #**	✔	**DESCRIPTION**	**ITEM #**	✔
Field Panels					
Optima 20" x 60" x 1" Sq. Lay-in	3156	☐	Optima 20" x 60" x 1" Sq. Tegular	3277	☐
Optima 20" x 60" x 1" Sq. Tegular	3278	☐			
Technical Panels					
Optima 6" x 60" x 1" Sq. Lay-in	1404	☐	Optima 6" x 60" x 1" Sq. Lay-in	1405	☐
Optima 6" x 60" x 1" Sq. Tegular	1406	☐	Optima 6" x 60" x 1" Sq. Tegular	1407	☐
Metal 6" x 60" x .025" Sq. Lay-in Unperforated	1651	☐	Metal 6" x 60" x .025" Sq. Lay-in Unperforated	1653	☐
Metal 6" x 60" x .025" Sq. Tegular Unperforated	1655	☐	Metal 6" x 60" x .025" Sq. Tegular Unperforated	1657	☐
Metal 6" x 60" x .025" Sq. Lay-in Microperforated	1611	☐	Metal 6" x 60" x .025" Sq. Lay-in Microperforated	1613	☐
Metal 6" x 60" x .025" Sq. Lay-in Air Return Perforated	1641	☐	Metal 6" x 60" x .025" Sq. Lay-in Air Return Perforated	1643	☐
Metal 6" x 60" x .025" Sq. Tegular Microperforated	1615	☐	Metal 6" x 60" x .025" Sq. Tegular Microperforated	1617	☐
Metal 6" x 60" x .025" Sq. Tegular Air Return Perforated	1645	☐	Metal 6" x 60" x .025" Sq. Tegular Air Return Perforated	1647	☐
Grid Components					
A: Prelude XL 12' ID/HD Main Beam	7300/7301*	☐	**A:** Suprafine XL 12' ID/HD Main Beam	7500/7501*	☐
B: Prelude XL 11' HD Main Beam	7306	☐	**B:** Suprafine XL 11' HD Main Beam	7508	☐
Prelude XL 5' Cross Tee	XL7358	☐	Suprafine XL 5' Cross Tee	XL7558	☐
			A: Interlude XL 12' ID/HD Main Beam	6100/6101A*	☐
			B: Interlude XL 11' HD Main Beam	6132A	☐
			Interlude XL 5' Cross Tee	XL6150	☐
			A: Silhouette XL 11' HD Main Beam (installs w/panel long side perpendicular to technical zone)	7629	☐
			B: Silhouette XL 11' HD Main Beam (installs w/panel long side parallel to technical zone)	7631	☐
			Silhouette XL 5' Cross Tee - notched one side at 20", 40"	XL7651	☐
			Silhouette XL 5' Cross Tee	XL7650	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement





COMPONENTS:
Panels and Main Beams (Prelude XL, Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.909
MB EF = 0.20
Cross Tees (Prelude XL, Suprafine XL, Interlude XL)
5' CT EF = 0.727 XL7358; XL7558; XL6150
Cross Tees (Silhouette XL)
A Configuration:
5' CT EF = 0.364 XL7651
5' CT EF = 0.364 XL7650
B Configuration
5' CT EF = 0.727 XL7650

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

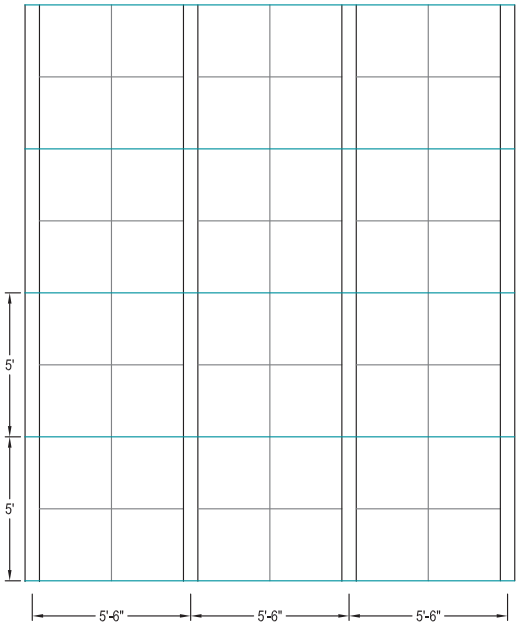
5' TechZone™ Module

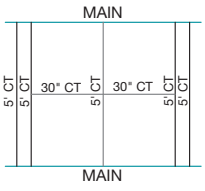
5'-6" On-Center Technical Zone Spacing

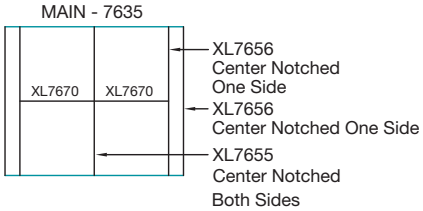
30" x 30" Field Panels,
6" x 60" Technical Panels

15/16" GRID			9/16" GRID		
DESCRIPTION	**ITEM #**	✔	**DESCRIPTION**	**ITEM #**	✔
Field Panels					
Optima 30" x 30" x 1" Sq. Lay-in	3158	☐	Optima 30" x 30" x 1" Sq. Tegular	3259	☐
Optima 30" x 30" x 1" Sq. Tegular	3258	☐	Ultima 30" x 30" x 3/4" Bev. Tegular	1905	
Technical Panels					
Optima 6" x 60" x 1" Sq. Lay-in	1404	☐	Optima 6" x 60" x 1" Sq. Lay-in	1405	☐
Optima 6" x 60" x 1" Sq. Tegular	1406	☐	Optima 6" x 60" x 1" Sq. Tegular	1407	☐
Metal 6" x 60" x .025" Sq. Lay-in Unperforated	1651	☐	Ultima 6" x 60" x 3/4" Sq. Lay-in	1425	☐
Metal 6" x 60" x .025" Sq. Tegular Unperforated	1655	☐	Ultima 6" x 60" x 3/4" Bev. Tegular	1427	☐
Metal 6" x 60" x .025" Sq. Lay-in Microperforated	1611	☐	Metal 6" x 60" x .025" Sq. Lay-in Unperforated	1653	☐
Metal 6" x 60" x .025" Sq. Lay-in Air Return Perforated	1641	☐	Metal 6" x 60" x .025" Sq. Tegular Unperforated	1657	☐
Metal 6" x 60" x .025" Sq. Tegular Microperforated	1615	☐	Metal 6" x 60" x .025" Sq. Lay-in Microperforated	1613	☐
Metal 6" x 60" x .025" Sq. Tegular Air Return Perforated	1645	☐	Metal 6" x 60" x .025" Sq. Lay-in Air Return Perforated	1643	☐
			Metal 6" x 60" x .025" Sq. Tegular Microperforated	1617	☐
			Metal 6" x 60" x .025" Sq. Tegular Air Return Perforated	1647	☐
Grid Components					
Prelude XL 12' ID/HD Main Beam	7300/7301*	☐	Suprafine XL 12' ID/HD Main Beam	7500/7501*	☐
Prelude XL 5' Cross Tee	XL7358*	☐	Suprafine XL 5' Cross Tee	XL7558	☐
Prelude XL 30" Cross Tee	XL7378	☐	Suprafine XL 30" Cross Tee	XL7570	☐
			Interlude XL 12' ID/HD Main Beam	6100/6101A*	☐
			Interlude XL 5' Cross Tee	XL6150	☐
			Interlude XL 30" Cross Tee	XL6170	☐
			Silhouette XL 11' HD Main Beam	7635	☐
			Silhouette XL 5' Cross Tee - center notched both sides	XL7655	☐
			Silhouette XL 5' Cross Tee - center notched one side	XL7656	☐
			Silhouette XL 30" Cross Tee	XL7670	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement







COMPONENTS:

Panels and Main Beams (Prelude XL, Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.909
MB EF = 0.20

Cross Tees (Prelude XL, Suprafine XL, Interlude XL)
5' CT EF = 0.545 XL7378; XL7558; XL6150
30" CT EF = 0.182 XL7570; XL6170

Cross Tees (Silhouette XL)
5' CT EF = 0.364 XL7656
5' CT EF = 0.182 XL7655
30" CT EF = 0.182 XL7670

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

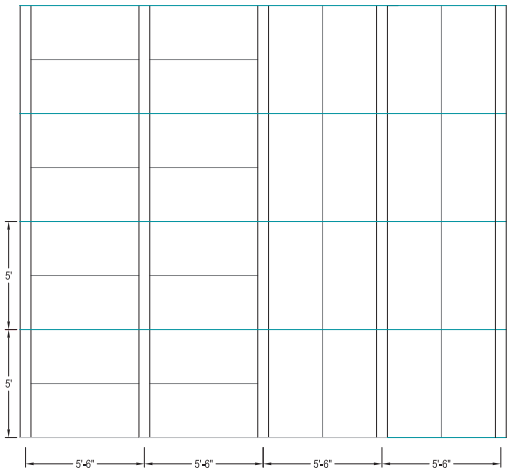
5' TechZone™ Module

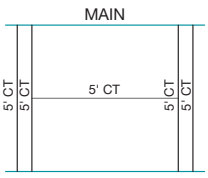
5'-6" On-Center Technical Zone Spacing

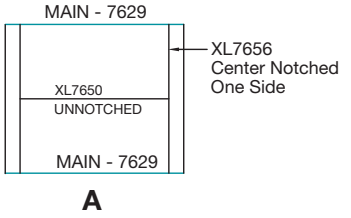
30" x 60" Field Panels,
6" x 60" Technical Panels

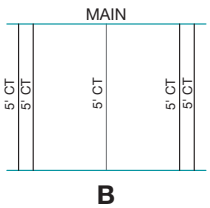
15/16" GRID			9/16" GRID		
DESCRIPTION	**ITEM #**	✔	**DESCRIPTION**	**ITEM #**	✔
Field Panels					
Optima 30" x 60" x 1" Sq. Lay-in	3157	☐	Optima 30" x 60" x 1" Sq. Tegular	3285	☐
Optima 30" x 60" x 1" Sq. Tegular	3286	☐			
Technical Panels					
Optima 6" x 60" x 1" Sq. Lay-in	1404	☐	Optima 6" x 60" x 1" Sq. Lay-in	1405	☐
Optima 6" x 60" x 1" Sq. Tegular	1406	☐	Optima 6" x 60" x 1" Sq. Tegular	1407	☐
Metal 6" x 60" x .025" Sq. Lay-in Unperforated	1651	☐	Metal 6" x 60" x .025" Sq. Lay-in Unperforated	1653	☐
Metal 6" x 60" x .025" Sq. Tegular Unperforated	1655	☐	Metal 6" x 60" x .025" Sq. Tegular Unperforated	1657	☐
Metal 6" x 60" x .025" Sq. Lay-in Microperforated	1611	☐	Metal 6" x 60" x .025" Sq. Lay-in Microperforated	1613	☐
Metal 6" x 60" x .025" Sq. Lay-in Air Return Perforated	1641	☐	Metal 6" x 60" x .025" Sq. Lay-in Air Return Perforated	1643	☐
Metal 6" x 60" x .025" Sq. Tegular Microperforated	1615	☐	Metal 6" x 60" x .025" Sq. Tegular Microperforated	1617	☐
Metal 6" x 60" x .025" Sq. Tegular Air Return Perforated	1645	☐	Metal 6" x 60" x .025" Sq. Tegular Air Return Perforated	1647	☐
Grid Components					
Prelude XL 12' ID/HD Main Beam	7300/7301*	☐	Suprafine XL 12' ID/HD Main Beam	7500/7501*	☐
Prelude XL 11' HD Main Beam	7306	☐	Suprafine XL 5' Cross Tee	XL7558	☐
Prelude XL 5' Cross Tee	XL7358	☐	Interlude XL 12' ID/HD Main Beam	6100/6101A*	☐
			Interlude XL 5' Cross Tee	XL6150	☐
			A: Silhouette XL 11' HD Main Beam (installs w/panel long side perpendicular to technical zone)	7629	☐
			B: Silhouette XL 11' HD Main Beam (installs w/panel long side parallel to technical zone)	7635	☐
			Silhouette XL 5' Cross Tee - center notched one side	XL7656	☐
			Silhouette XL 5' Cross Tee	XL7650	☐

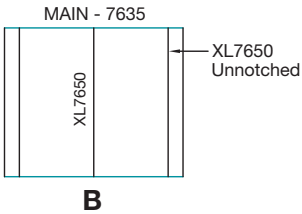
* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement











COMPONENTS:

Panels and Main Beams (Prelude XL, Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.909
MB EF = 0.20

Cross Tees (Prelude XL, Suprafine XL, Interlude XL)
5' CT EF = 0.545 XL7358; XL7558; XL6150

Cross Tees (Silhouette XL)
A Configuration
5' CT EF = 0.364 XL7656
5' CT EF = 0.182 XL7650
B Configuration
5' CT EF = 0.545 XL7650

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

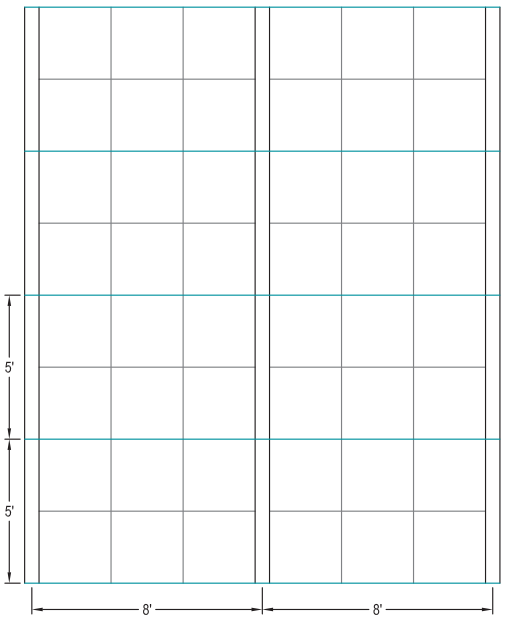
5' TechZone™ Module

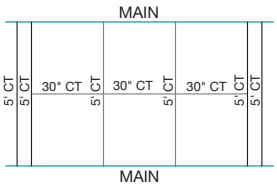
8'-0" On-Center Technical Zone Spacing

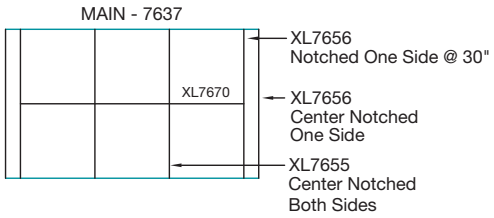
30" x 30" Field Panels,
6" x 60" Technical Panels

15/16" GRID			9/16" GRID		
DESCRIPTION	**ITEM #**	✔	**DESCRIPTION**	**ITEM #**	✔
Field Panels					
Optima 30" x 30" x 1" Sq. Lay-in	3158	☐	Optima 30" x 30" x 1" Sq. Tegular	3259	☐
Optima 30" x 30" x 1" Sq. Tegular	3258	☐	Ultima 30" x 30" x 3/4" Bev. Tegular	1905	
Technical Panels					
Optima 6" x 60" x 1" Sq. Lay-in	1404	☐	Optima 6" x 60" x 1" Sq. Lay-in	1405	☐
Optima 6" x 60" x 1" Sq. Tegular	1406	☐	Optima 6" x 60" x 1" Sq. Tegular	1407	☐
Metal 6" x 60" x .025" Sq. Lay-in Unperforated	1651	☐	Ultima 6" x 60" x 3/4" Sq. Lay-in	1425	☐
Metal 6" x 60" x .025" Sq. Tegular Unperforated	1655	☐	Ultima 6" x 60" x 3/4" Bev. Tegular	1427	☐
Metal 6" x 60" x .025" Sq. Lay-in Microperforated	1611	☐	Metal 6" x 60" x .025" Sq. Lay-in Unperforated	1653	☐
Metal 6" x 60" x .025" Sq. Lay-in Air Return Perforated	1641	☐	Metal 6" x 60" x .025" Sq. Tegular Unperforated	1657	☐
Metal 6" x 60" x .025" Sq. Tegular Microperforated	1615	☐	Metal 6" x 60" x .025" Sq. Lay-in Microperforated	1613	☐
Metal 6" x 60" x .025" Sq. Tegular Air Return Perforated	1645	☐	Metal 6" x 60" x .025" Sq. Lay-in Air Return Perforated	1643	☐
			Metal 6" x 60" x .025" Sq. Tegular Microperforated	1617	☐
			Metal 6" x 60" x .025" Sq. Tegular Air Return Perforated	1647	☐
Grid Components					
Prelude XL 12' ID/HD Main Beam	7300/7301*	☐	Suprafine XL 12' ID/HD Main Beam	7500/7501*	☐
Prelude XL 5' Cross Tee	XL7358*	☐	Suprafine XL 5' Cross Tee	XL7558	☐
Prelude XL 30" Cross Tee	XL7378	☐	Suprafine XL 30" Cross Tee	XL7570	☐
			Interlude XL 12' ID/HD Main Beam	6100/6101A*	☐
			Interlude XL 5' Cross Tee	XL6150	☐
			Interlude XL 30" Cross Tee	XL6170	☐
			Silhouette XL 8' HD Main Beam	7637	☐
			Silhouette XL 5' Cross Tee - center notched both sides	XL7655	☐
			Silhouette XL 5' Cross Tee - center notched one side	XL7656	☐
			Silhouette XL 30" Cross Tee	XL7670	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement







COMPONENTS:

Panels and Main Beams (Prelude XL, Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.938
MAINS EF = 0.20

Cross Tees (Prelude XL, Suprafine XL, Interlude XL)
5' CT EF = 0.57 XL7358; XL7558; XL6150
30" CT EF = 0.188

Cross Tees (Silhouette XL)
5' CT EF = .025 XL7656
5' CT EF = .025 XL7655
30" CT EF = 0.188 XL7670

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

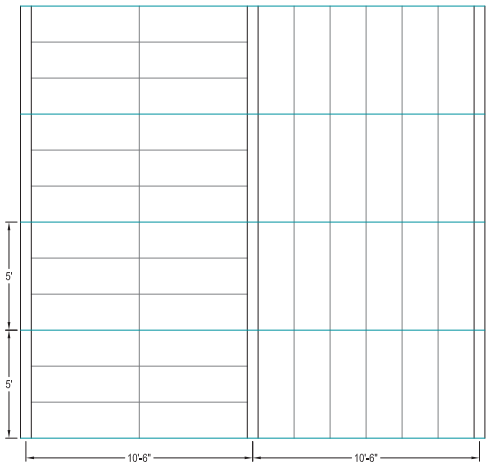
5' TechZone™ Module

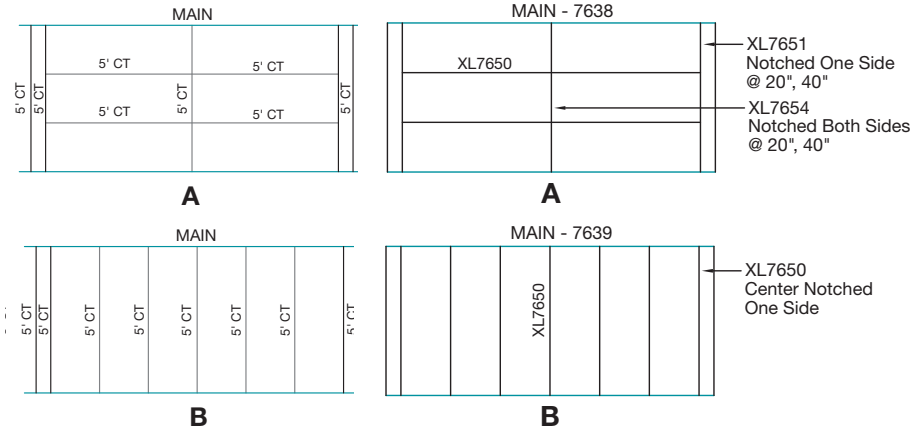
10'-6" On-Center Technical Zone Spacing

20" x 60" Field Panels,
6" x 60" Technical Panels

15/16" GRID			9/16" GRID		
DESCRIPTION	**ITEM #**	✔	**DESCRIPTION**	**ITEM #**	✔
Field Panels					
Optima 20" x 60" x 1" Sq. Lay-in	3156	☐	Optima 20" x 60" x 1" Sq. Tegular	3277	☐
Optima 20" x 60" x 1" Sq. Tegular	3278	☐			
Technical Panels					
Optima 6" x 60" x 1" Sq. Lay-in	1404	☐	Optima 6" x 60" x 1" Sq. Lay-in	1405	☐
Optima 6" x 60" x 1" Sq. Tegular	1406	☐	Optima 6" x 60" x 1" Sq. Tegular	1407	☐
Metal 6" x 60" x .025" Sq. Lay-in Unperforated	1651	☐	Metal 6" x 60" x .025" Sq. Lay-in Unperforated	1653	☐
Metal 6" x 60" x .025" Sq. Tegular Unperforated	1655	☐	Metal 6" x 60" x .025" Sq. Tegular Unperforated	1657	☐
Grid Components					
A: Prelude XL 12' ID/HD Main Beam	7300/7301*	☐	**A:** Suprafine XL 12' ID/HD Main Beam	7500/7501*	☐
B: Prelude XL 11' HD Main Beam	7306	☐	**B:** Suprafine XL 10' 6" HD Main Beam	7509	☐
Prelude XL 5' Cross Tee	XL7358	☐	Suprafine XL 5' Cross Tee	XL7558	☐
			A: Interlude XL 12' ID/HD Main Beam	6100/6101A*	☐
			B: Interlude XL 10' 6" HD Main Beam	6195	☐
			Interlude XL 5' Cross Tee	XL6150	☐
			A: Silhouette XL 126" HD Main Beam (installs w/panel long side perpendicular to technical zone)	7638	☐
			B: Silhouette XL 126" HD Main Beam (installs w/panel long side parallel to technical zone)	7639	☐
			Silhouette XL 5' Cross Tee - notched both sides at 20", 40"	XL7654	☐
			Silhouette XL 5' Cross Tee - notched one side at 20", 40"	XL7651	☐
			Silhouette XL 5' Cross Tee - center notched one side	XL7650	☐

* Main Beam selected based on code/load requirement
** Cross Tee selected based on code/load requirement





COMPONENTS:

Panels and Main Beams (Prelude XL, Suprafine XL, Interlude XL, Silhouette XL)
PANEL EF = 0.952
MB EF = 0.2

Cross Tees (Prelude XL, Suprafine XL, Interlude XL)
5' CT EF = 0.666 XL7358; XL7558; XL6150

Cross Tees (Silhouette XL)
5' CT EF = 0.19 XL7651
5' CT EF = 0.095 XL7653
5' CT EF = 0.381 XL7650 (A Configuration)
5' CT EF = 0.666 XL7650 (B Configuration)

NOTE: Multiply ceiling area (SF) by the Estimating Factors (EF) to determine lineal footage of grid components and square footage of field panels required.

Quantity of technical panels will be dependent on the type and quantity of fixtures and diffusers.

Armstrong World Industries, Inc.

Ceiling & Suspension System Specification

Please understand that you are responsible for the accuracy of all project specifications, including any Armstrong guide specifications that you use.

ARMSTRONG SHALL NOT BE LIABLE FOR ANY DAMAGES ARISING OUT OF THE USE OF ANY OF ITS GUIDE SPECIFICATIONS.

Project Name: TechZone Ceiling Systems
SECTION 09 58 00 (09545)
INTEGRATED CEILING ASSEMBLIES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

Drawings and general conditions of Contract, including General and supplementary Conditions and Divisions-1 Specification sections apply to work of this section.

1.2 SUMMARY

A. Section Includes:

1. Acoustical ceiling panels.
2. Exposed grid suspension system.
3. Wire hangers, fasteners, main runners, cross tees, and wall angle moldings.

B. Related Sections:

1. Section 09 20 00 (09250) - Plaster and Gypsum Board
2. Division 21 (13) Fire Suppression
3. Division 23 (15) - HVAC
4. Division 26 (16) Sections - Electrical Work

C. Alternates

1. Prior Approval: Unless otherwise provided for in the Contract documents, proposed product substitutions may be submitted no later than TEN (10) working days prior to the date established for receipt of bids. Acceptability of a proposed substitution is contingent upon the Architect's review of the proposal for acceptability and approved products will be set forth by the Addenda. If included in a Bid are substitute products which have not been approved by Addenda, the specified products shall be provided without additional compensation.
2. Submittals which do not provide adequate data for the product evaluation will not be considered. The proposed substitution must meet all requirements of this section, including but not necessarily limited to, the following: Single source materials suppliers (if specified in Section 1.5); Underwriters' Laboratories Classified Acoustical performance; Panel design, size, composition, color, and finish; Suspension system component profiles and sizes; Compliance with the referenced standards.

1.3 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM A1008 Standard Specification for Steel, Sheet, Cold Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
2. ASTM A641 Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.
3. ASTM A653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process.
4. ASTM C423 Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
5. ASTM C635 Standard Specification for Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.
6. ASTM C636 Recommended Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels.
7. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
8. ASTM E1414 Standard Test Method for Airborne Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum.
9. ASTM E1111 Standard Test Method for Measuring the Interzone Attenuation of Ceilings Systems.
10. ASTM E1264 Classification for Acoustical Ceiling Products.
11. ASTM E1477 Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by Use of Integrating-Sphere Reflectometers.
12. ASTM D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.

1.4 SUBMITTALS

A. Product Data: Submit manufacturer's technical data for each type of acoustical ceiling unit and suspension system required.

B. Samples: Minimum 6 inch x 6 inch samples of specified acoustical panel; 8 inch long samples of exposed wall molding and suspension system, including main runner and 4 foot cross tees.

C. Shop Drawings: Layout and details of acoustical ceilings. Show locations of items which are to be coordinated with, or supported by the ceilings.

D. Prequalification: Compatibility of HVAC, lighting and sprinkler components that are to be integrated into the system.

E. Certifications: Manufacturer's certifications that products comply with specified requirements, including laboratory reports showing compliance with specified tests and standards. For acoustical performance, each carton of material must carry an approved independent laboratory classification of NRC, CAC, and AC.

F. If the material supplied by the acoustical subcontractor does not have an Underwriter's Laboratory classification of acoustical performance on every carton, subcontractor shall be required to send material from every production run appearing on the job to an independent or NVLAP approved laboratory for testing, at the Architect's or Owner's discretion. All products not conforming to manufacturer's current published values must be removed, disposed of and replaced with complying product at the expense of the Contractor performing the work.

1.5 QUALITY ASSURANCE

A. Single-Source Responsibility: Provide acoustical panel units, technical panel units, and grid components by a single manufacturer.

B. Fire Performance Characteristics: Identify acoustical ceiling components with appropriate markings of applicable testing and inspecting organization.
1. Surface Burning Characteristics: As follows, tested per ASTM E84 and complying with ASTM E1264 for Class A products.
   a. Flame Spread: 25 or less
   b. Smoke Developed: 50 or less

C. Handle acoustical ceiling units carefully to avoid chipping edges or damaged units in any way.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver acoustical ceiling units to project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other causes.

B. Before installing acoustical ceiling units, permit them to reach room temperature and a stabilized moisture content.

C. Handle acoustical ceiling units carefully to avoid chipping edges or damaged units in any way.

1.7 PROJECT CONDITIONS

A. Space Enclosure:

HumiGuard Plus Ceilings: Building areas to receive ceilings shall be free of construction dust and debris. Products with HumiGuard Plus performance and hot dipped galvanized steel, aluminum, or stainless steel suspension systems can be installed up to 120º F (49º C) and in spaces before the building is

enclosed, where HVAC systems are cycled or not operating. Cannot be used in exterior applications where standing water is present or where moisture will come in direct contact with the ceiling.

1.8 WARRANTY

A. Acoustical Panel: Submit a written warranty executed by the manufacturer, agreeing to repair or replace acoustical panels that fail within the warranty period. Failures include, but are not limited to:
   1. Acoustical Panels: Sagging and warping
   2. Grid System: Rusting and manufacturer's defects

B. Warranty Period:
   1. Optima®/Ultima® acoustical technical and field panels: Ten (10) years from date of substantial completion.
   2. Grid: Ten (10) years from date of substantial completion.
   3. Optima/Ultima acoustical field panels, unperforated metal or Optima/Ultima technical panels, and Armstrong grid systems is thirty (30) years from date of substantial completion.

C. The Warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.

1.9 MAINTENANCE

A. Extra Materials: Deliver extra materials to Owner. Furnish extra materials described below that match products installed. Packaged with protective covering for storage and identified with appropriate labels.
   1. Acoustical Ceiling Units: Furnish quality of full-size units equal to 5.0 percent of amount installed.
   2. Exposed Suspension System Components: Furnish quantity of each exposed suspension component equal to 2.0 percent of amount installed.

Part 2 – PRODUCTS

2.1 MANUFACTURERS

A. TechZone™ Ceiling System:
Armstrong World Industries, Inc.

2.2.0 ACOUSTICAL CEILING UNITS

A. Acoustical Panels Type ACT-1:
   1. Surface Texture: Fine
   2. Composition: (Optima Fiberglass, 1" thickness) (Ultima Mineral Fiber, 3/4" thickness)
   3. Color: White
   4. Sizes for fiberglass (Optima) field panels:
      a. 4'0" Configurations (42 inches x 48 inches) (24 inches x 42 inches) (21 inches x 24 inches)
      b. 4'6" Configurations [2 feet x (2) (4) (6) (8) feet] [4 feet x 4 feet]
      c. 5'0" Configurations (27 inches x 30 inches) (30 inches x 54 inches) (20 inches x 54 inches)
      d. 5'6" Configurations (30 inches x 30 inches) (30 inches x 60 inches) (20 inches x 60 inches)
      e. 6'6" Configurations (24 inches x 24 inches) (24 inches x 72 inches)
      f. 7'6" Configuration (42 inches x 48 inches)
      g. 8'0" Configuration (30 inches x 30 inches)
      h. 8'6" Configurations (24 inches x 24 inches) (24 inches x 96 inches) (48 inches x 48 inches)
      i. 10'6" Congifuration (20 inches x 60 inches)

      Sizes for mineral fiber (Ultima) field panels:
      a. 4'6" Configurations [2 feet x (2) (4) feet]
      b. 5'6" Configurations (30 inches x 30 inches)
      c. 6'6" Configurations (24 inches x 24 inches)
      d. 8'0" Configuration (30 inches x 30 inches)
      e. 8'6" Configurations (24 inches x 24 inches)
   5. Edge Profile: Square (Lay-In) (Tegular) for interface with (Prelude® XL® 15/16" Exposed Tee) (Suprafine® XL 9/16" Exposed Tee) (Interlude® XL 9/16" Dimensional Tee) (Silhouette® XL 9/16" Bolt-Slot).
   6. Noise Reduction Coefficient (NRC): ASTM C423; Classified with UL label on product carton,____.
   7. Ceiling Attenuation Class (CAC): ASTM C1414; Classified with UL label on product carton, _____.
   8. Articulation Class (AC) (Optima only): ASTM E1111; Classified with UL label on product carton, _____.
   9. Flame Spread: ASTM E1264; Class A (UL)
   10. Light Reflectance (LR): ASTM E1477; White Panel: Light Reflectance: 0.90.
   11. Dimensional Stability: HumiGuard® Plus - temperatures up to 120 degrees F and high humidity excluding only exterior use, use over standing water, and direct contact with moisture.
   12. Acceptable Product: (Optima Open Plan, Item #____) (Ultima, Item #_____), as manufactured by Armstrong World Industries.
   13. Application Consideration: For 4'0" and 5'0" Configurations only the 9/16" Systems (Suprafine XL, Interlude XL and Silhouette XL 9/16" Bolt-Slot) can be used.

B. TechZone Ceiling System

   1. Technical Panels: The Technical Zone accommodates recessed fixtures, linear air diffusers, sprinkler heads, and other components.
      a. Optima Technical Panels, 1" thickness
      b. Ultima Technical Panels, 3/4" thickness
      c. Metal Technical Panels - powder coated, galvanized steel, unperforated, microperforated, air return perforation
   2. Size: (6 inch x 4 feet) (6 inch x 5 feet)
   3. Color: White
   4. Edge detail: Optima (Square Lay-in) (Square Tegular); Ultima (Square Lay-in) (Beveled Tegular); Metal (Square Lay-in) (Square Tegular)
   5. Compatible grid systems: (Prelude XL 15/16" Exposed Tee) (Suprafine XL 9/16" Exposed Tee) (Interlude XL 9/16" Dimensional Tee) (Silhouette XL 9/16" Bolt-Slot).

2.2.0 SUSPENSION SYSTEMS

A. Components: All main beams and cross tees shall be commercial quality hot-dipped galvanized steel as per ASTM A653. Main beams and cross tees are double-web steel construction with (9/16 inch) (15/16 inch) type exposed flange design. Exposed surfaces chemically cleansed, capping pre-finished galvanized steel in baked polyester paint. Main beams and cross tees shall have rotary stitching.
   1. Structural Classification: ASTM C635, Intermediate Duty.
   2. Color: White and match the actual color of the selected ceiling tile, unless noted otherwise.
   3. Acceptable Product: (Prelude XL 15/16" Exposed Tee) (Silhouette XL 9/16" Bolt-Slot) (Suprafine XL 9/16" Exposed Tee) (Interlude XL Dimensional Tee) as manufactured by Armstrong World Industries, Inc.

B. Attachment Devices: Size for five times design load indicated in ASTM C635, Table 1, Direct Hung unless otherwise indicated.

C. Wire for Hangers and Ties: ASTM A641, Class 1 zinc coating, soft temper, pre-stretched, with a yield stress load of at least three times design load, but not less than 12 gauge.

D. Edge Moldings and Trim: Metal or extruded aluminum of types and profiles indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations, including light fixtures, that fit type of edge detail and suspension system indicated. Provide moldings with exposed flange of the same width as exposed runner.

E. Accessories

PART 3 – EXECUTION

3.1 EXAMINATION

A. Do not proceed with installation until all wet work such as concrete, terrazzo, plastering and painting has been completed and thoroughly dried out, unless expressly permitted by manufacturer's printed recommendations. (Exception: HumiGuard® Max Ceilings)

3.2 PREPARATION

A. Measure each ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Avoid use of less than half width units at borders, and comply with reflected ceiling plans. Coordinate panel layout with mechanical and electrical fixtures.

B. Coordination: Furnish layouts for preset inserts, clips, and other ceiling anchors whose installation is specified in other sections.

1. Furnish concrete inserts and similar devices to other trades for installation well in advance of time needed for coordination of other work.

3.3 INSTALLATION

A. Install suspension system and panels in accordance with the manufacturer's working drawings, and in compliance with ASTM C636 and with the authorities having jurisdiction.

B. Suspend main beam from overhead construction with hanger wires spaced 4-0 on center along the length of the main runner. Install hanger wires plumb and straight.

C. Install main beams perpendicular to the 6 inch wide Technical Panels.

D. Install wall moldings at intersection of suspended ceiling and vertical surfaces. Miter corners where wall moldings intersect or install corner caps.

E. For reveal edge panels: Cut and reveal or rabbet edges of ceiling panels at border areas and vertical surfaces.

F. Install acoustical panels in coordination with suspended system, with edges resting on flanges of main runner and cross tees. Cut and fit panels neatly against abutting surfaces. Support edges by wall moldings.

3.4 ADJUSTING AND CLEANING

A. Replace damaged and broken panels.

B. Clean exposed surfaces of acoustical ceilings, including trim, edge moldings, and suspension members. Comply with manufacturer's instructions for cleaning and touch-up of minor finish damage. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

Design Considerations

- TechZone™ is especially appropriate for large expanses and open areas requiring superior acoustics. The system with Optima® panels is not recommended for closed offices and conference rooms where CAC performance is crucial; however, CAC backing is available upon request. To prevent sound transmission in closed spaces, choose Ultima® field panels. Ultima mineral fiber ceilings have CAC 35 performance and the same compatible DuraBrite® finish.

- Panels chosen for the technical zone may have an impact on overall acoustical performance. Metal technical panels may or may not have a negative impact on speech privacy, depending on the installation layout. For optimal acoustical performance, choose Optima technical panels.

Installation Considerations

- TechZone ceiling systems are installed using standard 15/16" or 9/16" grid components. The key difference is that main beams should be installed perpendicular to zones. Cross framing or Yoke suspension as detailed in CS-3479 (Armstrong Commercial Ceilings and Walls Solutions Guide) may be required in instances where the building structure will not permit main beams to be installed perpendicular to technical zones. This additional framing will impact overall installed ceiling costs.

- Plenum depth required for the installation of panels is 3" for 2' x 4' panels and 6" for 4' x 4' panels. In most cases installation of HVAC and can lighting will require more plenum depth than the ceiling panels.

Other Considerations

- Optima and Ultima Lay-in field panels are not recommended with 9/16" grid.
- Interlude® XL® is not recommended when using lay-in technical panels.

Installation in Seismic Areas

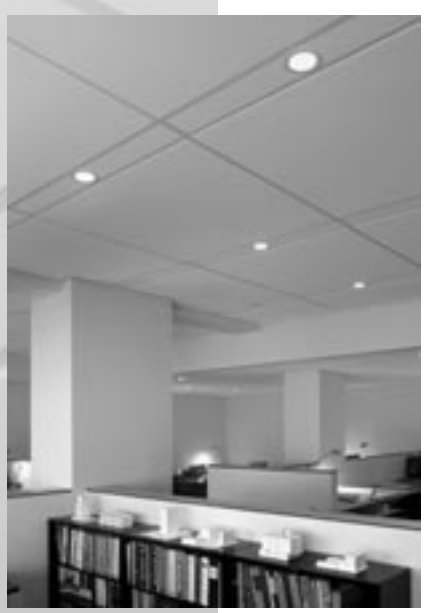
There are no unique requirements for the installation of TechZone ceiling systems in seismic areas. Consult your local code professional for information specific to your region.

Perimeter Treatments and Transitions

Drawings available in the CS-3725 TechZone Technical Guide or visit our website at armstrong.com/techzone.

CEILING | SYSTEMS

Between us, ideas become reality™



1 877 ARMSTRONG (276-7876)

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Monday through Friday

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