



DATA CENTER

Ceiling
Solutions

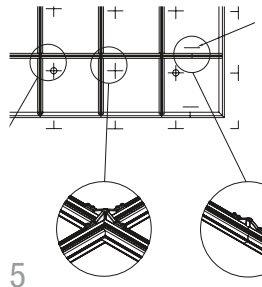
Armstrong[®]
CEILING SOLUTIONS

Data Center Design: STRENGTH Where you need it most

Data Centers come with their own set of design challenges. See how we've made it easier to get the high-strength solutions you need for your unique project.



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DYNAMAX®
STRUCTURAL
ALUMINUM
SUSPENSION SYSTEM



5
SUSPENSION SYSTEM
INSTALLATION AND
LAYOUT OVERVIEW



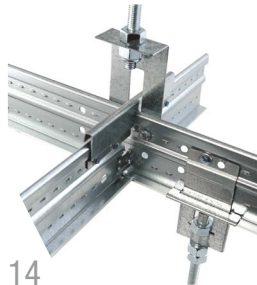
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PRELUDE® XL MAX®
15/16" SUSPENSION
SYSTEM

DynaMax® Structural Aluminum Grid ▶

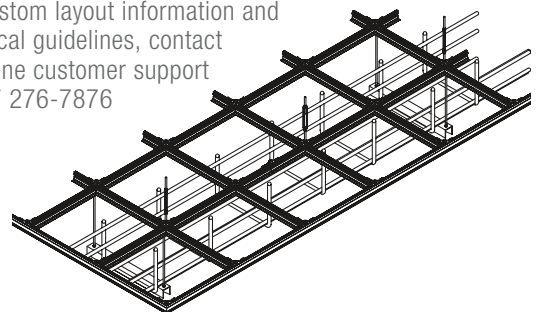




DYNAMAX[®] Suspension System

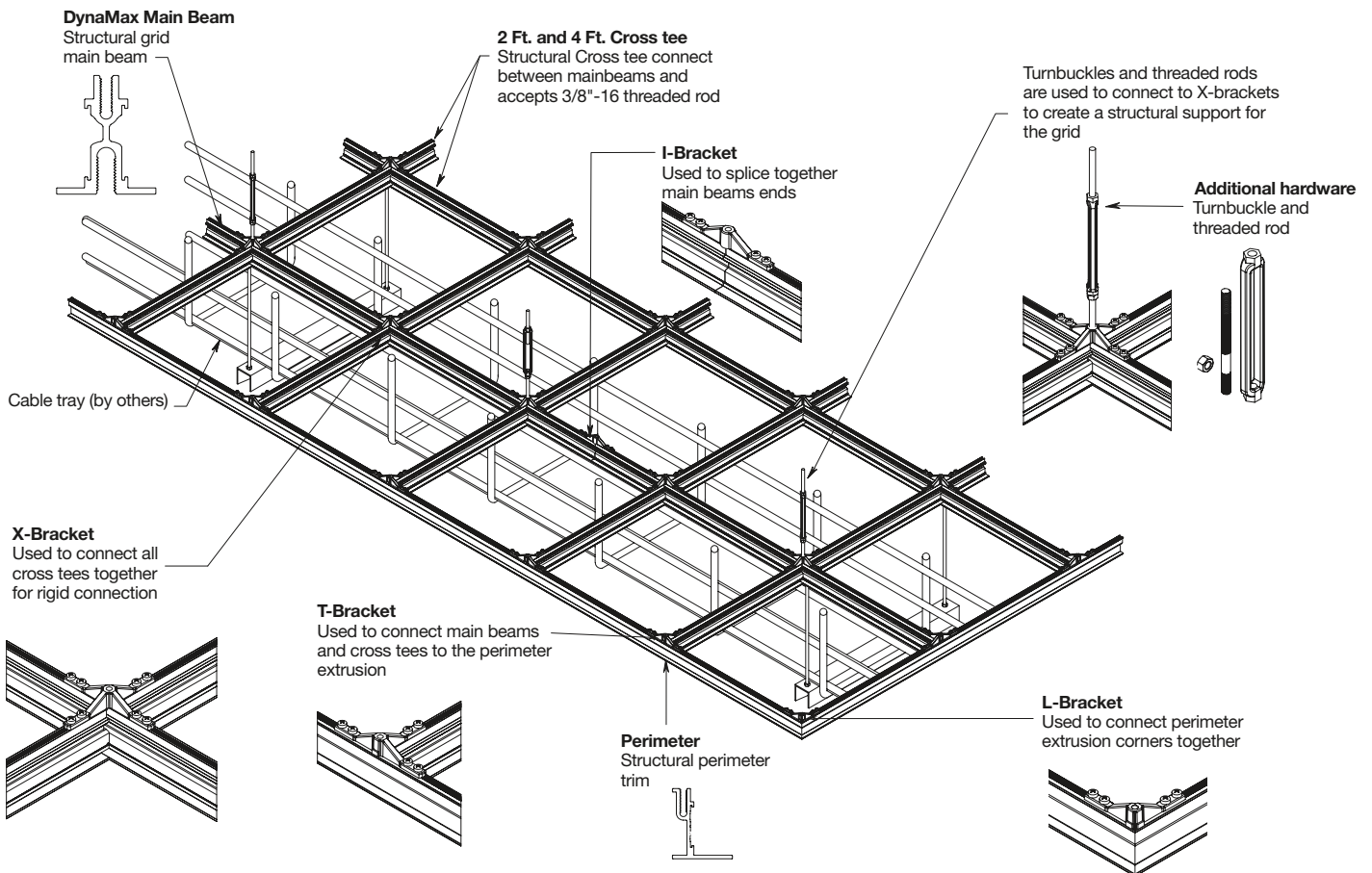
Provides an attachment platform for cable trays, equipment partitions, and hot and cold containment barriers from the structure to below the ceiling plane while eliminating penetrations through the ceiling.

- Ideal combination of a finished ceiling system with a structural solution
- Finished ceiling system offers a containment barrier to protect servers from debris
- Easy integration into a conventional grid system using AXTBC clip and DynaMax[®] boss channels
- DynaMax suspension systems can integrate seamlessly with select Armstrong[®] ceiling panels for a complete ceiling system solution
- Supports up to a 900 lb. point load rating using 3/8" -16 threaded rod at 48" x 48" connection points
- Factory-cut notches on main beams for faster and easier installation
- Suspension system has continuous threaded boss channel, allowing 3/8" -16 threaded rod to be installed to the suspension system at any location
- DynaMax grid provides increased air pressure management, reduced leakage, and enables the best hot and cold air containment at the ceiling plane when compared to drilled hole or slotted strut ceilings
- Temperature at the top of data center cabinet equipment averages 26°F higher when a slotted strut ceiling is in place and 6°F higher with drilled hole ceiling than with the DynaMax grid
- Available with Ultima[®] AirAssure[™] panels with factory-gasketed edges to provide even greater temperature and pressure management
- Available in 24" x 24", 24" x 48", and 48" x 48" suspension system layouts
- CNC override feature creates a tight fit minimizing air leakage between plenum and occupied space
- Fully accessible system allows for future expansion and upgrades
- Non-progressive installation gives the ability to remove or replace a section of the system without the need to dismantle those components around it
- Cross tees not bearing any load are removable for plenum access without compromising the structural integrity of the system
- 10-Year Limited System Warranty; 30-Year Limited System Warranty
- X-Brackets installed on DynaMax grid provide attachment points for 48" x 48" suspension from building structure
- Lighting, diffuser, and containment options are available from our Data Center lighting and MEP partners
- For custom layout information and technical guidelines, contact TechLine customer support at 877 276-7876



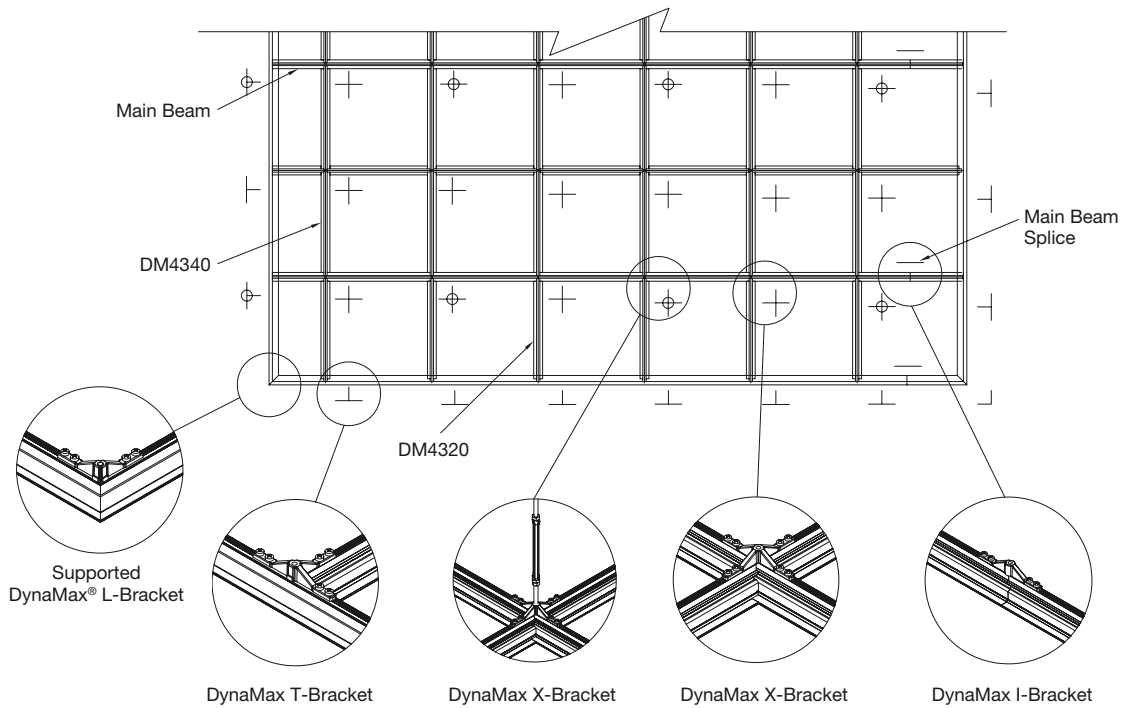
DYNAMAX[®] Suspension System

How It Works

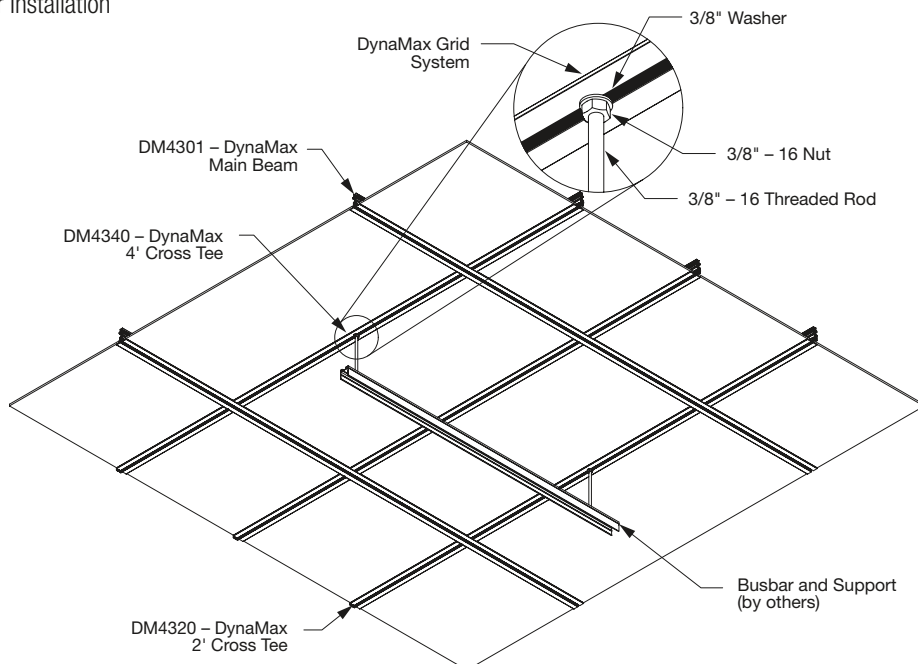


DYNAMAX[®] Suspension System

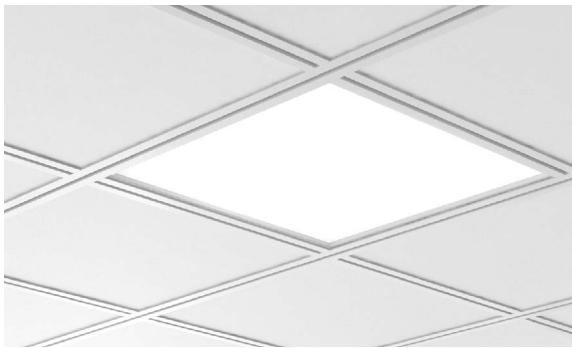
Installation and Layout Overview



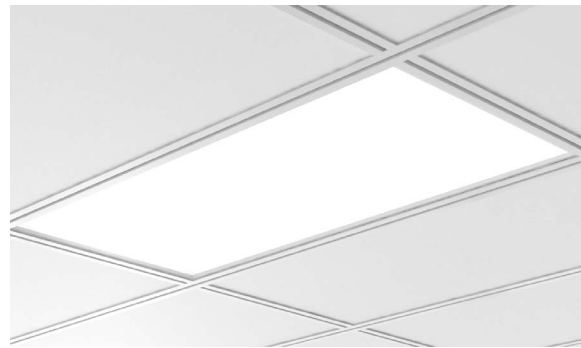
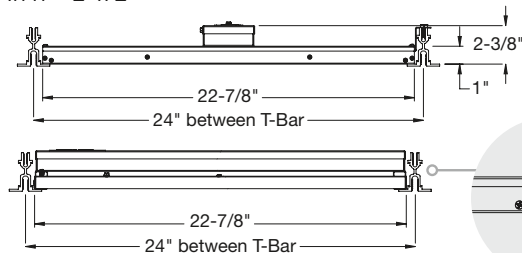
DynaMax[®] Busbar Installation



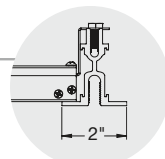
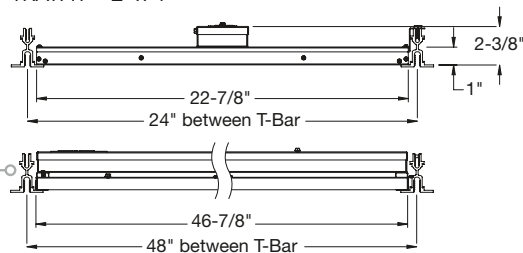
DYNAMAX[®] Integrated Lighting Solutions



TRAYFIT™ 2' x 2'

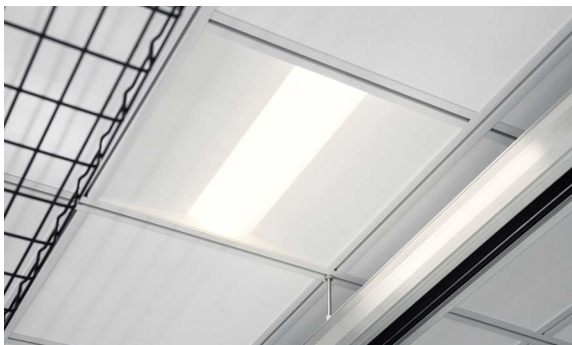


TRAYFIT™ 2' x 4'

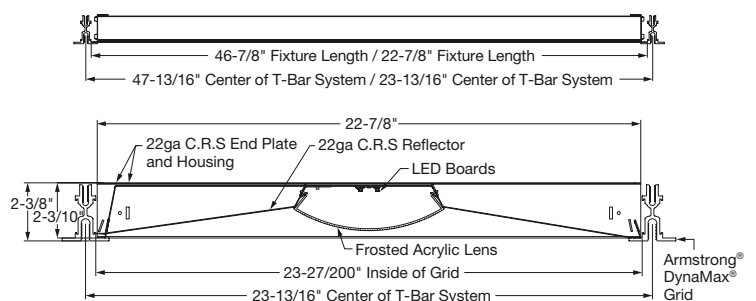


Detail View

For compatible lighting details, visit axislighting.com/families/trayfit

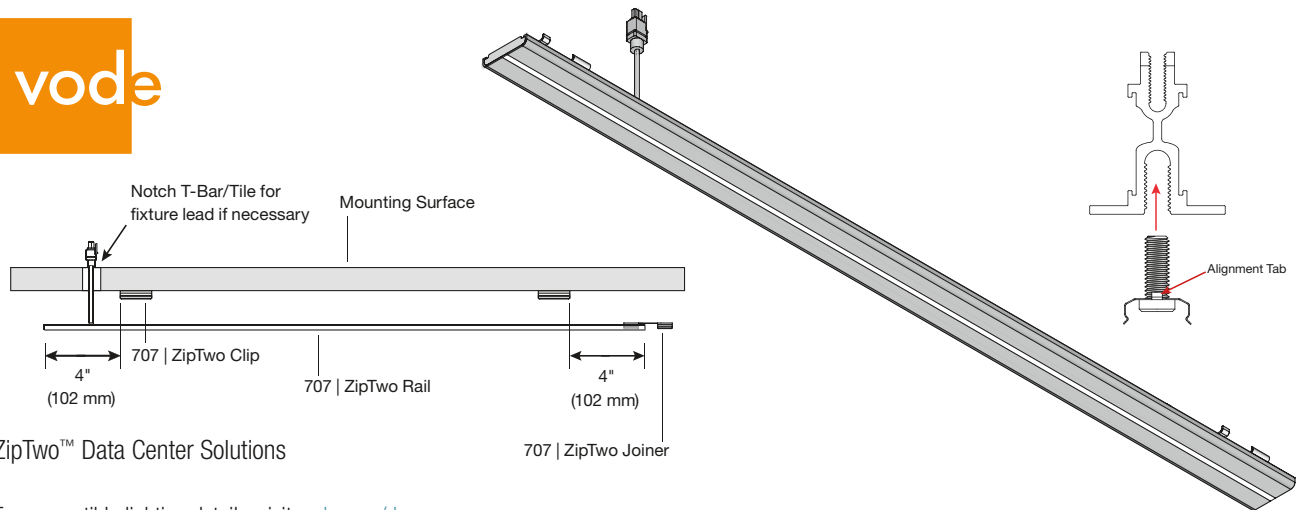


PTDC – Shallow Plenum LED Troffer for DynaMax System



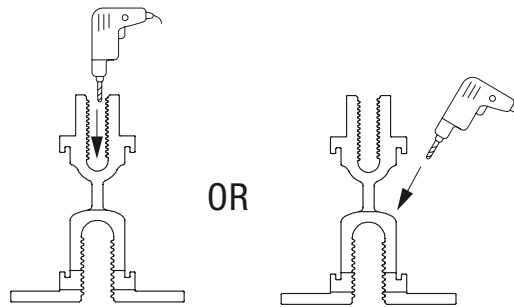
For compatible lighting details, visit hew.com/products/PTDC

DYNAMAX[®] Integrated Lighting Solutions

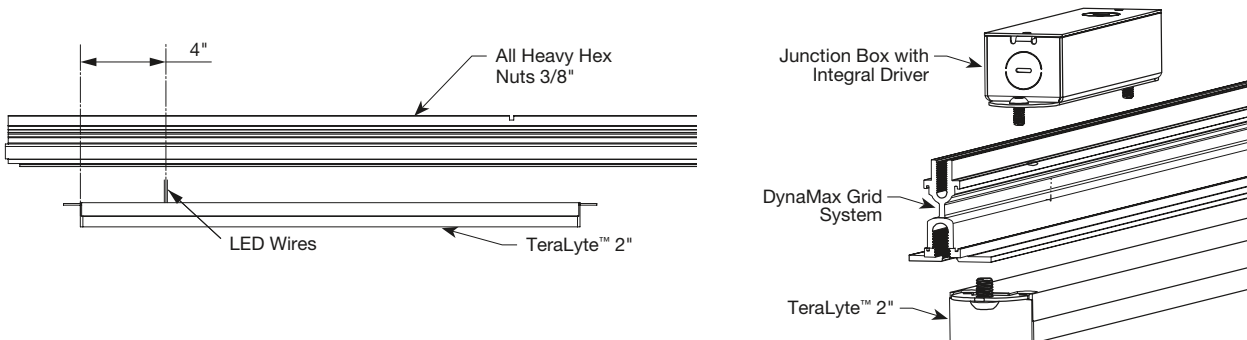


ZipTwo™ Data Center Solutions

For compatible lighting details, visit vode.com/dynamax

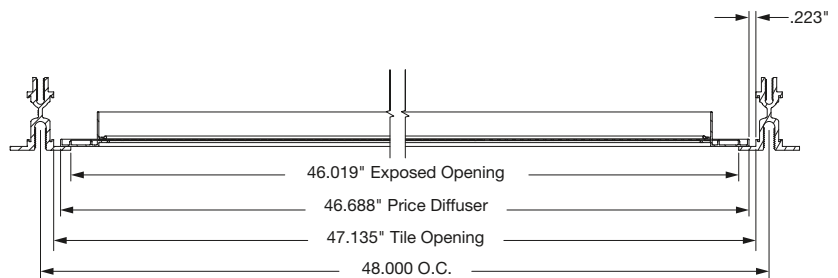
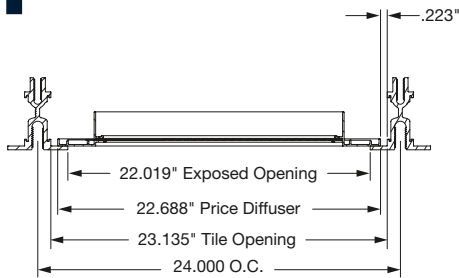


TeraLyte™ 2" for the DynaMax grid system.



DYNAMAX® Additional Solution Partners

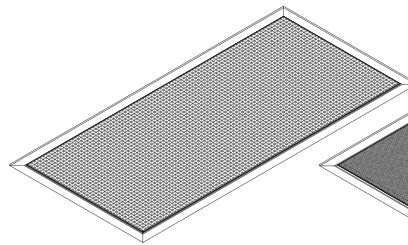
INTEGRATED MEP PARTNERS



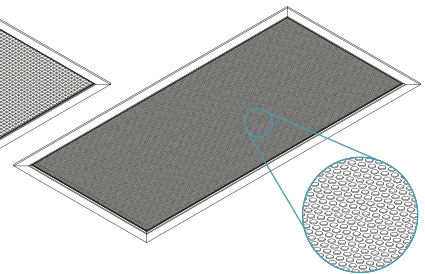
Eggcrate Air Device –
Price Model 80



Perforated Air Device –
Price Model 10



Eggcrate Air Device –
Price Model 80



Perforated Air Device –
Price Model 80

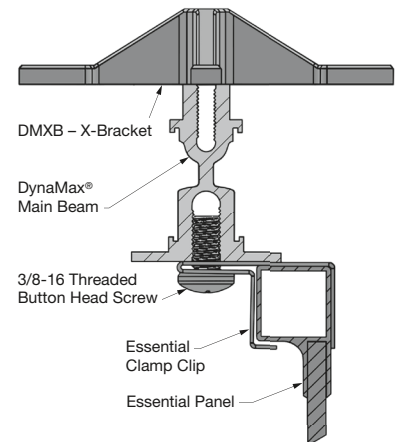
For compatible diffuser details, visit priceindustries.com/diffusers

DATA CENTER CONTAINMENT PARTNERS



The Subzero Engineering and Armstrong World Industries partnership is the latest development in the portfolio expansion of data center products and services, seamlessly combining structural ceiling solutions with high performing and energy efficient air containment systems.

The Subzero Essential Clamp Clip (shown right) was designed specifically for integrating Subzero Essential Series Wall Panels with DynaMax main beams. This provides easier attachment and improved installation efficiency.



For more data center containment details, visit subzeroeng.com



HIGH PERFORMANCE

Ceiling Panel Selections for DYNAMAX® Suspension Systems

VISUAL SELECTION

PERFORMANCE Dots represent high level of performance.

Edge Profile	Perforation	Item No.	Dimensions (Inches)	NRC with acoustical fleece 	NRC with 1" fiberglass infill* 	Fire Performance 	Light Reflect	Mold & Mildew Protection 	Certified Low VOC Emissions	Durability	Recycled Content
new METALWORKS for DYNAMAX® Square Lay-in 		6345W24L48M1WHA	23" x 47"	N/A	N/A	Class A	0.75	•	•	•	•
	M1 (Unperforated)	6345W48L48M1WHA	47" x 47"	N/A	N/A	Class A	0.75	•	•	•	•
		6345W24L48M19WHA	23" x 47"	0.70 •	0.85 •	Class A	0.75	•	•	•	•
	M19	6345W48L48M19WHA	47" x 47"	0.70 •	0.85 •	Class A	0.75	•	•	•	•









NOTE: Ceiling panels are specially sized and engineered for the DynaMax suspension system and must be used with the system. These panels do not fit in other suspension systems.
 * NRC achieved with acoustical infill (Item 8200T10).

HIGH PERFORMANCE

Ceiling Panel Selections for DYNAMAX® Suspension Systems (cont'd)

VISUAL SELECTION

PERFORMANCE SELECTION Dots represent high level of performance.

Edge Profile	Item No.	Dimensions (Inches)	Sound Absorption NRC	Sound Blocking CAC	Total Acoustics ¹ NRC x CAC	Articulation Class AC	Fire Performance	Light Reflect	Bio-Block Mold & Mildew Protection	Humi-Guard+ Sag Resistant	Certified Low VOC Emissions	Durability	Recycled Content	Recycle Program	30-Yr Warranty
FINE FISSURED™ for DYNAMAX® Square Lay-in 	4126	23-1/4 x 23-1/4 x 5/8"	0.55	35	N/A	N/A	Class A	0.82	•	•	•	Std	Std	•	•
	4126BL (Black)	23-1/4 x 23-1/4 x 5/8"	0.55	35	N/A	N/A	Class A	N/A	•	•	•	Std	Std	•	•
	4127	23-1/4 x 47-1/4 x 5/8"	0.55	35	N/A	N/A	Class A	0.82	•	•	•	Std	Std	•	•
	4127BL (Black)	23-1/4 x 47-1/4 x 5/8"	0.55	35	N/A	N/A	Class A	N/A	•	•	•	Std	•	•	•
CALLA® for DYNAMAX® Square Lay-in 	2896	23-1/4 x 23-1/4 x 1"	0.85	35	BEST	170	Class A	0.85	•	•	•	•	•	•	•
	2896BK (Black)	23-1/4 x 23-1/4 x 1"	0.85	35	BEST	170	Class A	N/A	•	•	•	•	•	•	•
	2897	23-1/4 x 47-1/4 x 1"	0.85	35	BEST	170	Class A	0.85	•	•	•	•	•	•	•
	2897BK (Black)	23-1/4 x 47-1/4 x 1"	0.85	35	BEST	170	Class A	N/A	•	•	•	•	•	•	•
DUNE® for DYNAMAX® Square Lay-in 	4270	23-1/4 x 23-1/4 x 5/8"	0.50	35	N/A	N/A	Class A	0.85	•	•	•	•	•	•	•
	4271	23-1/4 x 47-1/4 x 5/8"	0.50	35	N/A	N/A	Class A	0.85	•	•	•	•	•	•	•
ULTIMA® for DYNAMAX® Square Lay-in 	1807	23-1/4 x 23-1/4 x 3/4"	0.75	35	BETTER	170	Class A	0.88	•	•	•	•	•	•	•
	1808	23-1/4 x 47-1/4 x 3/4"	0.75	35	BETTER	170	Class A	0.88	•	•	•	•	•	•	•
ULTIMA® AIRASSURE™ for DYNAMAX® Square Lay-in 	 1599	23-1/4 x 23-1/4 x 3/4"	0.75	35	BETTER	N/A	Class A	0.88	•	•	•	•	•	•	•
	 1638	23-1/4 x 47-1/4 x 3/4"	0.75	35	BETTER	N/A	Class A	0.88	•	•	•	•	•	•	•
OPTIMA® PB for DYNAMAX® Square Lay-in 	3210PB	47-5/16 x 47-5/16 x 1"	0.95	N/A	N/A	190	Class A	0.88	•	•	•	•	•	•	•

NOTE: These panels are specially sized and engineered for the DynaMax® suspension system and must be used with the system. These panels do not fit in other suspension systems.

¹ Total Acoustics® ceiling panels have an ideal combination of noise reduction and sound blocking performance in one product.

GOOD (NRC 0.60-0.65; CAC 35+) **BETTER** (NRC 0.70-0.75; CAC 35+) **BEST** (NRC 0.80+; CAC 35+)



Continuous Load Path (CLP)

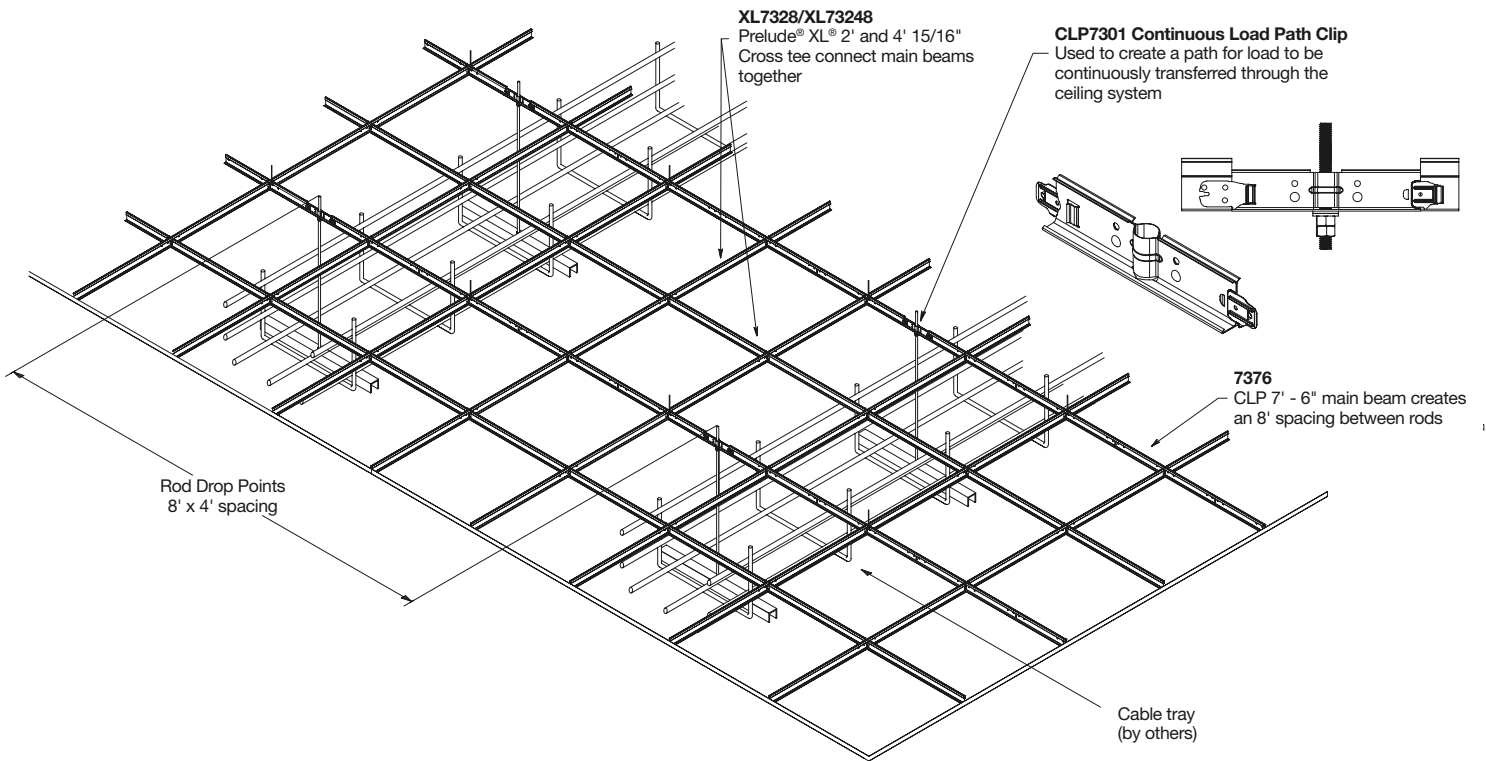
The CLP 6" main beam component integrates with the Prelude® XL® suspension system, creating a pathway for the threaded rod to pass through the ceiling plane without unwarranted air penetration.

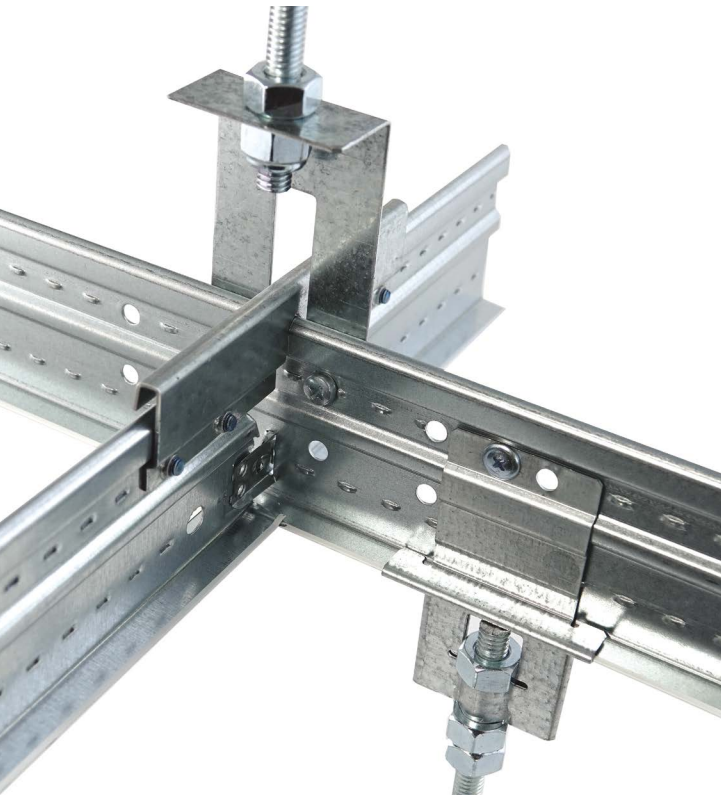
- Allows a threaded rod to connect to the deck without interrupting the ceiling plane
- Designed to accommodate 1/2" and 3/8" threaded rods with point loads of up to 1,800 lbs. per 3/8" threaded rod and up to 3,300 lbs per 1/2" rod with no weight transferred to the ceiling system
- Provides flexibility to design data halls that require heavier loads by using standard Prelude® XL® ceiling system in main or high load trunk lines
- Helps to manage air flow without unwarranted air penetrations in the ceiling grid or panels
- Reduces number of hanger wires

NOTE: The load is completely supported by the threaded rod to the deck and is not transferred to the suspension system. The CLP with coordinating 7'-6" and 9'-6" main beams creates typical 8' and 10' layouts.

Continuous Load Path (CLP)

How It Works

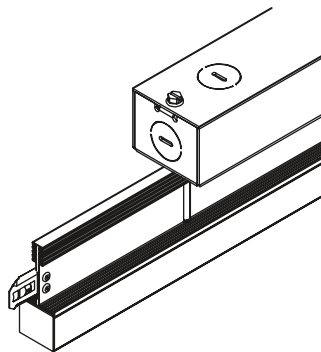




Integrated hanging clips allow connection to 3/8" threaded rod for flexible and reconfigurable overhead cable tray and electrical distribution without a separate strut channel system.

Prelude® XL Max® Lighting Solutions

TeraLyte™ 1" for Prelude XL Max System



JLC • tech

PRELUDE® XL MAX®

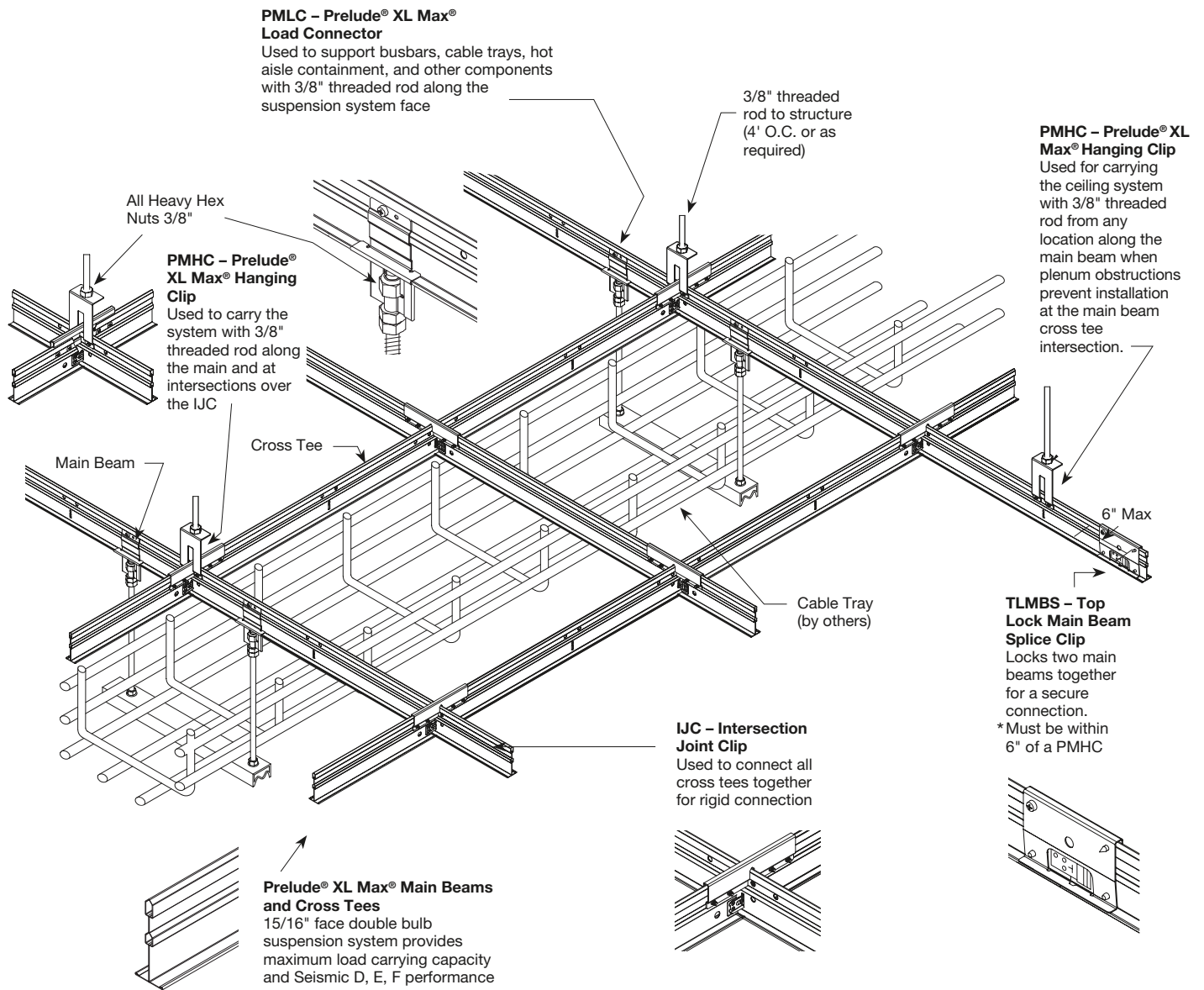
The Prelude® XL Max® suspension system supports single point loads up to 300 lbs. for cable trays, busbars, hot aisle containment, and more.

Load connector clips attach to the face of the suspension system to eliminate unsightly threaded rod penetrations through the ceiling plane minimizing unwanted air infiltration while improving access, cable tray layout options, and aesthetics.



PRELUDE[®] XL MAX[®]






How It Works




















HIGH PERFORMANCE

Ceiling Panel Selections for PRELUDE® XL MAX® Suspension Systems

VISUAL SELECTION

	Item No.	Dimensions (Inches)
CANYON® for Prelude® XL Max®	1488	23-13/16 x 23-13/16 x 5/8"
Square Lay-in 	1489	23-13/16 x 47-13/16 x 5/8"
ULTIMA® for Prelude® XL Max®	1927	23-13/16 x 23-13/16 x 3/4"
Square Lay-in 	1928	23-13/16 x 47-13/16 x 3/4"
CLEAN ROOM™ FL for Prelude® XL Max®	1815	23-13/16 x 23-13/16 x 3/4"
Square Lay-in 	1816	23-13/16 x 47-13/16 x 3/4"
FINE FISSURED – Black for Prelude® XL Max®	1747ABL	23-13/16 x 23-13/16 x 5/8"
Square Lay-in 	1748ABL	23-13/16 x 47-13/16 x 5/8"
FINE FISSURED™ for Prelude® XL Max®	1778	23-13/16 x 23-13/16 x 5/8"
Square Lay-in 	1779	23-13/16 x 47-13/16 x 5/8"

PERFORMANCE SELECTION Dots represent high level of performance.

Sound Absorption	Sound Blocking	Total Acoustics ¹	Articulation Class	Fire Performance	Light Reflect	Bio-Block	Humi-Guard+	Certified Low VOC Emissions	Durability	Recycled Content	Recycle Program	30-Yr Warranty
 +  = 	 +  = 											
0.65	35	GOOD	N/A	Class A	0.80	•	•	•	•	Std	•	•
0.65	35	GOOD	N/A	Class A	0.80	•	•	•	•	Std	•	•
0.75	35	BETTER	170	Class A	0.88	•	•	•	•	•	•	•
0.75	35	BETTER	170	Class A	0.88	•	•	•	•	•	•	•
0.55	35	N/A	N/A	Class A	0.79	•	•	•	•	•	–	•
0.55	35	N/A	N/A	Class A	0.79	•	•	•	•	•	–	•
0.55	35	N/A	N/A	Class A	N/A	•	•	•	•	•	•	•
0.55	35	N/A	N/A	Class A	N/A	•	Std	•	•	•	•	1-Yr
0.55	35	N/A	N/A	Class A	0.82	•	•	•	•	•	•	•
0.55	35	N/A	N/A	Class A	0.82	•	Std	•	•	•	•	1-Yr

NOTE: These panels are specially sized and engineered for Prelude® XL Max® and must be used with the system. These panels do not fit in other suspension systems.

¹ Total Acoustics® ceiling panels have an ideal combination of noise reduction and sound blocking performance in one product.

GOOD (NRC 0.60-0.65; CAC 35+) **BETTER** (NRC 0.70-0.75; CAC 35+) **BEST** (NRC 0.80+; CAC 35+)



▲ DynaMax® Structural Grid with integrated air containment system from Subzero Engineering

TAKE THE NEXT STEP

1 877 276-7876

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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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