



PRELUDE® XL  
MAX®

SUSPENSION SYSTEM  
TECHNICAL GUIDE

# TECHNICAL GUIDE

The Prelude® XL Max® suspension system for data center applications is a pre-engineered ceiling suspension system designed for improved air flow management, load carrying capacity, and adaptability in data centers of all sizes.

The Prelude XL Max suspension system uses 3/8 inch threaded rod support and reconfigurable load connector clips to support cable trays, bus bars, hot aisle containment, and other components to provide maximum load carrying capacity and flexibility, while eliminating the need for a separate strut channel suspension system.

## PRELUDE® XL MAX® Data Center Solutions

Code Compliance    Key Selection Attributes  
You Can Trust

Suspension system meets:

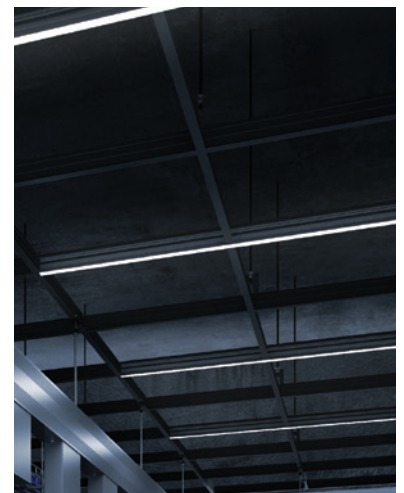
- ASTM C635
- ASTM C636
- ASTM E580
- ICC-ES AC156

Seismic D, E, F configurations available

Prelude® XL Max® 15/16" Suspension System

Supports load from the face utilizing 3/8" threaded rod and integrated hanging clips to provide:

Flexible and reconfigurable overhead cable trays, electrical distribution, and hot aisle containment to meet client needs without a separate strut channel system.

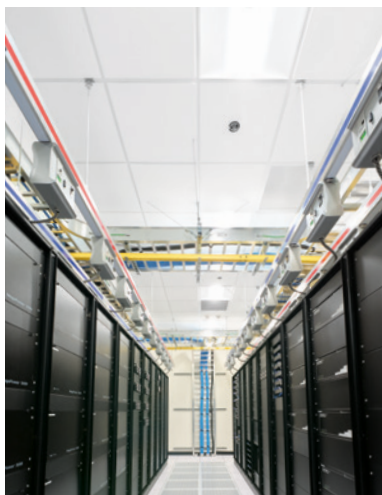




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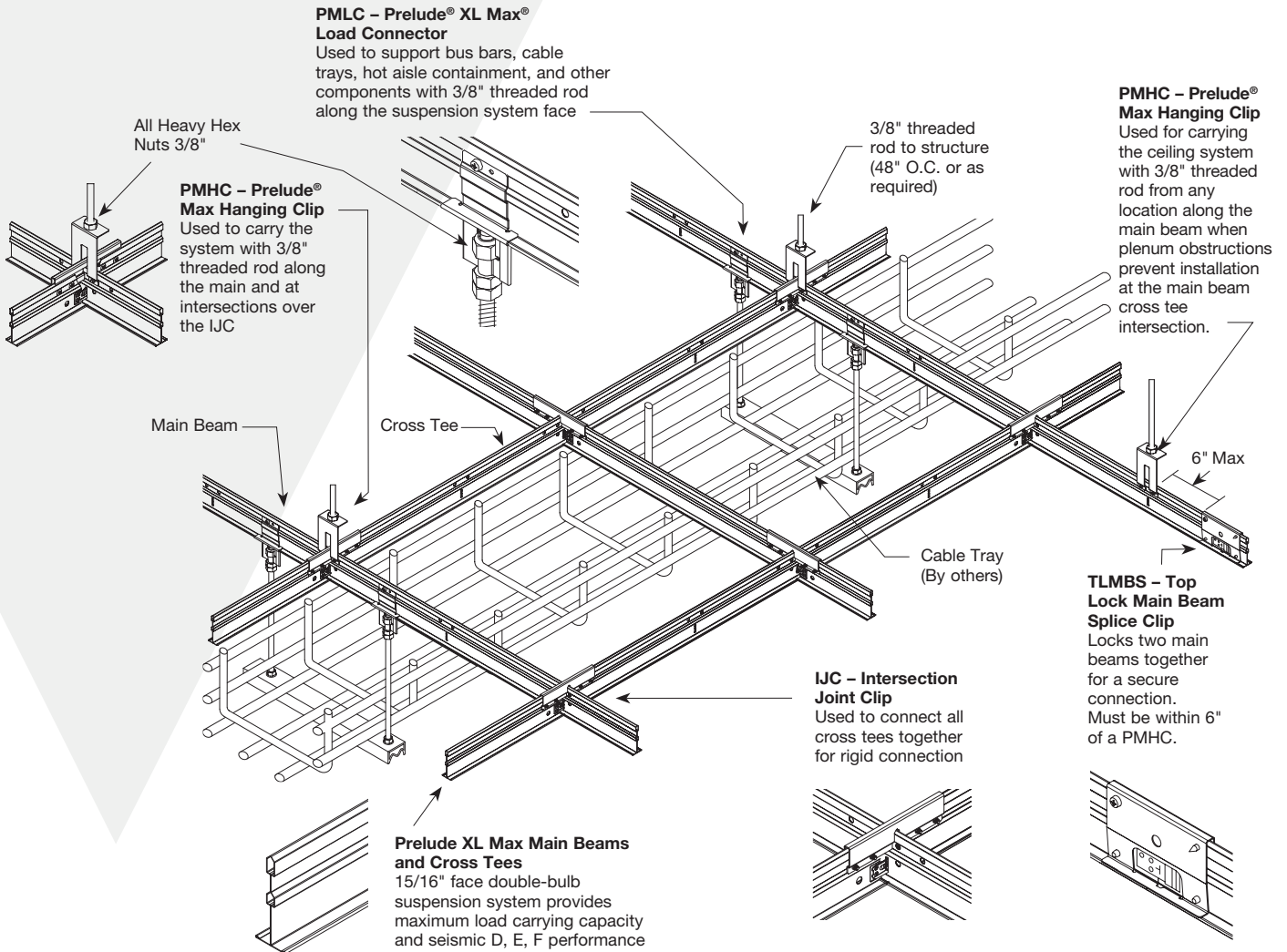
PRELUDE® XL MAX®



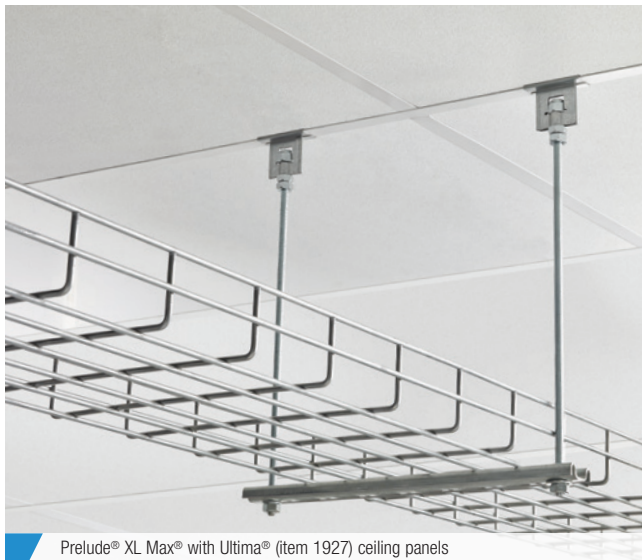
# HANG YOUR COMPONENTS FROM THE CEILING

## HOW THE SYSTEM WORKS

For additional information and technical guidelines, contact TechLine at 1 877 276-7876 and select prompts 1-2-3



SUSPENSION SYSTEM COMPONENTS



Prelude® XL Max® with Ultima® (item 1927) ceiling panels

KEY SELECTION ATTRIBUTES

Prelude® XL Max® 15/16" Suspension System

- 24" x 24" and 24" x 48" suspension system supports point loads up to 300 lbs. using 3/8" threaded rod and integrated hanging clips to provide:
  - Flexible and reconfigurable overhead cable tray and electrical distribution to meet client needs without a separate strut channel system
  - Eliminates unsightly threaded rod penetrations through the ceiling plane for improved access and aesthetics
  - Reduced ceiling penetrations help minimize unwanted air infiltration
- Prelude® XL Max® is part of the Sustain™ portfolio and meets the most stringent industry sustainability compliance standards today
- CleanAssure™ family of products – includes disinfectable panels, suspension systems, and trim (Cleaning and CDC approved disinfecting options available on [armstrongceilings.com/cleaning](http://armstrongceilings.com/cleaning))
- Suspension system meets ASTM C635, ASTM C636, ASTM E580, ICC-ES AC156 with Seismic D, E, F available
- 30-Year Limited System Warranty
- Standard 24" x 24" and 24" x 48" grid layouts allow for use of standard size lighting and ceiling panel options

TYPICAL APPLICATIONS

- Data Centers
- Laboratories
- Hospitals
- Industrial Warehouses/  
Distribution Centers
- Retail/Convenience Stores

For custom layout information and technical guidelines, contact TechLine customer support at 1 877 276-7876.

The ceiling panels are designed and engineered, and must be used with Prelude® XL Max®. These panels do not fit in other suspension systems.

VISUAL SELECTION

PERFORMANCE

PACKAGING

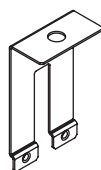
Item No.	Description	Dimensions Nominal (Inches)	MAX LOADING* LBS./LIN. FT.		CleanAssure™ Disinfectable Grid						Pieces/ Carton	LFT/ Carton
			2 Ft.	4 Ft.	Fire Guard™	Seismic Category	Fog	Spray	Wipe			
Prelude® XL Max® 15/16"	730145	12' HD Main Beam	144 x 15/16 x 2-7/16"	135.5	40.17	N/A	•	•	•	•	10	120
	XL7345	4' Cross Tee	48 x 15/16 x 2-7/16"	N/A	40.17	N/A	•	•	•	•	30	120
	XL7325	2' Cross Tee	24 x 15/16 x 2-7/16"	93.82	N/A	N/A	•	•	•	•	30	60
Molding 7/8"	SWA9878HRC	12' Structural Wall Angle	144 x 7/8 x 7/8"	N/A	N/A	N/A	•	•	•	•	12	144

\*Simple Span

Dots represent high level of performance.

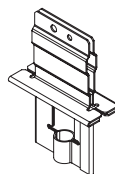
ACCESSORIES

**PMHC – Prelude® Max Hanging Clip –**  
Used to carry the ceiling system with 3/8" threaded rod from structure.  
(Machine screws, Heavy Hex Nut, and Locknut included)



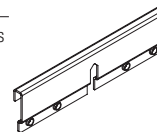
PMHC – 150 pcs  
FZPMHC – 50 pcs

**PMLC – Prelude® XL Max® Load Connector –** Used to support busbar, cable trays, and other components with 3/8" threaded rod from the suspension system face.  
(Heavy Hex Nut & Locknut included)



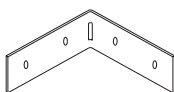
PMLC – 100 pcs  
FZPMLC – 50 pcs

**IJC – Intersection Joint Clip –**  
Used to connect all cross tees together for rigid connection.  
(Machine screws included)



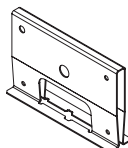
IJC – 250 pcs  
FZIJC – 50 pcs

**XTAC – Cross Tee Adapter Clip –**  
Securely attaches cross tees or main beams to the structural wall molding around the perimeter of the ceiling installation.



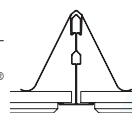
XTAC – 100 pcs  
FZXTAC – 50 pcs

**TLMBS – Top Lock Main Beam Splice Clip –**  
Locks two main beams together for a secure connection.



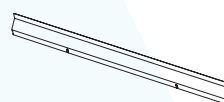
TLMBS – 50 pcs

**PMHDC – Prelude® XL Max® Hold-Down Clip –**  
Attaches to the top bulb of the Prelude® XL Max® suspension system to hold ceiling panels in place; helps to prevent ceiling panel movement.



PMHDC – 100 pcs  
FZPMHDC – 50 pcs

**LSB – Lateral Support Bar**  
(Seismic Zone DEF Only)



LSB12HRC – 10 pcs/120 LF  
LSB10HRC – 10 pcs/100 LF  
LSB8HRC – 10 pcs/80 LF

RECOMMENDED CEILING PANELS

CLEAN ROOM™ FL

- Clean Rooms up to ISO Class 5 (Class 100)
- Durable – Washable, Scrubbable, Soil-resistant
- Non-directional visual reduces installation time and scrap
- 30-Year Limited System Warranty against visible sag, mold, and mildew

ULTIMA®





- Get total noise control and floor plan versatility with Total Acoustics® ceiling panels: NRC + CAC = Total Acoustics Performance
- Ultima® panels are part of the Sustain® portfolio, and meet the most stringent industry sustainability compliance standards today
- Smooth, clean, durable finish – Washable, Impact-resistant, Scratch-resistant, Soil-resistant
- Ceiling-2-Ceiling™ Post-consumer Recycled Content options: items 1910HRC, 1913HRC. 71% Pre-consumer; 15% Post-consumer

OPTIMA®

- Optima® PB panels are part of the Sustain® portfolio, and meet the most stringent industry sustainability compliance standards today
- Smooth, clean, durable finish – Washable, Impact-resistant, Scratch-resistant, Soil-resistant
- Items with PB suffix are manufactured with a plant-based binder
- Outstanding acoustical performance for open plan areas, both Articulation Class (180-200) and NRC (0.90-1.00)
- Energy-saving high light-reflective finish

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.

VISUAL SELECTION

	Item No.	Dimensions (Inches)
Fine Fissured™ for Prelude® XL Max® Square Lay-in 	1778	23-13/16 x 23-13/16 x 5/8"
	1779	23-13/16 x 47-13/16 x 5/8"
	1747ABL (Black)	23-13/16 x 23-13/16 x 5/8"
	1748ABL (Black)	23-13/16 x 47-13/16 x 5/8"
Canyon® for Prelude® XL Max® Square Lay-in 	1488	23-13/16 x 23-13/16 x 5/8"
	1489	23-13/16 x 47-13/16 x 5/8"
Ultima® for Prelude® XL Max® Square Lay-in 	1927	23-13/16 x 23-13/16 x 3/4"
	1928	23-13/16 x 47-13/16 x 3/4"
Clean Room™ FL for Prelude® XL Max® Square Lay-in 	1815	23-13/16 x 23-13/16 x 3/4"
	1816	23-13/16 x 47-13/16 x 3/4"

PERFORMANCE SELECTION Dots represent high level of performance.

Sound Absorption	Sound Blocking	Total Acoustics <sup>1</sup>	Articulation Class	Fire Performance	Light Reflect	Bio-Block	Humi-Guard+	Certified Low VOC Emissions	Durability	Recycled Content	Recycle Program	30-Yr Warranty
NRC	CAC	NRC CAC	AC	Fire	Light	Anti-Mold/Mildew	Sag Resistant					
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
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
0.65	35	GOOD	170	Class A	0.80	•	•	•	•	Std	•	•
0.65	35	GOOD	170	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	•	•	•	•	•	-	•

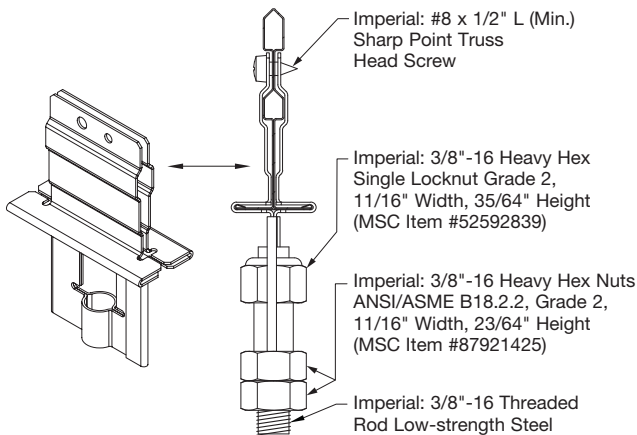
NOTE: These panels are specially sized and engineered for Prelude® XL Max® and must be used with the system. These panels do not fit in other suspension systems.  
<sup>1</sup> Total Acoustics® ceiling panels have an ideal combination of noise reduction and sound blocking performance in one product.  
**GOOD** (NRC 0.60-0.65; CAC 35+), **BETTER** (NRC 0.70-0.75; CAC 35+), **BEST** (NRC 0.80+; CAC 35+)

### Overview: Five Easy Installation Steps

- 1 Install threaded rod to deck
- 2 Install the structural wall angle
- 3 Install main beams, screw-attach PMHC to the mains and attach to threaded rods
- 4 Snap in cross tees
- 5 Slide on and secure the load connectors

**IMPORTANT:** Connections for load-carrying grid form a structural element. Please take time to understand and follow installation instructions to ensure rated load performance.

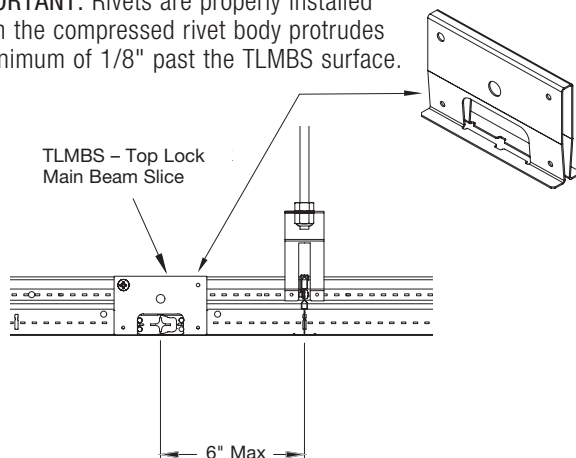
### Prelude® XL Max® Load Connector (PMLC)



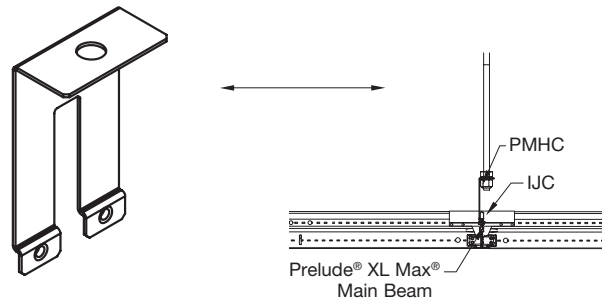
- PMLC – 100 pcs
- FZPMLC – 50 pcs

### Top Lock Main Beam Slice Clip (TLMBS)

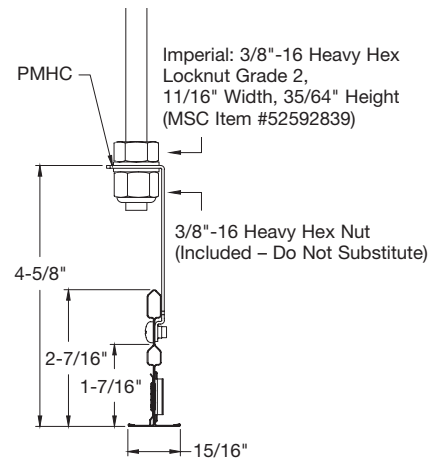
**IMPORTANT:** Rivets are properly installed when the compressed rivet body protrudes a minimum of 1/8" past the TLMBS surface.



### Prelude® XL Max® Hanging Clip (PMHC)

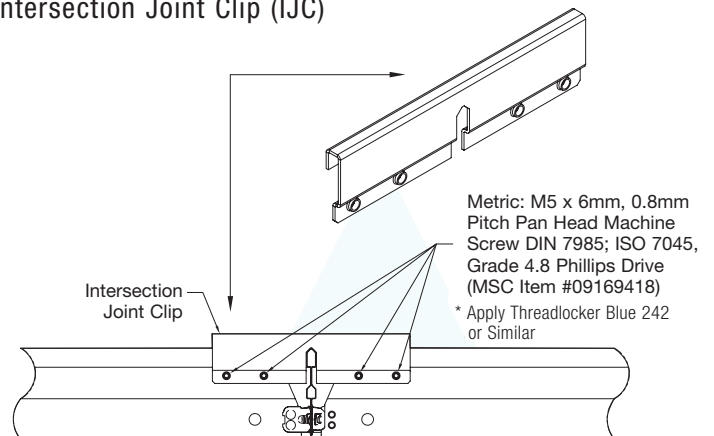


- PMHC – 150 pcs
- FZPMHC – 50 pcs



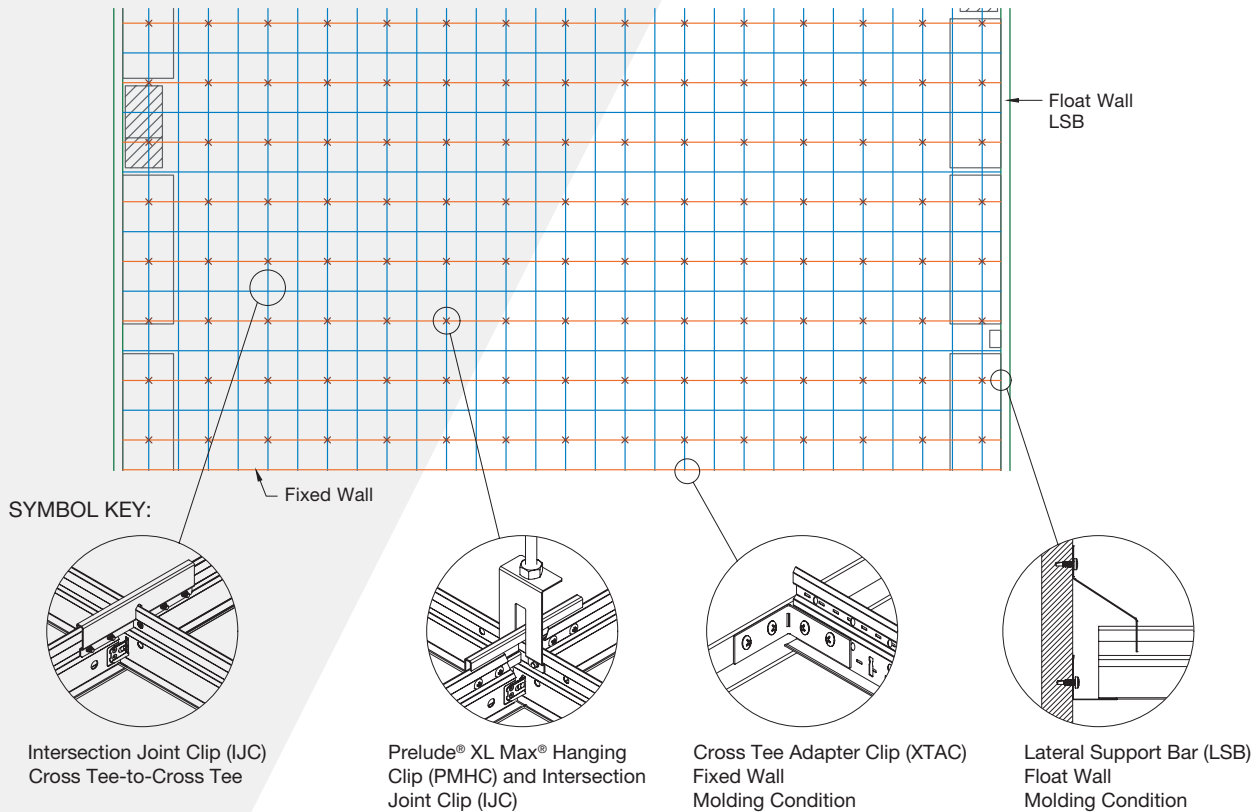
\* Machine screws included

### Intersection Joint Clip (IJC)



# SYSTEM LAYOUT

## INSTALLATION AND LAYOUT OVERVIEW



**NOTE:** The structural wall molding and the lateral support bar must be fastened to wall stud framing using a #8 steel framing screw of an appropriate length or positively attached to other support structures.

## SEISMIC DATA

### SEISMIC INFORMATION

IBC categories D, E, and F must also meet these additional requirements:

- Structural wall angle is to be used along the perimeter with a XTAC clip attaching the grid to the angle molding, along fixed walls only.
- Grid must be attached to two adjacent walls – opposite walls must have a 3/4" clearance in accordance with ASTM E580.
- Ends of main beams and cross tees must be connected together to prevent their spreading. These should be locked into place using the lateral support bar.

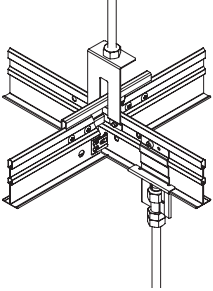
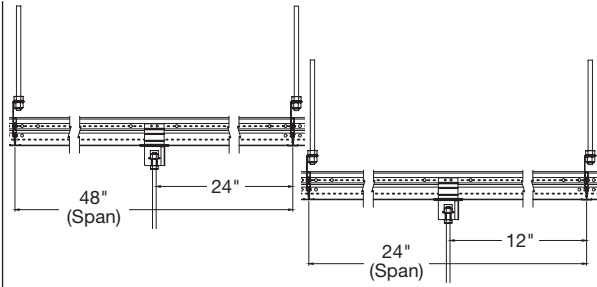
- Ultra Heavy-duty grid system. See load data.
- Ceiling areas over 1,000 SF must have standard rigid bracing for the grid.
- Ceilings without rigid bracing must have 2" oversized trim rings for sprinklers and other penetrations.
- Changes in ceiling plane must have positive bracing.
- Mechanicals (Cable trays, electrical, etc) may be attached and supported by the ceiling grid, per our instructions, however, mechanicals must be seismically braced by others.

- Suspended ceilings will be subject to special inspection.

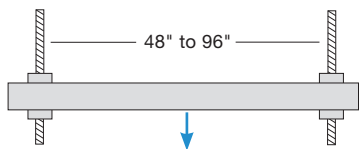
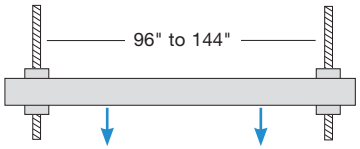
**NOTE:** Consult your local code professional for information specific to your region. California projects may be governed by DSA and OSHPD.



## LOADING LAYOUTS

System Performance Criteria*						
Hanging Method	Loading within 3" of threaded rod support with building connections 48" x 48" O.C.	Loading within 3" of threaded rod support with building connections 48" x 24" O.C.	Loading within 3" of threaded rod support with building connections 24" x 24" O.C.	Mid Span Loading with building connections 48" x 48" O.C.	Mid Span Loading with building connections 48" x 24" O.C.	Mid Span Loading with building connections 24" x 24" O.C.
Point Load (lbs)	300lbs	300lbs	300lbs	93lbs	93lbs	117lbs
Area Load (lbs/ft <sup>2</sup> )	18.75lbs/ft <sup>2</sup>	37.5lbs/ft <sup>2</sup>	75lbs/ft <sup>2</sup>	5.8lbs/ft <sup>2</sup>	11.6lbs/ft <sup>2</sup>	29.25lbs/ft <sup>2</sup>
Ultimate Load (lbs/ft <sup>2</sup> )	646lbs	646lbs	646lbs	210lbs	210lbs	429lbs

### Unistrut Beam & Bridging Guidelines

Load Condition	Maximum Point Load 300 lbs				
Simple Beam, Concentrated Load at Mid Span	Span				
	48"	60"	72"	84"	96"
	P1000	P5500	P5500	P1001	P1001
Simple Beam, Two Equal Concentrated Loads at 1/4 pts	Span				
	96"	108"	120"	132"	144"
	P5000	P5501	P5501	P5501	P5501

NOTE: When additional structural support is necessary due to limitations of structural attachment points, strut channel systems may be used. The above member selection tables are to be used as general guidelines and must be designed by a qualified structural engineer. The member size requirements in the tables may potentially be reduced.

# POINT LOADS

## POINT LOAD DATA

### Prelude® XL Max® Load Connector – Mid Span Point Loads

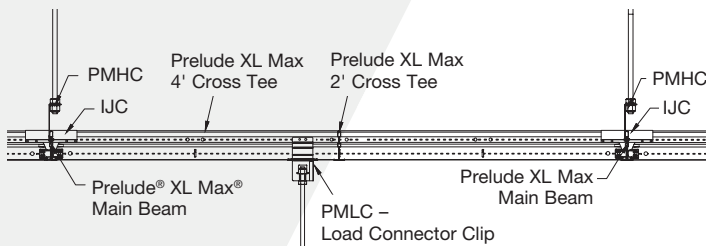
Values are not valid when a TLMBS is within the span.

Center Point load information (lbs.)  
Hanger Spacing

Item No.	2 Ft	3 Ft	4 Ft	5 Ft	6 Ft	7 Ft
<input type="checkbox"/> 730145	262.5	143.0	105.4	67.3	58.2	42.3
<input type="checkbox"/> XL7345			93			
<input type="checkbox"/> XL7325	117.2					

NOTE: These values are based on the spans being installed in a 2' x 2' module (using a 2' Tee). Unbraced or 2' x 4' modules will have a lower mid span load value. For additional loading configurations, contact Techline for guidance and a qualified engineering professional.

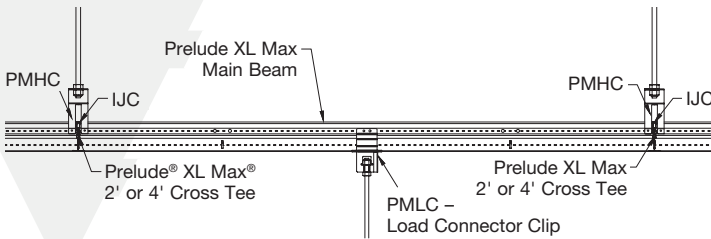
### Cross Tee 4' Span



Max mid span load = 93 lbs  
Max point load within 3" of threaded rod = 300 lbs

All numbers above are for use with a 2' x 2' ceiling panel installation.

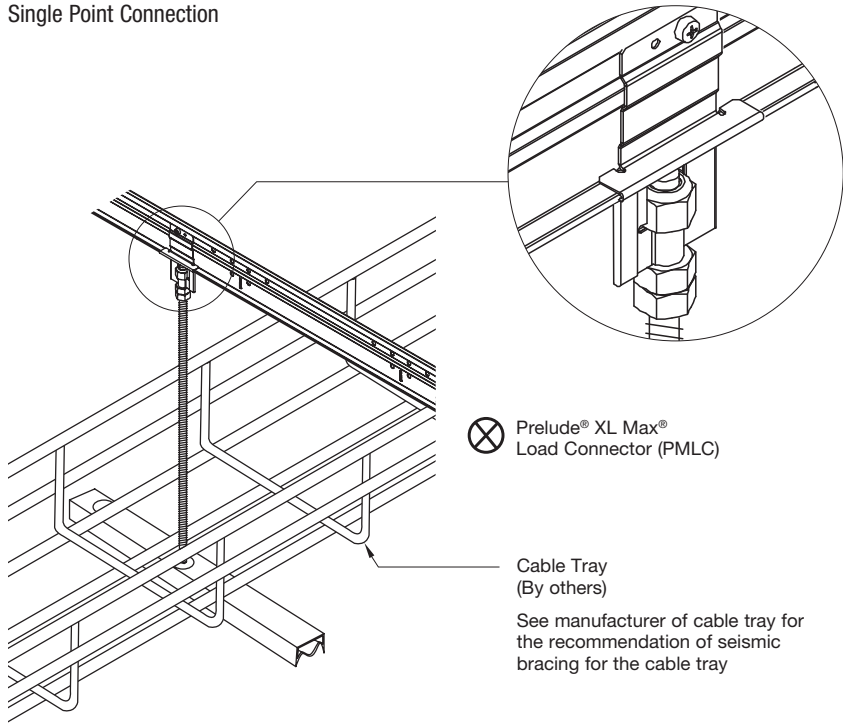
### Main Beam 4' Span



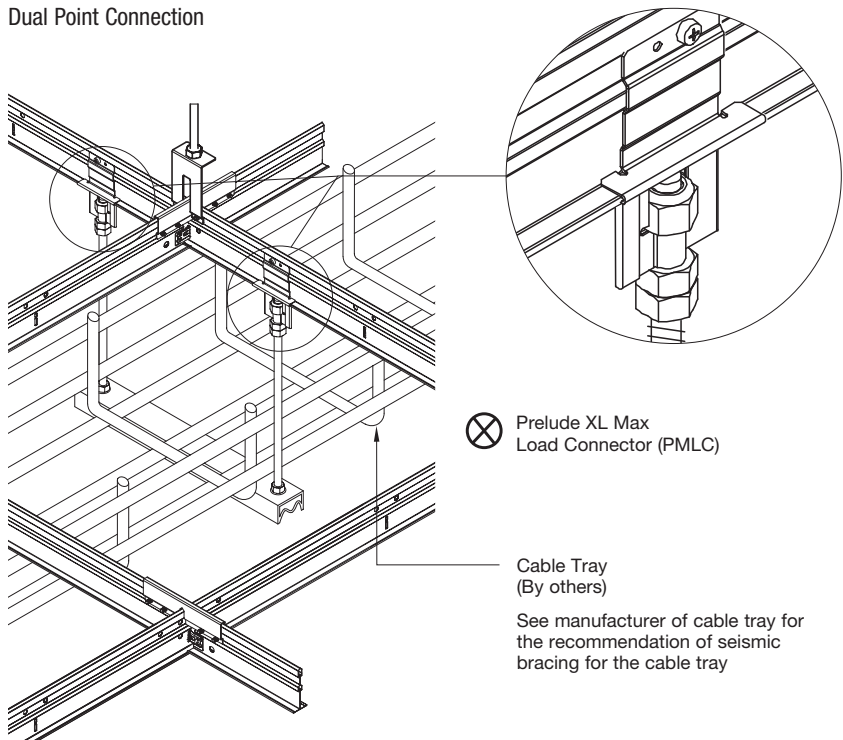
POINT LOAD DATA

LIGHTING INTEGRATION

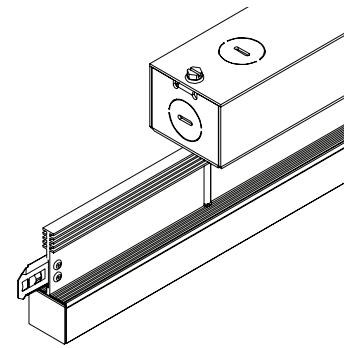
Single Point Connection



Dual Point Connection



Lighting solutions are available through partner companies.



TeraLyte™ 1" for Prelude® XL Max® System

**1 877 276-7876**

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

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

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