



Armstrong®
World Industries



Technical Guide

Prelude® XL Max®

Suspension System

Up to 300-lb. Point Loads

Prelude® XL Max® Data Center Solutions

The Prelude® XL Max® 15/16" 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.

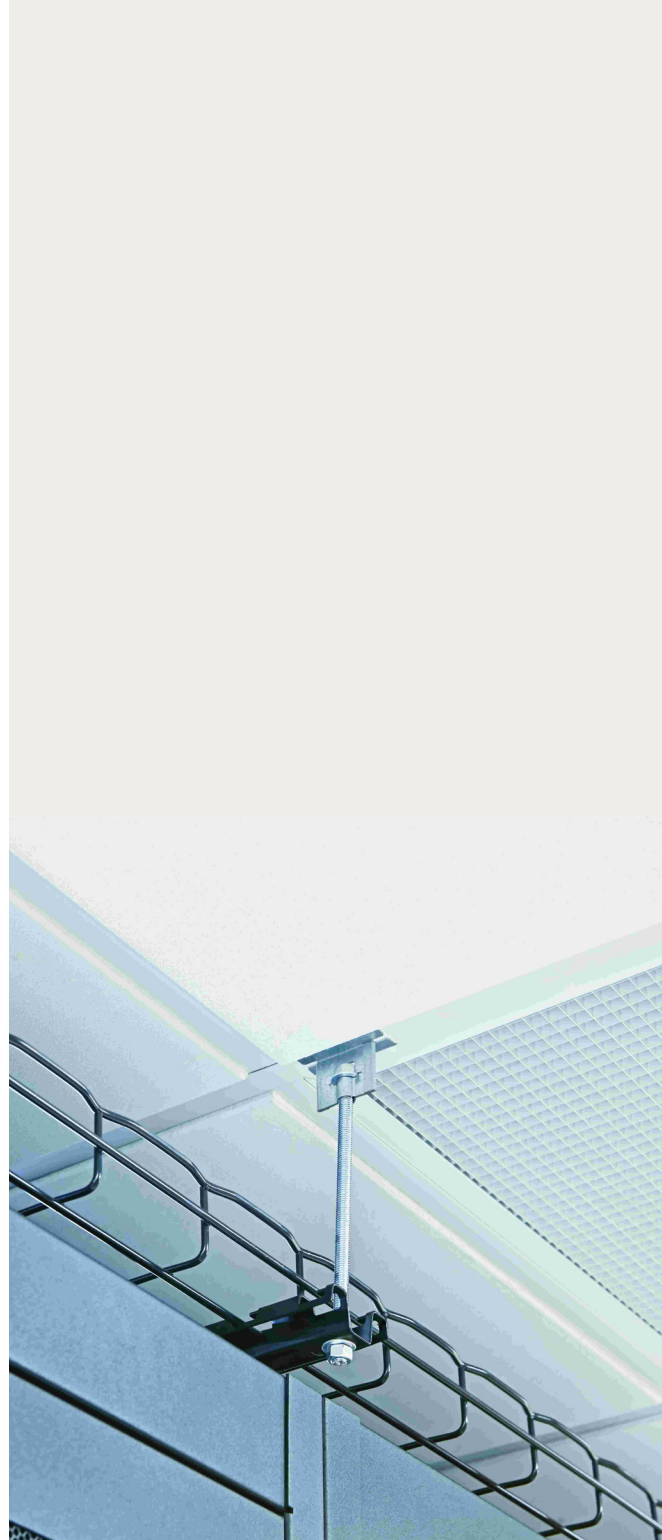
The Prelude XL Max suspension system uses 3/8" threaded rod support and reconfigurable load connector clips to support cable trays, bus bars, hot aisle containment, and other components to provide maximum load carrying capacity and flexibility, while eliminating the need for a separate strut channel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

Code Compliance You Can Trust

Suspension
system meets:

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

Seismic D, E, F
configurations available

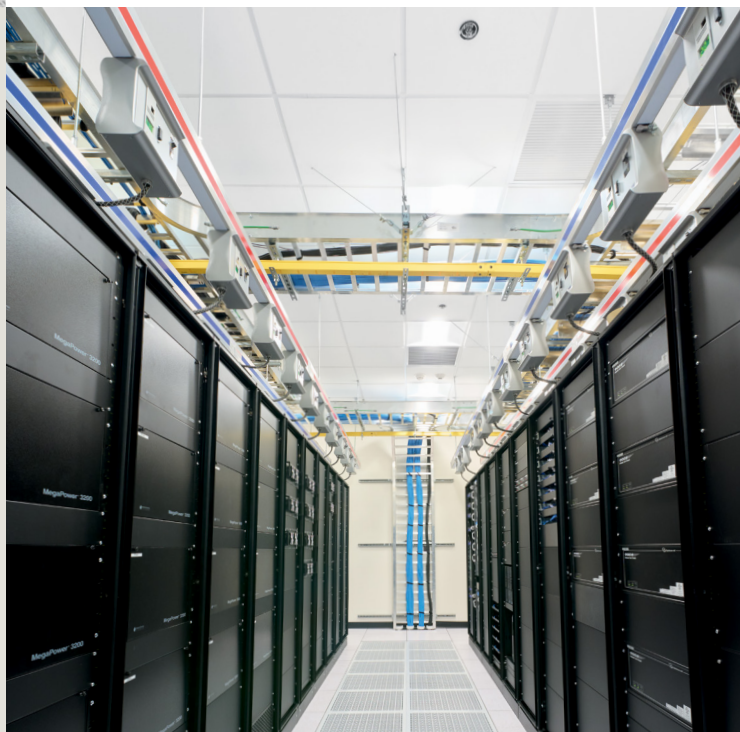




Prelude® XL Max®

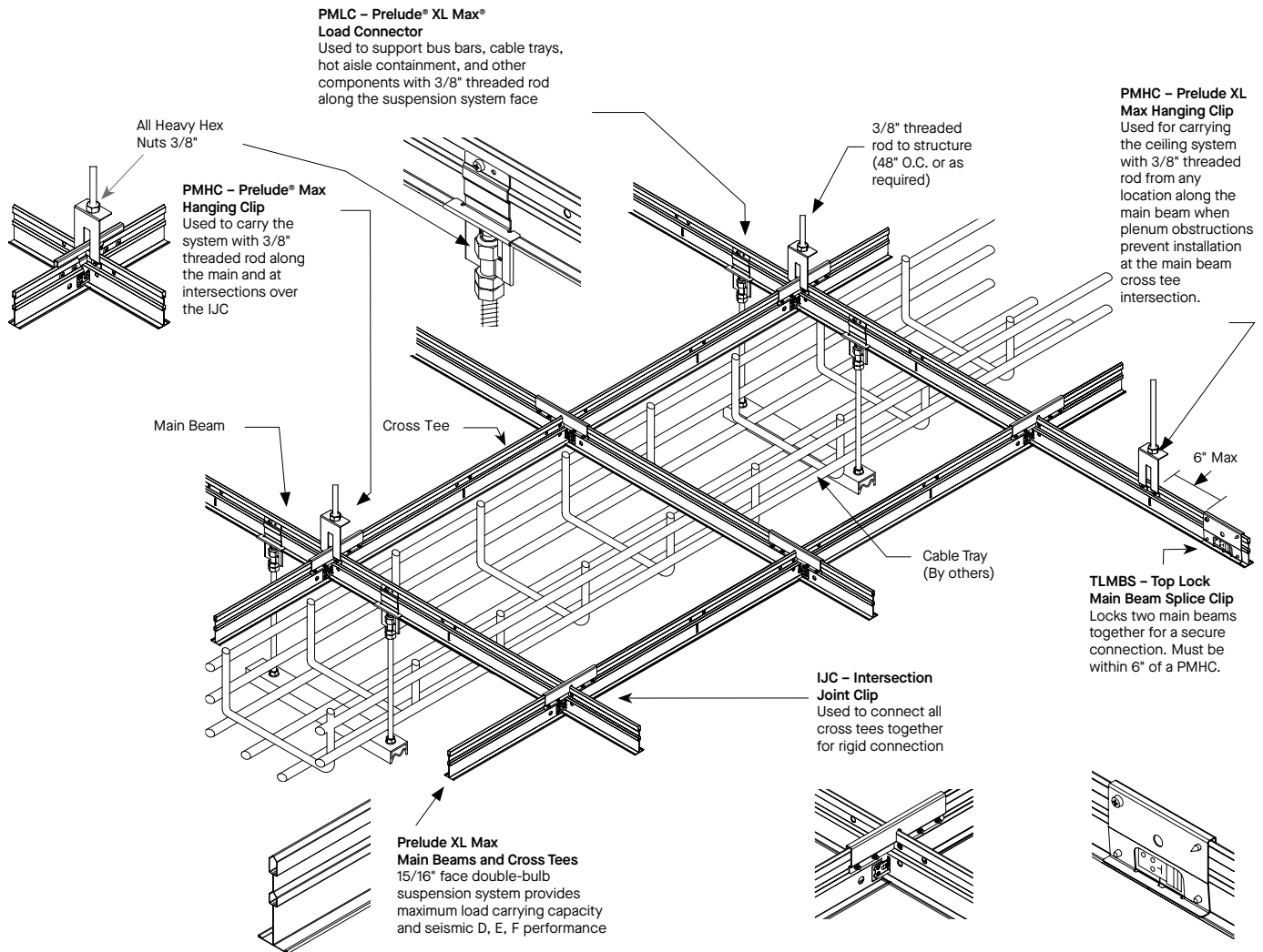
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Hang Your Components from the Ceiling

How the System Works



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

Suspension System Components



Prelude XL Max with DataZone™ (Item 1516) 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)
- 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 Store

For custom layout information contact TechLine customer support at 1 877 276-7876.

VISUAL SELECTION

	Item No.	Description	Dimensions Nominal (Inches)	Max Loading* LBS/LF	
				2 FT	4 FT
Prelude XL Max 15/16"	730145	12' HD Main Beam	144 x 15/16 x 2-7/16"	135.5	40.17
	XL7345	4' Cross Tee	48 x 15/16 x 2-7/16"	N/A	40.17
	XL7325	2' Cross Tee	24 x 15/16 x 2-7/16"	93.82	N/A
Molding 7/8"	SWA9878HRC	12' Structural Wall Angle	144 x 7/8 x 7/8"	N/A	N/A

* Simple Span

PERFORMANCE

Fire Guard™ Seismic Category	CleanAssure™ Disinfectable Grid		
	Fog	Spray	Wipe
N/A	•	•	•
N/A	•	•	•
N/A	•	•	•
N/A	•	•	•

Dots represent high level of performance.

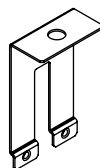
PACKAGING

Pcs/ CTN	Lf/ CTN
10	120
30	120
30	60
12	144

ACCESSORIES

PMHC – Prelude XL Max Hanging Clip –
Used to carry the ceiling system with 3/8" threaded rod from structure.

Machine screws, Heavy Hex Nut, and Locknut included)

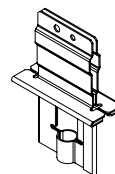


PMHC – 150 pcs
FZPMHC – 50 pcs

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)

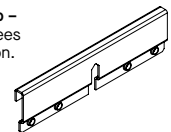
PMLC – 100 pcs
FZPMLC – 50 pcs



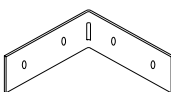
IJC – Intersection Joint Clip –
Used to connect all cross tees together for rigid connection.

(Machine screws included)

IJC – 250 pcs
FZIJC – 50 pcs

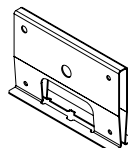


XTAC – Cross Tee Adapter Clip –
Securely attaches cross tees or main beams to the structural wall molding around the perimeter of the ceiling installation.



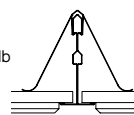
XTAC – 100 pcs
FZXTAC – 50 pcs

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



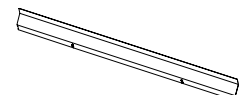
TLMB – 50 pcs

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 D.E.F. Only)



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

Ceiling Panels for Prelude® XL Max®

Square Lay-In

Ceiling panels for Prelude® XL Max® are specifically designed for performance, reliability, and sustainability in a wide variety of applications.



DataZone™ panels with Prelude® XL Max® Suspension System

KEY SELECTION ATTRIBUTES

DATAZONE™ FOR PRELUDE® XL MAX®

- DataZone panels are part of the Sustain® portfolio, and meet the most stringent industry sustainability compliance standards today
- Get total noise control and floor plan versatility with Total Acoustics® ceiling panels:
 $NRC + CAC = \text{Total Acoustics Performance}$
- Smooth, clean, durable finish – Washable, Impact-resistant, Scratch-resistant, Soil-resistant
- Mold- and mildew-resistant surface
- 30-Year Limited System Warranty against visible sag, mold, and mildew
- Made in the U.S.A. of domestic and global content
- Build America, Buy America (BABA) Act compliant

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

For more information about recommended ceiling panels, please visit armstrongceilings.com/structuralgrid

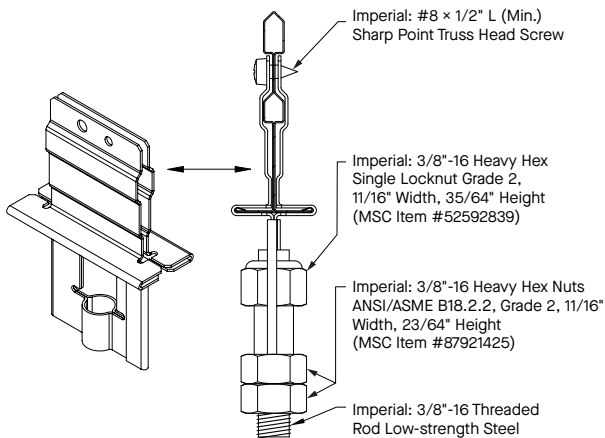
These panels are specially sized and engineered for Prelude® XL Max® and must be used with the system. These panels do not fit in other suspension systems.

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.

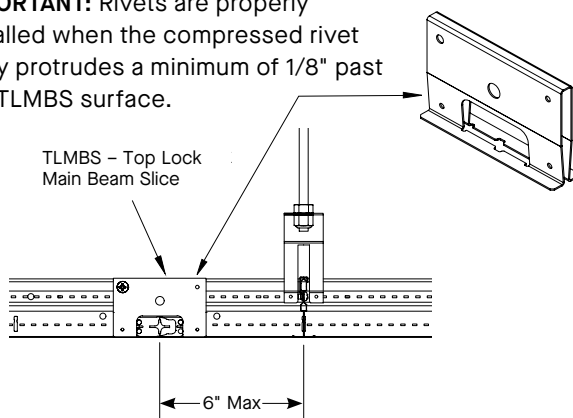
Prelude XL Max Load Connector (PMLC)



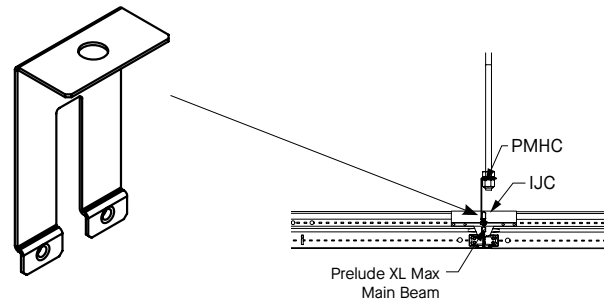
- PMLC – 100 pcs
- FZPMLC – 50 pcs

Top Lock Main Beam Splice Clip (TLMBS)

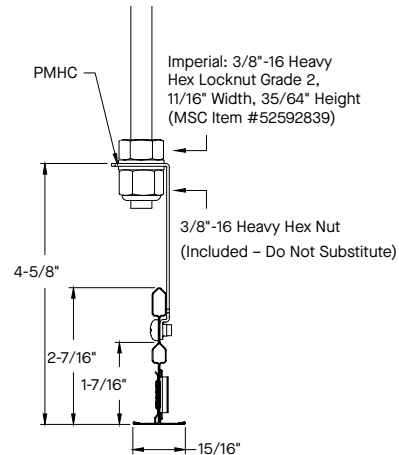
IMPORTANT: Rivets are properly installed when the compressed rivet body protrudes a minimum of 1/8" past the TLMBS surface.



Prelude® XL Max® Hanging Clip (PMHC)

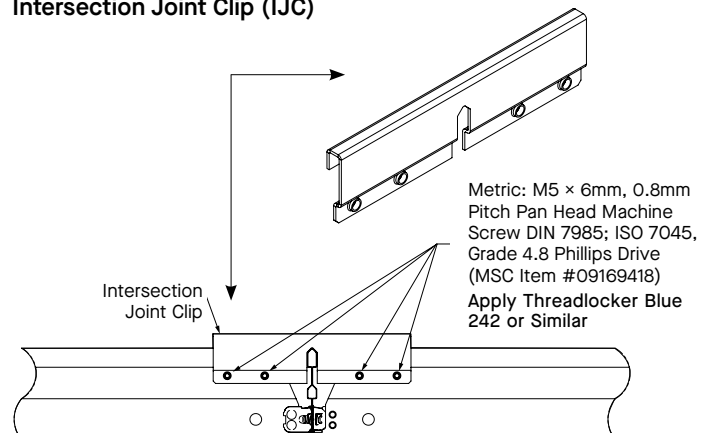


- PMHC – 150 pcs
- FZPMHC – 50 pcs



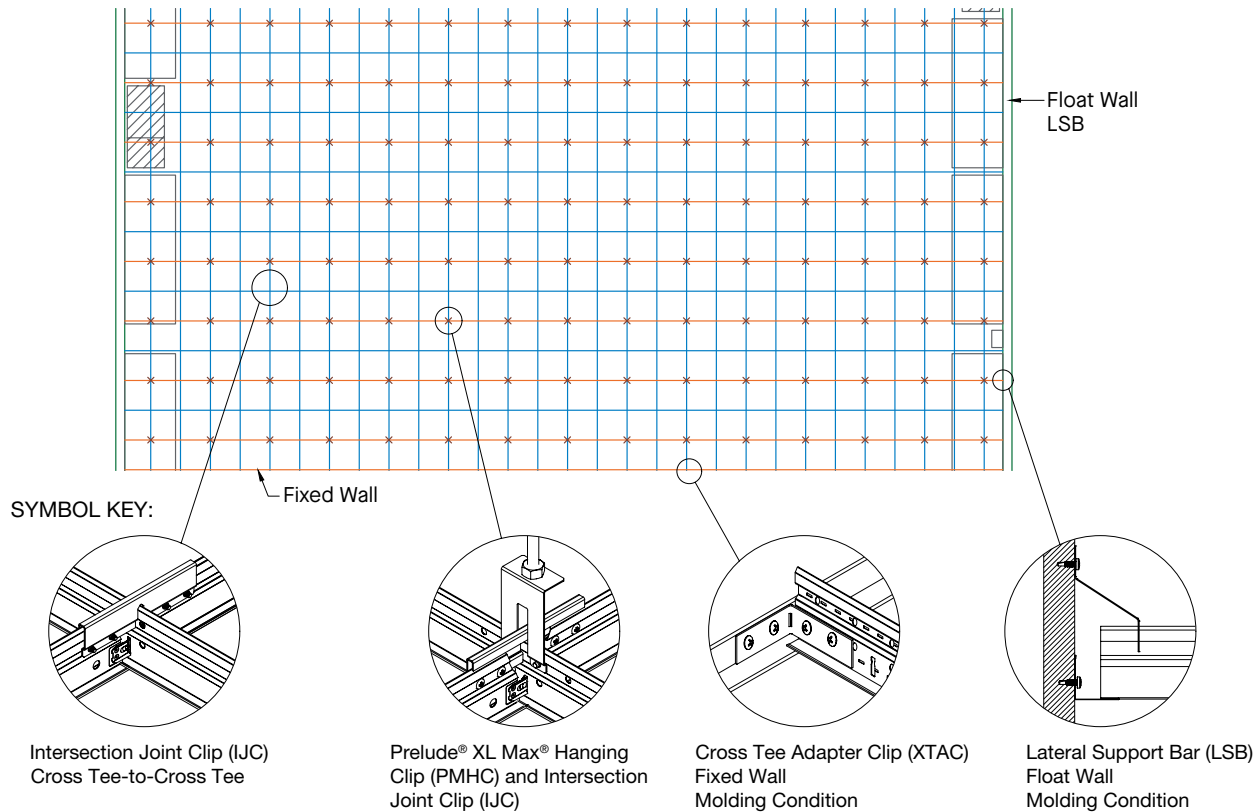
NOTE: Machine screws included

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

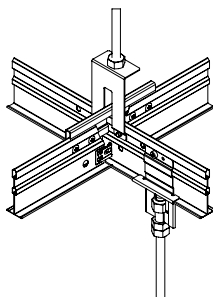
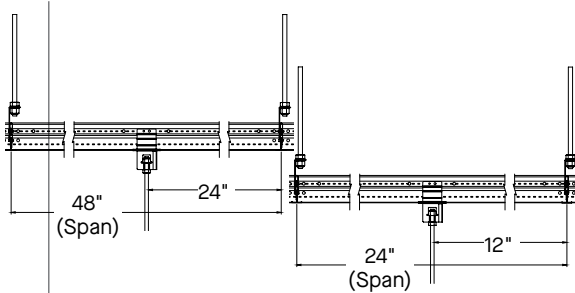
SEISMIC INFORMATION

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

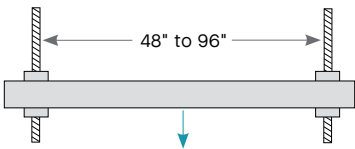
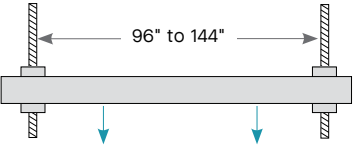
- Structural wall angle is to be used along the perimeter with a XTAC clip attaching the grid to the angle molding, along fixed walls only.
- Grid must be attached to two adjacent walls – opposite walls must have a 3/4" clearance in accordance with ASTM E580.
- Ends of main beams and cross tees must 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.
Point Load (LBS)	300 LBS	300 LBS	300 LBS	93 LBS	93 LBS	117 LBS
Area Load (LBS/FT²)	18.75 LBS/FT²	37.5 LBS/FT²	75 LBS/FT²	5.8 LBS/FT²	11.6 LBS/FT²	29.25 LBS/FT²
Ultimate Load (LBS/FT²)	646 LBS	646 LBS	646 LBS	210 LBS	210 LBS	429 LBS

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

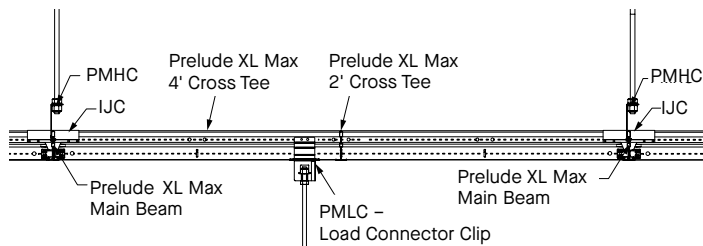
Prelude® XL Max® Load Connector – Mid Span Point Loads

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

Item No.	Center Point load information (LBS) Hanger Spacing					
	2 FT	3 FT	4 FT	5 FT	6 FT	7 FT
730145	262.5	143.0	105.4	67.3	58.2	42.3
XL7345			93			
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

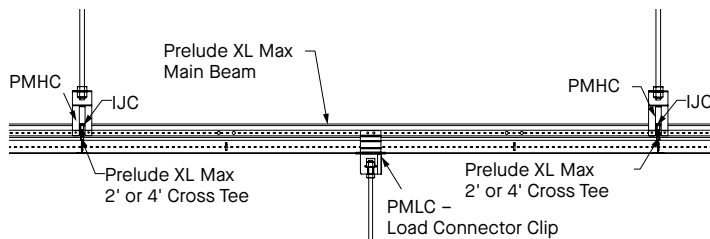


Max mid span load = 93 LBS

Max point load within 3" of threaded rod = 300 LBS

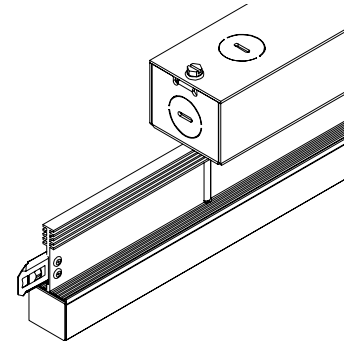
All numbers above are for use with a 2' x 2' ceiling panel installation.

Main Beam 4' Span



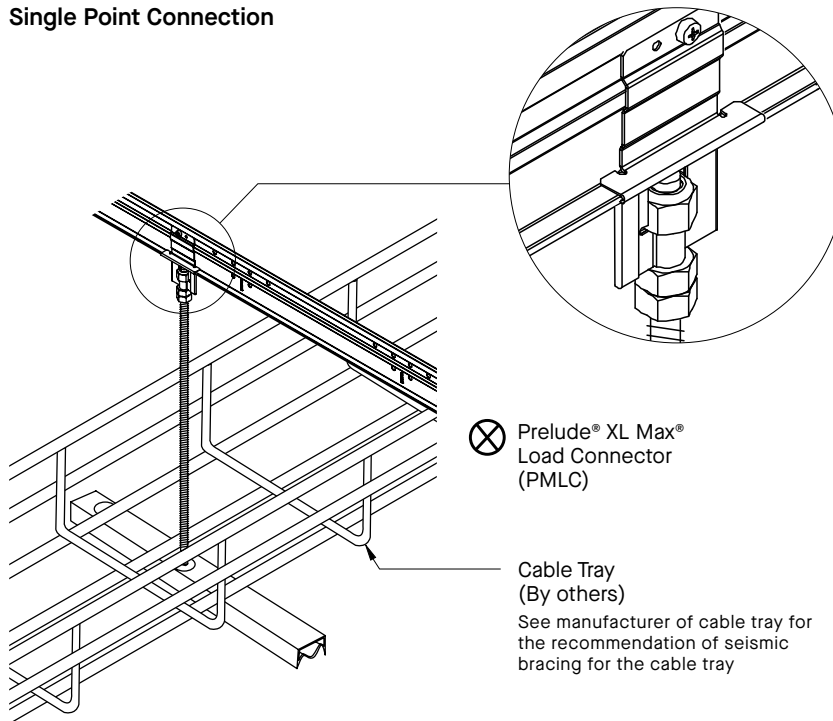
Lighting Integration

Lighting solutions are available through partner companies.

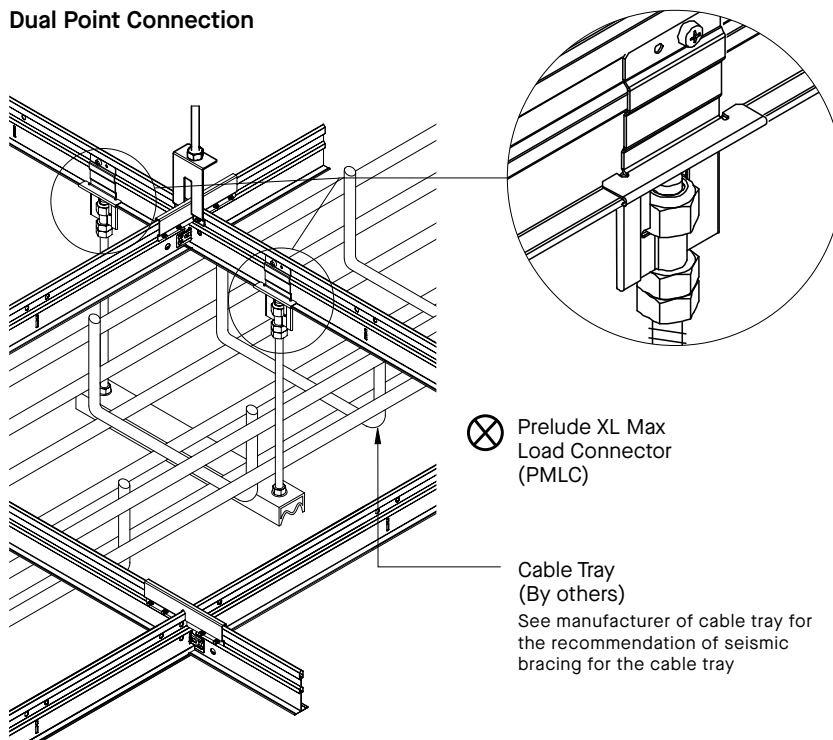


TeraLyte™ 1" for Prelude XL Max System

Single Point Connection



Dual Point Connection



Experience, Above All™

The Next Step

877 276-7876

Customer Service Representatives

7:45 a.m. to 5:00 p.m. EST

Monday through Friday

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

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