

Lighting and Stage Truss Structures Information

TRUSS

Lighting or stage truss allows lighting designers the freedom to hang LED or Automated fixtures, often called “movers” where ever they choose. **Lighting Truss can be found in Theater, concert, performance arts, or tradeshow, arenas and stadiums.** Anywhere staging equipment is deployed you are likely to find aluminum lighting truss.

“Sticks” or sections of the truss can be connected together to create a structure allowing lighting fixtures, video, audio or other staging equipment to be hung with ease. Lighting Truss comes in several different lengths and when connected together, create longer spans or different shapes.

This article contains information and video discussing the many areas lighting truss:

Types of Lighting Truss

- Xlite Truss
- Triangle
- Box
- Diamond Truss
- Space Saving
- Base Plates
- Circle Truss / Oval
- Corner Blocks
- Ladder Truss
- Custom Truss
- Truss Accessories and Rigging

Lighting and Stage Truss Structures Information

What is Lighting Truss Made of?

The primary materials most commonly used for stage lighting trusses are **Aluminum** and **Steel**.

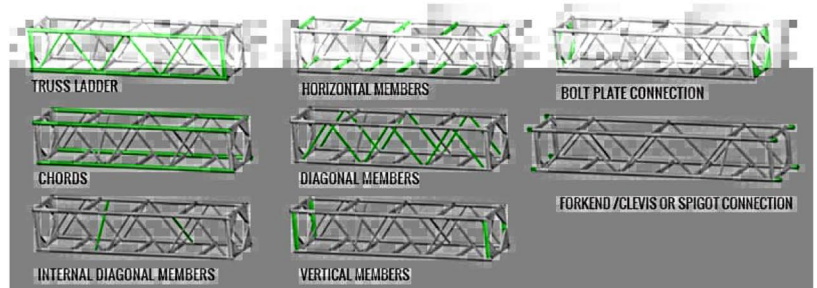
Aluminum, because of its durability, light weight and ease of transport, is the optimum choice for use in [concert or stage production](#). Its weight allows for a quick and easy setup and teardown.



For installations that are permanent such or where high load ratings are required steel truss is the easy choice. No matter what the project, always know the load ratings of your truss and deal with professionals.

Components that make up Lighting Truss.

- The Chords
- The Truss Ladder
- Horizontal Members
- Chords
- Diagonal Members
- Internal Diagonal Members
- Vertical Members
- Bolt Plate Connection
- Forkend, Clevis or Spigot Connection



Lighting and Stage Truss Structures Information

Common Sizes

Lighting truss comes in sectional lengths that may be connected together to create longer spans or different shapes. These truss structures are used to support lighting, audio and video equipment. **The most common truss lengths are 1 foot, 5, 8 and 10 feet.**

Deployment Terms

When Lighting truss is supported overhead it is referred to as being “**flown**”. If the truss structure is standing on the ground or is part of a larger design that is free standing it is most often called “**ground supported**” or ground support.



Formats

The most commonly used format for lighting truss are [Box truss](#) and [Triangle truss](#). A valuable format that XSF has designed is [Space Saving truss](#). Space Saver Truss can transport 100's of feet more of truss in truck trailers because of its unique design.

Lighting Truss Applications

The most commonly thought of applications for lighting truss are concert, stage, theatrical, architectural, trade show and houses of worship. If you are to dig a little deeper you see that lighting truss is found anywhere lighting fixtures are deployed.

[Concerts](#)

[Stadiums](#)

[Arenas](#)

[Houses of Worship](#)

[DJ Booths](#)

[Exhibits](#)

[Theaters](#)

[Touring Productions](#)

[Theme Parks](#)

[Department Stores](#)

Lighting and Stage Truss Structures Information

TRUSS

Race Finish Lines
 Tradeshows
 Restaurants
 Movie Sets
 Bars
 Towers
 TV Studios
 and many more..

Fabrication

Lighting or stage truss is typically fabricated from 2 inch round aluminum tubes referred to as chords. Truss sections generally consist of 2, 3 or 4 chords. Two chord light truss is often referred to as Ladder Truss, three chord truss are often referred to as Triangle Truss and four chords would be a box truss.

The diagonal members or webbing in the truss is generally a smaller diameter round tube. There are a variety of connections available on the market that provide an array of different strengths and load ratings.

Truss Safety

All lighting truss to be used overhead should be engineered with published load ratings and allowable load tables.

Below is an example of a load table for the XSF 12" x 12" Plated Utility Truss

Span	Uniformly Distributed Load	Center Point Load	Third Point Loads	Quarter Point Loads	Fifth Point Loads
(ft)	(plf)	(lbs)	(lbs)	(lbs)	(lbs)
10	553	2766	2075	1383	988
20	134	1342	1007	671	479
30	56	850	637	425	303
40	29	582	434	291	211

Lighting and Stage Truss Structures Information

