Uplift Hardware with Attachment Criteria

Purpose of this Bulletin

TrusSteel truss uplift connectors allow TrusSteel trusses to resist specific uplift reactions caused by wind or other loads. All of these connectors attach the truss to the supporting material. Refer to the attached TrusSteel Standard Details for specific fastening requirements.

Available Uplift Hardware

Product Code	***Connect Truss to…***	***Connection Method***	***Std. Detail Reference***
TS6WTC3/TS1WTC3	Structural Steel	screws & weld	TS027
TS6WTC5/TS1WTC5	Structural Steel	screws & weld	TS027A
TS6WTC3/TS1WTC3	CFS	screws & weld	TS027B
TS6WTC5/TS1WTC5	CFS	screws & weld	TS027C
TSUC3	CFS	screws	TS028
TSUC3	Concrete	screws & conc. anchors	TS030
TSUC3	Wood	screws	TS032
TSUC3	Structural Steel	screws & pins	TS039
TSUC3	Structural Steel	screws	TS047
TSUC5	CFS	screws	TS029
TSUC5	Concrete	screws & conc. anchors	TS031
TSUC5	Wood	screws	TS033
TSUC5	Structural Steel	screws & pins	TS040
TSUC5	Structural Steel	screws	TS048
META	Concrete	screws & embedment	TS034 &TS035
TSUC7	Concrete	screws & conc. anchors	TS043
HGT-2	Concrete	screws & epoxy embedment	TS050, TS051, TS052, & TS053
HGT-3	Concrete	screws & epoxy embedment	TS055
HGT-4	Concrete	screws & epoxy embedment	TS054
MTS20/MTS30	Concrete	screws & conc. anchors	TS058
Angle Clip	Concrete	screws & conc. Anchors	TS031A

Using the Total Uplift Capacity Load Tables

Follow these steps when designing connections to resist uplift (UP) loads (resulting from wind or from gravity loads) using TrusSteel hardware:

1. Obtain the uplift load values (in LBS) from *SteelVIEW*®*.
2. Go to the appropriate chart (depending on supporting material) on the Standard Detail.
3. Thoroughly read the notes on the chart, Bottom chord gauge of truss is critical.
4. Select the attachment method that will resist the required uplift.
5. Verify that the top plate will successfully resist all loads (Up, down & lateral).

* Values for reactions can be found in several ways. The reactions are displayed on the steeldraw and/or the calc sheet. Reactions can also be found in TrusCAD after a truss has been analyzed by using the “Reactions” tab or by moving the mouse over the bearing under consideration. For this last option to work the “Show Truscad Data Tips and Tools” option must be checked under the “Configuration” tab in “User Preferences”. Compare the largest negative values to the uplift capacity of the connection. Be sure you identify and consider all reactions (Up, down and lateral).

Hardware Installation

In order to make a successful connection using TrusSteel uplift hardware you must make the connection exactly as specified on the Standard Drawings. When installing self-drilling tapping screws into any material, care must be taken to avoid overdriving and stripping the screws. Stripping of screws significantly lowers their uplift resistance and so the uplift resistance of the entire connection. When making a connection with concrete fasteners, pins or epoxy anchors you must closely follow the manufacturer's installation instructions. When making a connection with a weld, you should always use a qualified welder and good welding procedures. However, welding directly to TrusSteel material is not recommended.

Referenced Documents

TS027	TS032	TS050
TS027A	TS033	TS051
TS027B	TS034	TS052
TS027C	TS035	TS053
TS028	TS039	TS054
TS029	TS040	TS055
TS030	TS043	TS058
TS031	TS047	
TS031A	TS048	

Revisions

- This Bulletin was revised on 4/07/00 to add Standard Detail TS027A.
- This Bulletin was revised on 1/10/02 to add connections and revised part designations.
- This Bulletin was revised on 1/15/03 to add Standard Details TS027B and TS027C to the Available Uplift Hardware chart. All Standard Details associated with this Bulletin have been updated.
- This Bulletin was revised on 10/27/10.