

Section 05 44 00 Cold-Formed Steel Trusses

Specification Data Sheet

Product Distribution

Alpine TrusSteel 2400 Lake Orange Drive, Suite 150 Orlando, FL 32837 (888) 565-9181 TrusSteel.com



Product Description

TrusSteel CFS (Cold-Formed Steel) truss components are superior materials for use in the fabrication of pitched or flat roof trusses and open-web floor trusses for the commercial and residential markets. The proprietary complex-shaped roll-formed chord material provides the highest strength-to-weight ratio available in the CFS framing market today. The open throat chord material, symmetric webs and proprietary Alpine Double-Shear[™] fastener technology combine to produce a product with outstanding structural integrity and exceptional handling characteristics.

TrusSteel chord members are produced in three distinct section sizes with each chord section available in multiple steel thicknesses. The combination of the multiple chord sections with various size web material provides the architect, engineer and builder with additional flexibility when designing structures requiring trusses in the light-commercial structural roof and floor framing market.

TrusSteel CFS roof and floor truss components provide a cost-effective option for supplying the growing demand for non-combustible framing products. The TrusSteel component systems are an excellent alternative for C-channel, bar joist and fire retardant lumber systems.

Technical Data

All steel conforms to ASTM A653, A924 and A500 standards. TrusSteel chord sections are manufactured in 22, 20, 18, 16, 14 and 12 gauge thicknesses. The web materials are manufactured in 20, 18 and 16 gauge thicknesses. All materials are available in both G60 or G90 equivalent galvanization. The following table provides the minimum base metal thickness requirements for chord and web material:

TrusSteel Chords		TrusSteel Roll-Formed Webs	TrusSteel Welded Tube Webs
(55 ksi)	(50 ksi)	20g C-Web = 0.0329 in. (33 ksi)	20g = 0.0330 in. (45 ksi)
22g = 0.0284 in. 20g = 0.0329 in. 18g = 0.0428 in. 16g = 0.0538 in.	14g = 0.0677 in. 12g = 0.0966 in.	20g Z-Web = 0.0329 in. (40 ksi) 18g Z-Web = 0.0428 in. (40 ksi)	18g = 0.0470 in. (45 ksi) 16g = 0.0630 in. (45 ksi)

The calculation of the structural properties for TrusSteel truss chords and webs is in compliance with the standards set forth in the ANSI/AISI S100 "North American Specification for the Design of Cold-Formed Steel Structural Members." TrusSteel trusses are designed in compliance with the ANSI/AISI S214 "North American Standard for Cold-Formed Steel Framing - Truss Design."

Fastener Specifications

All web to chord member connections shall employ the appropriate TrusSteel self-drilling fasteners. Due to the proprietary Double-Shear and Anti-Backout[™] thread technologies utilized in the fastener design, there are no allowable substitute fasteners. Alternative fastening methods such as welding are not acceptable. Refer to TrusSteel standard detail sheets TS011 and TS011A for allowable shear loads.

Product Availability

TrusSteel cold-formed steel trusses are available from Authorized TrusSteel component fabricators throughout North America. Project layouts, component designs and project costs are available from the Authorized Fabricators within that network. Contact the TrusSteel Division at (888) 565-9181, or visit TrusSteel.com, for assistance in locating the nearest TrusSteel fabricator.



Technical Services

TrusSteel CFS roof and floor trusses are designed by Authorized TrusSteel component fabricators utilizing Alpine SteelVIEW truss design software. Individual truss component designs and any special roof component design requested by the TrusSteel component fabricator are provided by the professional engineering staff of Alpine TrusSteel. The overall building design remains the responsibility of the project Engineer/Architect of Record. Refer to ANSI/AISI S214 "North American Standard for Cold-Formed Steel Framing - Truss Design" for design responsibilities associated with the truss design engineer and building designer.

Installation

It is the responsibility of the General Contractor and/or Truss Framing Sub-Contractor to ensure that fabricated trusses shall be handled, stored and installed in such a manner that they are not subjected to damage. Proper handling, safety precautions and other procedures consistent with good installation practices must be observed by all sub-contractors and their employees. Installation bracing shall hold trusses straight and plumb and in safe condition until decking and permanent truss bracing has been fastened forming a structurally sound framing system. All sub-contractors shall employ proper construction procedures to provide adequate distribution of temporary construction loads so that the carrying capacity of any single truss, or group of trusses, is not exceeded. All temporary and permanent bracing shall be installed and all trusses permanently fastened before application of any loads. Permanent structural bracing shall be installed according to the design of the Architect or Engineer of Record (Building Designer). Refer to CFSBCSI documents for industry standards regarding Handling, Installing, Restraining and Bracing of Cold-Formed Steel Trusses (www.cfsc.sbcindustry.com).

TrusSteel chord and web members SHALL NOT be removed, cut or altered without the prior approval of the truss design engineer. Damaged chords, webs or complete trusses shall be repaired or replaced as directed and approved by a registered Design Professional. The repair or replacement detail(s) shall be approved by a registered Design Professional prior to installation or application of the repair or replacement.

TrusSteel CFS trusses shall be installed in a properly designed, ventilated and enclosed roof or floor cavity. Properly installed trusses require no ongoing maintenance.

Code Approval

National Evaluation Report No. NER-529.

Association Memberships

Alpine personnel are active members in the Cold-Formed Steel Engineers Institute, American Iron and Steel Institute, Truss Plate Institute, American Society for Testing & Materials, Steel Framing Industry Association, American Society of Civil Engineers, Steel Framing Alliance and Cold-Formed Steel Council of SBCA, as well as other industry groups.

UL Listings

TrusSteel products qualify for numerous generic and proprietary hourly ratings, both restrained and unrestrained, from the following UL Design No.'s: P515, P525, P526, P540, L551, L565 and G542. Visit ul.com for additional information.

Warranty

ITW Building Components Group Inc., warrants that, after reasonable notice in writing delivered to Chief Engineer, Alpine TrusSteel, 2400 Lake Orange Drive, Suite 150, Orlando, FL 32837, and after reasonable opportunity to inspect, it will repair or replace without charge, any product manufactured by Alpine which, upon inspection, is found by Alpine to have been defective at the time of delivery by Alpine. This warranty does not apply in the event the products have been altered, damaged, fabricated improperly, installed improperly, or misused in any manner after delivery by Alpine. This remedy shall constitute Alpine's sole obligation and purchaser's sole remedy under this warranty. In no event will Alpine be responsible for incidental, consequential, or special loss or damage regardless of cause. Products sold, but not manufactured by Alpine shall be subject to the warranties of the respective manufacturers.

The warranty described in this paragraph shall be in lieu of any other warranty, express or implied, included but not limited to, any implied warranty of merchantability or fitness for a particular purpose, all such other warranties being hereby expressly excluded.