

## Long Span CFS Trusses

### Purpose of this Bulletin

Long span cold-formed steel (CFS) trusses create special challenges for the fabricator, contractor and erection crew. The purpose of this Bulletin is to define what is considered a long span truss and to inform the TrusSteel fabricator as to the special requirements for manufacturing, handling, installing, restraining and bracing of a long span truss.

### Definition

A long span truss is any truss with a span equal to or greater than 60 ft.

### Application

The truss manufacturing recommendations listed below are strongly encouraged for any truss over 80 ft. For trusses over 90 ft., the TrusSteel fabricator shall fill out the attached form (pg. 3) and return it to their TrusSteel engineer before approved truss drawings can be issued. TrusSteel recommends that the truss manufacturer keep a completed copy of this form for their records.

### Important Criteria for Long Span Trusses

#### **INSTALLATION RESTRAINT/BRACING:**

- Refer to CFSBCSI, "Cold-Formed Steel Building Components Safety Information," for a guide to good practice for handling, installing, restraining and bracing of Cold-Formed Steel trusses. This guide is published by CFSC (Cold Formed Steel Council), 6300 Enterprise Lane, Madison, WI 53719.
- The erection contractor should have experience in installing long span CFS trusses.
- Per IBC2012 Section 1705.2.2.2, for trusses spanning 60 ft. or greater, an inspection is required to verify that the temporary restraint/bracing is installed in accordance with the *approved* truss submittal package.
- Per IBC2012 Section 2211.3.3, for trusses spanning 60 ft. or greater, the owner shall contract with a Registered Design Professional for the design of the temporary installation restraint/bracing.

#### **PERMANENT RESTRAINT/BRACING:**

- Refer to Cold Formed Steel Engineers Institute (CFSEI) Technical Note 551e for permanent bracing design guidelines.
- The Building Designer is responsible for specifying the method of the permanent individual truss member restraint/bracing per AISI S214-07/S2-08.
- Per IBC2012 Section 1705.2.2.2, for trusses spanning 60 ft. or greater, an inspection is required to verify that the permanent restraint/bracing is installed in accordance with the *approved* truss submittal package.
- Per IBC2012 Section 2211.3.3, for trusses spanning 60 ft. or greater, the owner shall contract with a Registered Design Professional for the design of the permanent individual truss member restraint/bracing.

### Truss Manufacturing Criteria and Recommendations

#### **Truss up to an 80 ft. span:**

- Trusses to be manufactured in accordance with the approved truss design drawings.

#### **Truss over 80 ft. span:**

- Trusses to be manufactured in accordance with the approved truss design drawings with the following minimum standards, as applicable.
- A minimum of 2 double shear fasteners or 4 single shear screws (2 to each face) **must** be used at every joint for each single ply truss.
- 33TSC4.00 or higher gauge material is recommended for top and bottom chords.
- Take care during the entire handling and erection process that trusses are not subjected to out-of-plane bending.

### Included Documents

Attached form

## Referenced Documents

- ANSI/AISI/COFS/S214-07/S2-08 – North American Standard for Cold-Formed Steel framing – Truss Design, 2007 edition including the 2008 supplement.
- CFSBCSI - Cold-Formed Steel Building Components Safety Information, Cold-Formed Steel Council (CFSC), 2008 edition.
- IBC2012 – International Building Code, International Code Council, 2012.
- Technical Note 551e – Design Guide for Permanent Bracing of Cold-Formed Steel Trusses, Cold-Formed Steel Engineer's Institute (CFSEI), February 1998.

## Revisions

- This bulletin was revised on 02/13/13
- This bulletin was revised on 02/05/13
- This bulletin was revised on 7/21/10

## Long Span Truss Reporting Form - Trusses over 90 ft. Length

Long span cold-formed steel (CFS) trusses create special challenges for the fabricator, contractor and erection crew. Please fill out this form (use additional pages as required to fully describe the project and material use) and fax it to your TrusSteel engineer prior to bidding and fabrication of trusses in this span range. Your TrusSteel engineer can help you identify and deal with any special design and handling criteria.

### Project Data

**Fabricator:** \_\_\_\_\_

**Project:** \_\_\_\_\_

**Project Location:** \_\_\_\_\_

**Erection Contractor:** \_\_\_\_\_

Type of building: \_\_\_\_\_

If a church, is there a steeple? Y / N

Type & height of walls: \_\_\_\_\_

Number of open sides in building? \_\_\_\_\_

Name & telephone number of the job Architect or Engineer: \_\_\_\_\_

Are there any possible interior bearings? Y / N

Can a temporary support be added in the center of the span and be kept there until all permanent bracing is in place? Y / N

Are there any special loads (mechanical units, moveable partitions, dormers, etc.)? Y / N

If so, describe location & size/weight:

Specify any special drainage provisions required for flat or sloping-flat trusses?

Does the erection contractor have the proper lift equipment available? Y / N  
(Cranes and spreader bar of proper length)

### Notes:

- The Building Designer is responsible for specifying the method of the permanent individual truss member restraint/bracing.
- A Registered Design Professional is responsible for the design of the temporary installation restraint/bracing and the permanent restraint/bracing in accordance with the contracts or construction documents.
- Review the Important Criteria and Recommendations section of this bulletin including the CFBCSI and CFSEI documents listed there.