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TPI Alternative Joint Inspection Procedure Using a Specified Position Tolerance

TPI Board Approved 11/3/2011

Introduction

The following *Alternative Joint Inspection Procedure using a Specified Position Tolerance* has been developed by members of the industry and has been reviewed by the TPI Technical Advisory Committee (TAC) members and approved by the TPI Board. Although it is currently not part of an ANSI approved standard, it is TPI's opinion that this method adequately satisfies the intent of the inspection procedures specified in Section 3.7 of the *ANSI / TPI 1 2007 National Design Standard for Metal Plate Connected Wood Truss Construction*.

Alternative Joint Inspection Procedure Using a Specified “Position Tolerance”

Approved by the TPI Board 11/3/2011

Introduction

The following joint inspection procedure can be used without the use of full-scale Joint QC Details and can be assumed to meet the joint inspection requirements specified in TPI 1-2007 provided the following Joint Design Requirements and Joint Inspection Criteria are met. This inspection procedure is only applicable to trusses designed and fabricated per TPI 1 – 2002 or 2007.

Joint Design Requirements:

1. When a specific plate placement tolerance is desired, plates shall be sized such that the lateral resistance is adequate in all members when the plates are translated from the design midpoint to a specified distance up, down, left, and right. This specified distance shall be the *Position Tolerance* and may be used as the plate placement tolerance for the joint inspection in lieu of the 1/8” limit as specified in section 3.7.2.1 of TPI 1-2007.
2. The *Position Tolerance* distance shall be no greater than ½”.
3. A joint detail or equivalent (not necessarily full scale) shall be available for all joints and at minimum shall include the following:
 - a. Indication of the *Position Tolerance* distance used for the design of the joint,
 - b. the Joint Stress Index (JSI),
 - c. the fabrication tolerance or Quality Control Factor (C_q) used for the design of the joint,
 - d. and information that specifies the intended location of the midpoint of the plate on the joint and the angular alignment of the plate.

Joint Inspection Criteria:

1. The midpoint of the installed plate shall be no farther from the specified midpoint than the *Position Tolerance* distance used in the design of the joint. This shall be considered equivalent to meeting section 3.7.2.1 of TPI 1-2007.
(If not met, joint must be re-evaluated by the truss designer)
2. At minimum, the plate rotation tolerance per section 3.7.3 of TPI 1-2007 shall be met.
(If not met, joint must be re-evaluated by the truss designer)
3. Characteristics that reduce the plate contact area as defined in section 3.7.4.1 of TPI 1 -2007 shall be limited to the percentage of the plate contact area for each member in the joint defined by the fabrication tolerance or Quality Control Factor (C_q) used in the design of the joint.
(If not met, but criteria 1 and 2 are met, joint may be evaluated using a tooth count method per section 3.7.2.2 of TPI 1-2007, otherwise joint must be re-evaluated by the truss designer.)
4. Plate embedment criteria per section 3.7.5 of TPI 1 – 2007 shall be met.
5. Wood member-to-wood member gap criteria per section 3.7.6 of TPI 1-2007 shall be met.