



Evaluation Listing CCMC 08384-L ES-20

Evaluation Issued: 1989-03-06
Re-evaluated: 2013-08-26

Preface: Masterformat 06 05 23.07, Metal Truss Connector Plates

Preface Issued: 2013-03-05

Scope

These Evaluation Listings apply to light metal plate connectors used in structural lumber assemblies. The proponent has demonstrated that the product meets the requirements of the following standard:

- CAN/CSA-O86-09 Consolidation, “Engineering Design in Wood.”

The design values for the metal truss connector plates are based on test results obtained in accordance with CAN/CSA-S347-99 (R2009), “Method of Test for Evaluation of Truss Plates Used in Lumber Joints.”

Standards

CAN/CSA-S347 requires the following tests:

1. lateral resistance of teeth;
2. tensile strength of plate;
3. shear strength of plate; and
4. ultimate tensile strength of plate material.

Clause 10.8 of CAN/CSA-O86-09 does not apply to truss plates in corrosive conditions, or the use of galvanized truss plates in lumber that has been treated with a fire retardant and that is used in wet service conditions or in locations prone to condensation.

Truss plates must be manufactured from galvanized sheet steel, which should conform to G90 coating class, meeting Clause 14.4.1.2 of CAN/CSA-O86-09.

National Building Code of Canada 2010 (NBC)

NBC References

The CAN/CSA-O86-09 standard is referenced in the NBC 2010, Division B, Table 4.1.8.9. and Sentence 4.3.1.1.(1).

The CAN/CSA-S347-99 (R2009) standard is not directly referenced in the NBC 2010, however it is referenced in Clauses 10.8.1.9, 10.8.3.2.1, and 10.8.4.2. of CAN/CSA-O86-09.

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1. Evaluation

The product conforms to CAN/CSA-S347-99 (R2009) and CAN/CSA-O86-09. The test results in conformance with CAN/CSA-S347-99 are as follows:

Ultimate tensile strength of plate

Ultimate Tensile Strength (MPa)	Plate Thickness (mm)	Mean Ultimate Strength (MPa)	Correction Factor
360	0.91	380	0.947

Lateral resistance of teeth

Direction of Load	Limit States Design	
	Ultimate Lateral Resistance, n_u	Lateral Slip Resistance, n_s
Units	MPa/Plate	MPa/Plate
Type of press	Hydraulic	Hydraulic
Species of wood	S-P-F	S-P-F
Load parallel to grain, plate length parallel to load	1.56	2.05
Load parallel to grain, plate length perpendicular to load	1.46	2.17
Load perpendicular to grain, plate length parallel to load	1.00	1.07
Load perpendicular to grain, plate length perpendicular to load	1.22	1.98

Tensile strength of plate

Direction of Load	Limit States Design Tensile Resistance, t_p
Units	N/mm/Plate
Plate length parallel to load	224
Plate length perpendicular to load	152

Shear strength of plate

Angle (Degree)	Limit States Design	Failure Mode	
	Shear Resistance, v_p (N/mm/Plate)	Shear Failure in T or C	Slots in Plate Axis
0	83	N/A	⊥
30	123	T	∥
30	65	C	⊥
60	119	T	∥
60	53	C	⊥
90	97	N/A	∥
120	83	T	⊥
120	75	C	∥
150	98	T	⊥
150	66	C	∥

Refer:

⊥ Slots perpendicular to plate, long dimension

∥ Slots parallel to plate, long dimension

C Compression

T Tension

2. Description

The product is a galvanized, Grade SQ255 steel truss connector plate that is 0.91 mm thick and stamped with 0.0099 teeth per mm². The teeth are 9.5 mm long and are spaced 15.9 mm o.c. along the width and 25.4 mm o.c. along the length of the plate. The slots in adjacent rows are staggered.

3. Standard and Regulatory Information

See the [Preface](#) and the standard for explanation.

Listing Holder

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Plant(s)

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