



Evaluation Listing CCMC 12802-L Alpine Wave Plate

Evaluation Issued:	1997-03-19
Re-evaluated:	2012-05-03
Revised:	2013-12-09

Preface: Masterformat 06 05 23.07, Metal Truss Connector Plates

Preface Issued:	2007-08-21
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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-O86-01, “Engineering Design in Wood,” (including Supplement CAN/CSA-O86S1-05).

The design values for the metal truss connector plates are based on test results obtained in accordance with CAN/CSA-S347-99 (R2004), “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 does not apply to situations where corrosive conditions exist, or 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 shall be manufactured from galvanized sheet steel and should be of G90 coating class meeting Clause 10.8.1.3 of CAN/CSA-O86.

National Building Code of Canada (NBC)

NBC References

The CAN/CSA-O86-01 standard is referenced in the NBC 2005, Division B, Table 4.1.8.9. and Sentence 4.3.1.1.(1).

The CAN/CSA-S347-99 (R2004) standard is not directly referenced in the NBC 2005, however it is referenced in CAN/CSA-O86-01 in Clauses 10.8.1.9, 10.8.3.2.1, and 10.8.4.2.

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1. Evaluation

Conforms to CSA S347-99 (R2004), and CAN/CSA-O86-01 Consolidation (R2006).

2. Description

A steel truss connector plate that is galvanized with a coating with a designation of Z275 (G-90), Grade SQ275 as per ASTM A 653/A 653M-09. The steel truss connector plate has a thickness of 0.91 mm and is stamped with 0.0124 teeth/mm².

Ultimate tensile strength of plate

SQ275 Ultimate Tensile Strength (MPa)	Plate Thickness (mm)	Mean Ultimate Tensile Strength (MPa)	Correction Factor
380	0.91	436	0.872

Lateral resistance of teeth

Limit States Design		
Direction of Load	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	2.27	2.15
Load parallel to grain, plate length perpendicular to load	1.47	1.73
Load perpendicular to grain, plate length parallel to load	1.38	1.18
Load perpendicular to grain, plate length perpendicular to load	1.36	1.55

Tensile strength of plate

Limit States Design	
Direction of Load	Tensile Resistance, t_p
Units	N/mm/Plate
Plate length parallel to load	201
Plate length perpendicular to load	166

Shear strength of plate

Angle (degrees)	Limit States Design	Failure Mode	
	Shear Resistance, v_p (N/mm/Plate)	Shear Failure in T or C	Slots in Plate Axis
0	108	Shear	⊥
30	70	C	⊥
30	129	T	//
60	65	C	⊥
60	163	T	//
90	117	Shear	//
120	94	T	⊥
120	59	C	//
150	149	T	⊥
150	68	C	//
165	137	T	⊥
165	74	C	//

Refer:

⊥ Slots perpendicular to plate, long dimension

// Slots parallel to plate, long dimension

C Compression

T Tension

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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