



Evaluation Listing CCMC 13326-L AS-20

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| Evaluation Issued: | 2008-08-05 |
| Re-evaluated: | 2013-03-05 |
| Revised: | 2013-11-14 |
| Re-evaluation due: | 2014-08-05 |

Preface: Masterformat 06 05 23.07, Metal Truss Connector Plates

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| Preface Issued: | 2013-03-05 |
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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-O86-09 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 CSA S347-99, “Method of Test for Evaluation of Truss Plates Used in Lumber Joints” and to CAN/CSA-O86-01 Consolidation (R2006). CSA S347-99 test results are as follows:

Ultimate Tensile Strength of Plate

| Grade of Steel | Specified Tensile Strength Steel | Plate Thickness | Average Tested Tensile Strength | Correction Factor |
|----------------|----------------------------------|-----------------|---------------------------------|-------------------|
| SQ275 | 379.2 | 0.92 mm | 410.7 MPa | 0.923 |

Lateral Resistance of Teeth

| Direction of Load | Units | Type of Press | Species of Wood | Limit States Design | |
|---|-----------|---------------|-----------------|---------------------------------|-----------------------------|
| | | | | Ultimate Lateral Resistance, nu | Lateral Slip Resistance, ns |
| Load parallel to grain, plate length parallel to load | MPa/Plate | Hydraulic | S-P-F | 2.93 | 2.72 |
| Load parallel to grain, plate length perpendicular to load | | | | 2.22 | 2.45 |
| Load perpendicular to grain, plate length parallel to load | | | | 1.51 | 1.79 |
| Load perpendicular to grain, plate length perpendicular to load | | | | 1.73 | 2.08 |

Tensile Strength of Plate

| Direction of Load | Limit States Design Tensile Resistance, tp (N/mm/Plate) |
|------------------------------------|---|
| Plate length parallel to load | 219 |
| Plate length perpendicular to load | 179 |

Shear Strength of Plate

| Angle (Degree) | Limit States Design Shear Resistance, v_p (N/mm/Plate) | Failure Mode | |
|----------------|---|---------------------------------------|---------------------|
| | | Shear Failure in <u>T</u> or <u>C</u> | Slots in Plate Axis |
| 0 | 115 | <u>S</u> | <u>⊥</u> |
| 30 | 101 | <u>C</u> | <u>⊥</u> |
| 30 | 130 | <u>T</u> | <u> </u> |
| 60 | 146 | <u>C</u> | <u>⊥</u> |
| 60 | 165 | <u>T</u> | <u> </u> |
| 90 | 109 | <u>S</u> | <u> </u> |
| 120 | 109 | <u>T</u> | <u>⊥</u> |
| 120 | 99 | <u>C</u> | <u> </u> |
| 150 | 137 | <u>T</u> | <u>⊥</u> |
| 150 | 113 | <u>C</u> | <u> </u> |

Refer:

⊥: Slots perpendicular to plate length

C: Compression

T: Tension

S: Shear

||: Slots parallel to plate length

2. Description

The product is a galvanized G90, Grade 275, steel truss connector plate, 0.92 mm thick, that is stamped with 0.0124 teeth per square millimetre. The teeth are 9.2 mm long. They are spaced 6.3 mm on center (o.c.) along the width and 25.4 mm o.c. along the length of the plate. The slots in adjacent rows are staggered 3.2 mm.

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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