

CCMC 13124-L

CCMC Standard compliance evaluation

CCMC number:	13124-L
Status:	Active
Issue date:	2003-06-24
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Evaluation holder:	<p>Alpine Systems Corporation 120 Travail Road Markham ON L3S 3J1 Canada Telephone: 905-417-2766</p>
Product name:	Alpine HS18 Truss Plate
Criteria:	<p>CSA-O86-14, "Engineering Design in Wood" CSA-S347-14, "Method of Test for Evaluation of Truss Plates Used in Lumber Joints"</p>

In most jurisdictions this document is sufficient evidence for approval by Canadian authorities.

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Product information

Product name

Alpine HS18 Truss Plate

Product description

The product is manufactured from an 18-gauge steel sheet that meets the minimum specified ultimate tensile strength (480 MPa) and minimum yield strength (410 MPa) requirements of ASTM A 653/A 653M, "Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process," HSLAS-F Grade 410 (formerly known as HSLA B/II 410) steel, and galvanized with Z275 (G90) zinc coating. The product has a coated nominal thickness of 1.184 mm and is stamped with 0.0108 teeth/mm. The teeth are 8.3 mm in length.

Manufacturing plant

This evaluation is valid only for products produced at the following plant:

Product name	Manufacturing plant
	Litchfield, IL, US
Alpine HS18 Truss Plate	☉

☉ Indicates that the product from this manufacturing facility has been evaluated by the CCMC

Technical information

This evaluation is based on demonstrated conformance with the following criteria:

Criteria number	Criteria name
CSA-O86-14	Engineering Design in Wood
CSA-S347-14	Method of Test for Evaluation of Truss Plates Used in Lumber Joints

Table 1. Results of testing the ultimate tensile strength of the plate

Grade of steel	Measured plate thickness (mm)	Mean ultimate tensile strength (MPa) for unstamped metal	Correction factor
HSLAS-F (formerly known as HSLA Type B or Type II) Grade 410	1.184	512 for tension tests perpendicular to plate length	0.877
		542 for tension tests parallel to plate length on 83 mm wide plates	0.848
		541 for tension tests parallel to plate length on 67 mm wide plates and for shear tests	0.909

Table 2. Results of testing the lateral resistance of teeth (hydraulic press) on the product

Direction of load	Lateral resistance (MPa/plate) Specific gravity (SG) = 0.42	
	Ultimate lateral resistance, n_u	Lateral slip resistance, n_s
Load parallel to grain, plate length parallel to load	2.03	1.94
Load parallel to grain, plate length perpendicular to load	1.55	1.75
Load perpendicular to grain, plate length parallel to load	1.20	0.83
Load perpendicular to grain, plate length perpendicular to load	1.44	1.23

Table 3. Results of testing the lateral resistance of teeth (hydraulic press) on the product

Direction of load	Lateral resistance (MPa/plate) Specific gravity (SG) = 0.47	
	Ultimate lateral resistance, n_u	Lateral slip resistance, n_s
Load parallel to grain, plate length parallel to load	2.28	2.24
Load parallel to grain, plate length perpendicular to load	1.74	1.95
Load perpendicular to grain, plate length parallel to load	1.20	0.83
Load perpendicular to grain, plate length perpendicular to load	1.44	1.23

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Table 4. Roller press modification factors

Roller diameter	610 mm (24 in.)	
Specific gravity, SG	0.42	0.47
Ultimate strength modification factor, K_{pu}	0.84	0.88
Slip modification factor, K_{ps}	0.77	0.87

Table 5. Results of testing the tensile strength of plate on the product

Direction of load	Limit states design tensile resistance, t_p (N/mm/plate)
Plate length parallel to load	397
Plate length perpendicular to load	175

Table 6. Results of testing the shear strength of the plate on the product ⁽¹⁾

Angle (degrees)	Limit states design for shear resistance, v_p (N/mm/plate)	Slots in plate axis
0,180	137	⊥
15 T	118	//
15 C	138	⊥
30 T	210	//
30 C	125	⊥
60 T	247	//
60 C	90	⊥
90	148	//
120 T	109	⊥
120 C	144	//
150 T	123	⊥
150 C	126	//
165 T	139	⊥
165 C	89	//

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1 Legend for symbols

⊥ : Slots perpendicular to plate, long dimension

// : Slots parallel to the plate, long dimension

C: Compression

T: Tension

Administrative information

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Language

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