



BERRIDGE BULLETIN

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March 15, 1995

To: Berridge Licensees, Sales Representatives and Sales & Management Personnel

From: David Doyle, Marketing

Subj: **Factory Mutual Research Approval Testing of Berridge
Zee-Lock Standing Seam Metal Roof System**

Berridge is extremely pleased to announce that it has obtained Factory Mutual Class 1-60, 1-90 and 1-120 ratings for Zee-Lock Standing Seam Metal Roof Systems. As of this date, no other metal roofing manufacturer has achieved the FM 1-120 Wind Uplift test rating, so this achievement places Berridge and its Licensees in a position to enforce a closed specification which cannot be met by competing products at this time.

Description of Test Assemblies:

Class 1-60 Berridge Zee-Lock Panel - 24 Ga. Grade "C" material - system consisting of panels secured with Berridge 24-gauge Zee-Rib continuous clips fastened to minimum 16 gauge purlins, spaced 5 feet (1.5m) o.c. with 2 - #12 x 14-14 hex head fasteners at each purlin. Adjacent panels single-lock seamed to 45° from horizontal (see fig. 1) at side laps with Berridge electric seaming tool.

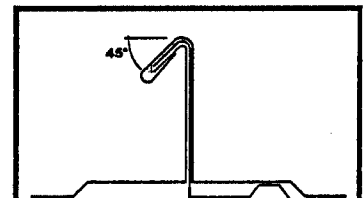


Fig. 1: FM Class I-60
Zee-Lock 45°
Single Lock

Class 1-120 Berridge Zee-Lock Double-Lock Panel System - 24 Ga. Grade "C" material - consisting of panels secured with Berridge 24-gauge Zee-Rib continuous clips fastened to minimum 16 gauge purlins, spaced 5 feet (1.5m) o.c. with 2 Construction Fasteners #12 - 1 HWH IMPAX fasteners (S/D Bond Seal) at each purlin. Panels were double-lock seamed to approximately 90° from horizontal (see fig. 2) with a Berridge electric seaming tool.

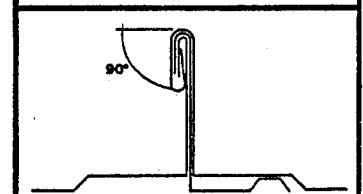



Fig. 2: FM Class I-90 & I-120
Zee-Lock 90°
Double Lock

Note on Factory Mutual Research Performance Requirements for Metal Roofs:

The FMRC approval requirements for metal roofs cover six areas: Combustibility, Wind Uplift Resistance, Resistance to Foot Traffic, Corrosion Resistance, Impact Resistance and Susceptibility to Heat Damage. Of these six areas, Wind Uplift Resistance is generally agreed to be the most relevant measure of overall roof performance when a roof assembly is compared to other assemblies of like materials.

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Factory Mutual Research

March 10, 1995

3-10-95

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Mr. Robert Marks, Jr.
Staff Engineer
Berridge Manufacturing Co.
1720 Maury
Houston, Texas 77026

Subject: Approval Testing of Berridge Zee-Lock
Standing Seam Metal Roof System
FMRC J.I. 2Y5A1.AM

Dear Mr. Marks:

This is to inform you of the results to-date for the above subject program. The test conducted, samples constructed and results obtained follows:

12 x 24 ft. Uplift Tests

Sample No. 1:

Berridge Zee-Lock Panel System consisting of Berridge 16 in. (406 mm) wide panels of 24 gauge galvalume with a Kynar 500 coating. The panels were secured to Berridge 24 gauge continuous clips fastened to minimum 16 gauge purlins, spaced 5 ft. (1.5 m) o.c., with 2 - #12 x 14-14 hex head fasteners at each purlin. Adjacent panels were seamed together along side laps with a Berridge electric seaming tool resulting in the Zee-Lock Seam Assembly.

Results: Met 60 psf uplift. Failure occurred during incremental increase to 75 psf. Mode of failure was seam disengagement.

Sample No. 2:

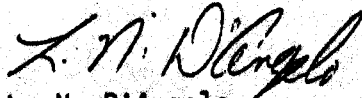
Berridge Zee-Lock Double-Lock Panel System consisting of Berridge 16 in. (406 mm) wide panels of 24 gauge galvalume with a Kynar 500 coating. The panels were secured to Berridge 24 gauge continuous clips fastened to minimum 16 gauge purlins, spaced 5 ft. (1.5 m) o.c., with 2 Construction Fasteners #12 -1 HWH IMPAX fasteners (S/D Bond Seal) at each purlin. Initially, adjacent panels were seamed together along side laps with a Berridge electric seaming tool resulting in the Zee-Lock

Seam Assembly. The seamed side laps were seamed again to approximately 90° from horizontal with a Berridge electric seaming tool resulting in the Zee-Lock Double-Lock Seam Assembly.

Results: Met 120 psf uplift. Failure occurred during incremental increase to 135 psf. Mode of failure was purlin distortion.

If you have any questions, please advise.

Very truly yours,



L. N. D'Angelo
Senior Engineer



G. A. Smith
Manager - Materials Section