



Center For Applied
Engineering, Inc.
SM Materials Testing Services

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EXHIBIT

R-153

January 3, 1997

Client: Phoenix Roofing Systems,
110 E. Wilshire Avenue
Fullerton, CA 92832

MTS Job No: 25-7774-1

Project: Racking Strength of Metal Roof Tile Panel

Test Method: ASTM E72, "Standard Test Methods of Conducting Strength Tests of Panels for Building Construction", Section 14, Racking Load - Evaluation of Sheathing Material on a Standard Wood Frame was used as a guide to determine the load-deformation characteristics.

Sample

Description: Two (2), 8' by 8' test specimens were submitted for test. The first specimen was constructed with 2" x 4" S.Y.P. wood framing spaced 24" on center and 1" x 4" wood furring strips attached horizontally 14" on center with 8d nails. The 4' x 4' x 0.022" thick panels were attached to the furring strips at each low point in the tile panel profile with 1 1/2"-#8 bugle head screws. This provided attachment on 8" horizontal centers and 14" vertical centers. For proper interlock fit the panels were overlapped 4 3/8" horizontally and 5" vertically.

The second specimen was constructed with 2" x 4" 20 gage steel framing spaced 24" on center and 1 1/2" 20 gage hat channel attached horizontally 14" on center with 1/2" self tapping sheet metal screws. The 4' x 4' x 0.022" thick panels were attached to the hat channels at each low point in the tile panel profile with 1"-#8 self tapping bugle head screws. This provided attachment on 8" horizontal centers and 14" vertical centers. For proper interlock fit the panels were overlapped 4 3/8" horizontally and 5" vertically.

Test Setup: The test specimens were placed in the racking frame and were held in position by using four (4), 1/2" x 6" carriage bolts placed through the top member and the 4" x 4" x 8' top loading beam. The bottom member was anchored to the frame using C-clamps. The load was applied with a hydraulic ram through a calibrated proving ring.

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