

# SOUTHWEST RESEARCH INSTITUTE

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DEPARTMENT OF FIRE TECHNOLOGY

FLYING BRAND TEST  
ANSI/ASTM E108-78 FIRE TESTS OF ROOF COVERINGS

**CONFIDENTIAL**

Project No.: 01-5849-272e

Sponsor: AmDal Chemical Corporation

P. O. Box 31707  
Dallas, Texas 75231

**AMPDAL CHEMICAL CORPORATION**

Report Date: October 1980  
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## TEST PROCEDURE

A test deck was mounted on the framework and the blower adjusted to produce an air current of 12 mph. The test deck, located 33 inches from the air outlet duct, was subjected to a luminous gas flame approximately the width of the deck at its bottom edge. The gas supply was regulated to develop a temperature of  $1300 \pm 50^\circ\text{F}$ , as determined by a No. 16 B&S gauge (1.63-mm) Chromel-Alumel wire thermocouple located 1 in. (25 mm) above the surface and 1/2 in. (13 mm) toward the source of flame from the lower edge of the test deck.

The flame was applied continuously for 4 minutes. The air current was maintained throughout the test and until all evidence of flame, glow, and smoke had disappeared.

## TEST SPECIMENS

The test decks were 3-1/3 ft (1.0 m) wide by 4-1/4 ft (1.30 m) long. Nominal 1 x 4-in. No. 2 white pine planks, 3-1/3 ft (1.0 m) long, spaced 2 in. (50.8 mm) apart were securely nailed to two nominal 2 x 4-in. No. 2 construction grade wood battens located under and flush with the outer edges of the deck. The wood shingles were nailed to the wood substrate. A 6-1/2-in. (16.51-cm) length of exposed shingle surface was used in constructing the test decks.

## TEST CONDITIONS

The test decks were exposed to 3 cycles (3 weeks) of rain/drying simulating 200 in. of rain. The test decks were stored for three days at  $70 \pm 3^\circ\text{F}$  and  $50 \pm 5$ -percent relative humidity prior to testing. Moisture contents, as determined by a moisture meter, were in the range of 8 to 12 percent. The slope of the test deck was 5 in. per horizontal foot. The wind current was 1040 to 1070 ft/min. The ambient temperature was 80 to  $85^\circ\text{F}$ .

## TEST RESULTS

Specimen No. 1

No flying or falling brands were produced.

Specimen No. 2

No flying or falling brands were produced.



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ACCEPTANCE REQUIREMENTS

In the flying brand test, no flying, flaming brands, nor particles that continue to glow after reaching the floor may be produced.

ACCEPTANCE LEVEL

Class A       
Class C   X  

Class B       
Unacceptable     

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