Exterior Building Materials Testing

Southwest Research Institute® (SwRI®) studies fire dynamics and develops unique engineering and scientific resources to address fire testing of commercial and residential roofing materials in accordance with the ASTM E108 and UL 790 fire test standards. Flame spread, burning brand, intermittent flame and other tests are performed to classify different roofing components according to severity of the fire.

Capabilities

SwRI has the facilities and personnel required to perform the following tests for external roofing components:

- ASTM E108 – Standard Test Methods for Fire Tests of Roof Coverings
- UL 790 – Tests for Fire Resistance of Roof Covering Materials
- UL 2218 (Hail Drop) – Standard for Impact Resistance of Prepared Roof Covering Materials
- AC 07, Section 4.5 (Penetration)
- NFPA 285 – Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components
- ASTM E2307 – Standard Test Method for Determining Fire Resistance of Perimeter Fire Barriers Using Intermediate-Scale, Multi-Story Test Apparatus

Wildland-Urban Interface Building Test Standards

- CA SFM 12-7A-4 Fire Resistive Standards for Decks and Other Horizontal Ancillary Structures
- CA SFM 12-7A-1 Fire Resistive Standards for Exterior Wall Siding and Sheathing
- CA SFM 12-7A-3 Fire Resistive Standard for Eaves

SwRI has worked with the California State Fire Marshal (CA SFM), ASTM E05 and E14 subcommittees, and various commercial clients to promote the understanding of wildland-urban interface fires. These fires, typically characterized by quick spread due to ignition of dried vegetation, have plagued homeowners and insurance agencies for decades. As new standards are developed with fire exposures representative of actual forest fires, the risk of both property and life loss is greatly reduced.

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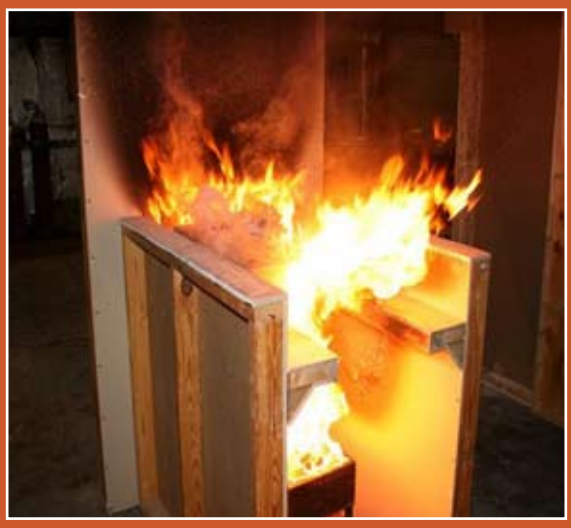
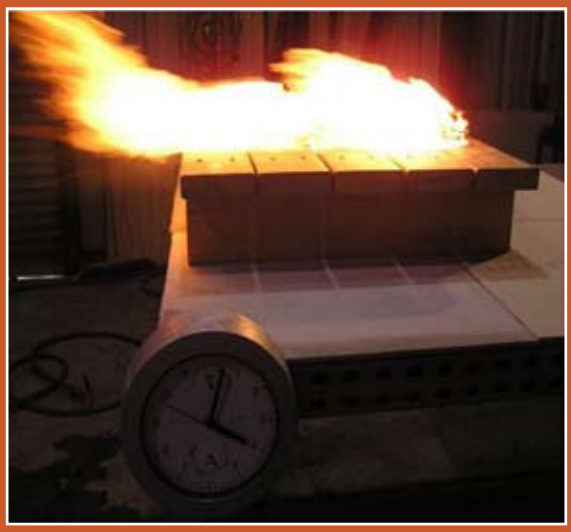
ASTM E108 (UL 790) test for roofing materials



CA SFM 12-7A-4 Part A test for decking materials



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CA SFM 12-7A-4 Part B test for decking materials

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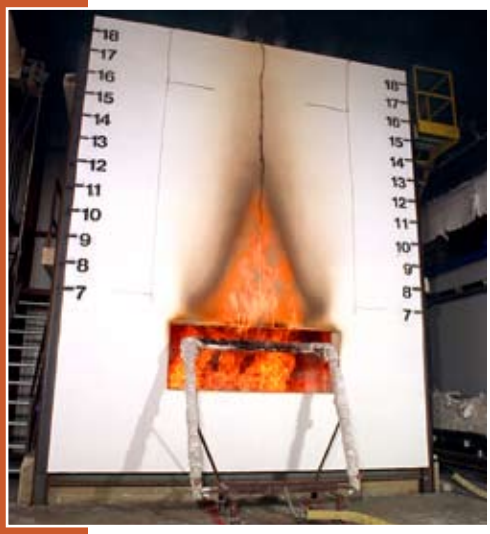
NFPA 268 test apparatus during a heat flux calibration. This method is used to determine the ignitability of exterior building products by exposure to a predefined heat flux in the presence of a pilot ignition source.



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SwRI offers testing to NFPA 285 and ASTM E2307 utilizing its intermediate-scale, multi-story testing apparatus (ISMA)

SwRI has one of the few test laboratories in North America with equipment for performing NFPA 268, “Standard Test Method for Determining Ignitibility of Exterior Wall Assemblies Using a Radiant Heat Energy Source,” and NFPA 285, “Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-load-bearing Wall Assemblies Containing Combustible Components,” in one location.

Southwest Research Institute is an independent, nonprofit, applied engineering and physical sciences research and development organization using multidisciplinary approaches to problem solving. The Institute occupies 1,200 acres in San Antonio, Texas, and provides more than 2 million square feet of laboratories, test facilities, workshops and offices for more than 3,200 employees who perform contract work for industry and government clients.

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