

File R21906
Project 04CA26937

January 25, 2005

REPORT

on

ROOFING SYSTEMS

Under The

CLASSIFICATION PROGRAM

Alpa ProTech Engineered Products
Valdosta, GA

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GENERAL

INVESTIGATION:

The intent of this investigation was to evaluate shingle underlayment designated as "AlphaProTector™-SUL" in accordance with UL 790, Tests for Fire Resistance of Roof Covering Materials.

Based on the product specifications, Owens Corning "Classic" shingles were considered representative of all UL Listed Class A asphalt glass fiber mat shingles. Successful results with the Class A shingles granted Classification for use with Class C shingles as well.

DESCRIPTION

PRODUCT COVERED:

The Products covered by this Report is a synthetic roof underlayment identified as "AlphaProTector™-SUL".

The product in this Report intended for use in Roofing Systems is Classified as to external fire exposure only.

USE:

The products are intended for use as building material as permitted by authorities having jurisdiction.

TEST RECORD NO. 1

GENERAL:

Test results relate only to the items tested.

EXAMINATION OF MATERIALS:

The materials used in this investigation were produced under the observation of a representative of Underwriters Laboratories Inc., in a ready-to-use form. The composition of the finished material is of a proprietary nature. Data on the composition is on file at the laboratories for use in the Follow-Up Service Program.

Various physical and chemical tests were conducted on the components and finished products. The results developed from these tests were employed in establishing specifications for use in the factory Follow-Up Service Program.

FIRE TESTS:

SAMPLES

| SYSTEM # | DESCRIPTION OF SYSTEM |
|----------|--|
| 1 | Deck: 3/8 in. plywood Underlayment: "AlphaProTector™-SUL", mechanically fastened Shingles: Owens Corning "Classic" shingles (Class A 3-tab shingles) |

METHOD

Class A fire tests were conducted on the above samples. These tests were conducted in accordance with the test standard ANSI/UL 790, "Tests for Fire Resistance of Roof Covering Materials," (ASTM E-108 and NFPA 256).

In the intermittent flame tests described in this Report, the temperature of the test flame as measured by a No. 14 gauge chromel-alumel wire thermocouple located as described in ANSI/UL Standard 790, was found to be 1400 ±50 °F. The physical appearance of the test flame when the test apparatus was calibrated for flame temperature, was generally triangular in shape, being about 3 ft wide at the deck's leading edge and gradually narrowing to a width of approximately 6 in. at the top of the 52 in. long calibration deck, with licks of flame extending approximately another 1 ft.

The wind velocity required by ANSI/UL 790 was determined by taking readings on a smooth deck (40 in. wide and 52 in. long) midway up the deck at the center and 3 in. from each vertical edge with a vane type anemometer and timer. The velocity measured at an incline of 5 in./ft was found to be 1050 ±50 ft/min (12 ± 1/2 mi./h) with the carriage in position.

RESULTS

The results of these tests are summarized on the following pages:

INTERMITTENT FLAME TEST

| Test Code | Sys. # | Class | Slope of deck (in/ft) | First Smoke on Underside (h:mm:ss) | Asphalt Dripping on Underside (h:mm:ss) | Time of Glow on Underside (h:mm:ss) | Depth of Char (in.) | Duration of Test (h:mm:ss) |
|-----------|--------|-------|-----------------------|------------------------------------|---|-------------------------------------|---------------------|----------------------------|
| 09080403 | 1 | A | 5 | 00:03:45 | 00:05:59 | NA | 1/8 | 0:60:00 |
| 09080404 | 1 | A | 5 | 00:06:51 | 00:07:39 | NA | 1/8 | 0:60:00 |

| Test Code | Flames on Underside (h:mm:ss) |
|-----------|-------------------------------|
| 09080403 | NA |
| 09080404 | NA |

At no time during these tests were any flying flaming brands of the roof covering material produced or did exposure of the roof deck occur.

BURNING BRAND TEST

| Test Code | Sys. # | Class | Slope of deck (in/ft) | First Smoke on Underside (h:mm:ss) | Asphalt Dripping on Underside (h:mm:ss) | Time of Glow on Underside (h:mm:ss) | Depth of Char (in.) | Duration of Test (h:mm:ss) |
|-----------|--------|-------|-----------------------|------------------------------------|---|-------------------------------------|---------------------|----------------------------|
| 09080405 | 1 | A | 5 | 00:04:34 | 00:06:22 | NA | 1/8 | 0:34:41 |
| 09080406 | 1 | A | 5 | 00:04:34 | 00:06:22 | NA | 1/8 | 0:39:20 |
| 09080407 | 1 | A | 5 | 00:03:21 | 00:07:43 | NA | 3/8 | 0:40:00 |
| 09090402 | 1 | A | 5 | 00:03:51 | 00:07:41 | NA | 3/8 | 0:42:20 |

At no time during these tests were any flying flaming brands of the roof covering material produced or did exposure of the roof deck occur. Also, at no time during these tests were any sparks or flames noted on the underside of the deck.

PRACTICABILITY:

The construction materials used in the roofing systems were readily installed by qualified workers with tools and methods commonly used for construction work of similar nature. Materials and installation procedures in accordance with those previously described in this Report are significant factors in the exterior fire performance of the construction.

Conclusion

The following conclusion represents the judgment of Underwriters Laboratories Inc. based upon the results of the examination, tests and data analysis presented in this Report, as they relate to established principles and previously recorded data.

The product covered by this Report is judged to be eligible for Classification and Follow-Up Service. The manufacturer is authorized to use the Laboratories' Classification Marking as shown below on such products which comply with the Follow-Up Procedure and any other applicable requirements of Underwriters Laboratories Inc. Only those products which properly bear the Laboratories' Classification Marking are considered as Classified by Underwriters Laboratories Inc.

CLASSIFICATION MARKING

The Classification Marking to be used with this product is illustrated below:

PREPARED ROOFING ACCESSORY
AS TO AN EXTERNAL FIRE EXPOSURE
WHEN APPLIED IN ACCORDANCE WITH INSTRUCTIONS
INCLUDED WITH THE PREPARED ROOF

CLASSIFICATION

Prepared Roofing Accessories Classification will be promulgated as described below:

Shingle underlayment accessory - "AlphaProTector™-SUL" is a synthetic roof underlayment for use in the installation of Class A asphalt glass fiber shingles and Class C asphalt organic felt shingles.

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