File R26780
Project 10CA31606

December 07, 2010

REPORT

on

PREPARED ROOFING

Under The

LISTING PROGRAM

OWENS CORNING BM KOREA CO LTD
ASAN-SHI, CHUNGNAM - KOREA

DESCRIPTION

PRODUCT COVERED:

The Products covered by this Report is Owens Corning BM KOREA CO LTD Oakridge 30 asphalt laminated roofing shingle manufactured in Korea.

The product in this Report intended for use in Roofing Systems is Listed 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.

INVESTIGATION:

The intent of this investigation is to evaluate Owens Corning BM KOREA CO LTD new Oakridge Pro 30 shingle to UL790 and ASTM D 3161.

EXAMINATION OF MATERIALS:

The materials used in this investigation were produced under the Classification/Listing Program of Underwriters Laboratories., as evidence by the Classification/Listing Marking on the products. The composition of the finished materials 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	Underlayment: 15 lb. Felt Shingles: Oakridge Pro 30 shingles - from Korea

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".

In the spread of flame and 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:

SPREAD OF FLAME TEST

Test Code	System No.	Class	Slope of deck (in/ft)	Maximum Flame Spread (ft)	Exposure of roof deck (Yes/No)
11111006	1	A	5/12	4.5	No
11111007	1	A	5/12	4.5	No

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, there was no significant lateral spread of flame from the path directly exposed to the test flame.

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)
11111008	1	A	5/12	00:26:11	00:30:26	NA	1/8	01:09:16
11121001	1	A	5/12	00:09:45	NA	NA	3/8	01:12:34

Test Code	Flames on Underside (h:mm:ss)
11111008	NA
11121001	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)
11121002	1	A	5	00:03:25	NA	NA	3/8	00:44:12
11121003	1	A	5/12	00:05:30	NA	NA	3/8	00:39:19
11121004	1	A	5/12	00:04:13	00:09:33	00:14:39	3/8	00:40:16
11121005	1	A	5/12	00:05:49	NA	NA	3/8	00:37:09

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.

WIND TESTS:

SAMPLES

Description of System

A. Four nails per full shingle.

B. Shingle underlayment.

C. Oakridge 30 shingles produced in Korea, in accordance with ASTM D3161, Class F.

METHOD

The tests were conducted at 1 in six incline in general accordance with the equipment and procedures as described in ASTM D3161, with wind velocity at 110 mph.

Throughout the test, observations were made to note the condition of the shingles.

The test panels were constructed of nominal 3/4 in. thick plywood decking material and measured 50 in. wide by 66 in. long. Nominal 2 by 4 in. dimensional lumber provided the support and rigidity required for handling. The plywood was secured to the support lumber with 8d nails.

One layer of Underwriters Laboratories Inc. Classified Type 15 asphalt saturated felt underlayment was applied to the deck in a manner recommended by the manufacturer.

The shingles were applied by using four standard 1 in. galvanized roofing nails per shingle by Underwriters Laboratories' personnel parallel to the short dimension of the test panels while at room temperature (80 ± 15°F) and in a manner recommended by the manufacturer. The panels were maintained at an incline of one vertical inch for each six horizontal inches during application of the shingles. No adhesive other than the factory-applied adhesive was used to fasten down the tabs and no pressure was applied to the shingle tabs either during or after application.

The panels were placed into a conditioning cell while maintaining the one in six incline at a temperature within the range of 135 to 140°F for a continuous period of 16 h. After conditioning the panels were allowed to cool to room temperature again while maintaining a one in six incline.

Two tests were conducted on Oakridge 30 shingles produced in Korea, in accordance with ASTM D3161, Class F unless the first test yielded unsuccessful results.

RESULTS

Observations

Oakridge 30 shingles produced in Korea,in accordance with ASTM D3161, Class F. (110 mph).

Test Nos. 1 and 2 - At no time during the 2 h period of exposure did any test panel experience (1) failure to the adhesive of the self-sealing shingle to restrain any full shingle tab from lifting nor (2) any free portion of the shingle lift so as to stand upright or bend back on itself.

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.

Test Record Summary:

The result of this investigation, including construction review and testing, indicates that the products evaluated comply with applicable requirements in UL790 and ASTM D3161, and therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Roofing System Classifications will be promulgated as described below:

Asphalt glass fiber mat and shingles designated “Oakridge 30” shingles for installation as Class A prepared roof coverings. Suitable for installation on minimum 3/8 in. thick plywood decks with underlayment such as asphalt saturated felt or shingle underlayment classified by UL as a prepared roofing accessory (underlayment not required for hip and ridge shingles) and on minimum 15/32 in. thick plywood decks without underlayment. Asphalt glass fiber mat shingles for installation as wind resistant roof coverings. These shingles may also bear the statement "Also Classified in accordance with ASTM D3161, Class F".

Test Record No. 1 By:

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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 Listing and Follow-Up Service. The manufacturer is authorized to use the Laboratories' Listing 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' Listing Marking are considered as Listed by Underwriters Laboratories Inc.

The Listing Marking to be used with "Oakridge 30" shingles, produced in Korea in accordance with UL 790 and ASTM D3161, Class F are illustrated below:

LISTED
PREPARED ROOF COVERING MATERIALS
DEGREE OF RESISTANCE TO EXTERNAL FIRE – CLASS A
ALSO CLASSIFIED IN ACCORDANCE WITH ASTM D 3161, CLASS F

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