

CLIENT: HANWHA L&C CORPORATION
26 Eulji-ro 5-gil Jung-gu
Seoul Korea

Test Report No: TJ3852	Date: June 17, 2016
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SAMPLE ID: The client identified the following test material as "HANEX"

SAMPLING DETAIL: Test samples were submitted to the laboratory directly by the client. No special sampling conditions or sample preparation were observed by QAI.

REFERENCE: SGS ref# AYAA16-21871

DATE OF RECEIPT: Samples were received at QAI facilities on May 23, 2016

TESTING PERIOD: June 17, 2016

AUTHORIZATION: Signed work order 16SP042501

TEST REQUESTED: Perform standard flame spread and smoke density developed classification tests on the sample supplied by the Client in accordance with ASTM Designation E84-15, "Standard Method of Test for Surface Burning Characteristics of Building Materials". The foregoing test procedure is comparable to UL 723, ANSI/NFPA No. 255, and UBC No. 8-1.

TEST RESULTS: Flame Spread Smoke Developed


0 0

CLASSIFICATION: The material results were a class "A". Detailed test results are presented in the subsequent pages of this report

Prepared By


Jeff Foster
Fire Test Technician

**Signed for and on behalf of
QAI Laboratories, Inc.**


J. Brian McDonald
Operations Manager

PREPARATION AND CONDITIONING: The sample was submitted in eight panels approximately 3 feet long measuring 20 inches wide and approximately 1/4" inch thick. The sample material was placed into conditioning at 73°F (±5°F) and 50% (±5%) relative humidity until day of testing.

E 84 TEST DATA SHEET:

MOUNTING METHOD: The sample was supported during testing by 2" hexagonal mesh poultry netting running the length of the test chamber and 1/4" round metal rods placed at 2' intervals across the width of the test chamber, with cement board place between the sample and tunnel lid.

CLIENT: Hanwha L&C Corporation

DATE: June 17, 2016

SAMPLE: Hanex

IGNITION: 8 minutes, 00 seconds

FLAME FRONT: 0 feet maximum

TIME TO MAXIMUM SPREAD: 0 minutes, 00 seconds

TEST DURATION: 10 minutes, 00 seconds

SUMMARY: FLAME SPREAD: 0 (0.0 unrounded)

SMOKE DEVELOPED: 0 (1 unrounded)

OBSERVATIONS:

The first five minutes were uneventful. At 5 minutes 30 seconds sagging could be seen, and at 6 minutes charring was seen. Sustained ignition was witnessed at 8 minutes with dripping seen at 8 minutes 20 seconds. After was self-extinguished at the conclusion of the ten minute test.

CALIBRATION DATA:

Time to Ignition of Last Red Oak (sec):	34
Red Oak Smoke Area (%A* Min):	117.2
Total Fuel Burned (ft ³)	55.0

SUMMARY OF ASTM E84 RESULTS:

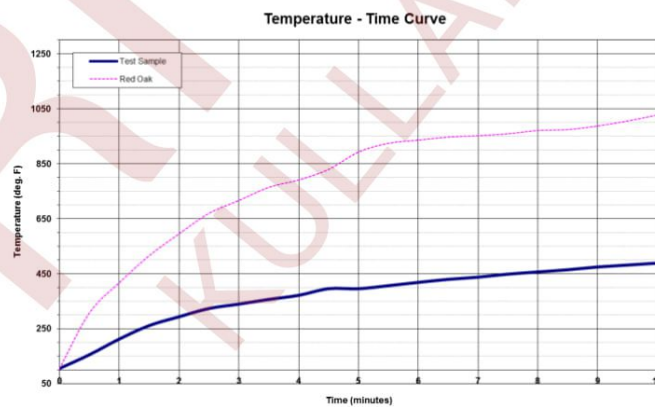
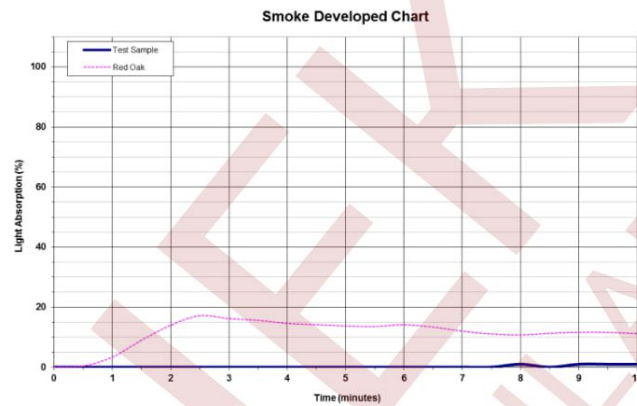
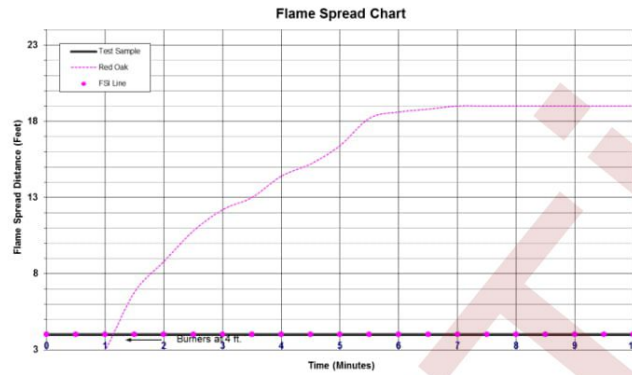
Because of the possible variations in reproducibility, the results are adjusted to the nearest figure divisible by 5. Smoke Density values over 200 are rounded to the nearest figure divisible by 50.

In order to obtain the Flame Spread Classification, the above results should be compared to the following table:

<u>NFPA CLASS</u>	<u>IBC CLASS</u>	<u>FLAME SPREAD</u>	<u>SMOKE DEVELOPED</u>
A	A	0 through 25	Less than or equal to 450
B	B	26 through 75	Less than or equal to 450
C	C	76 through 200	Less than or equal to 450

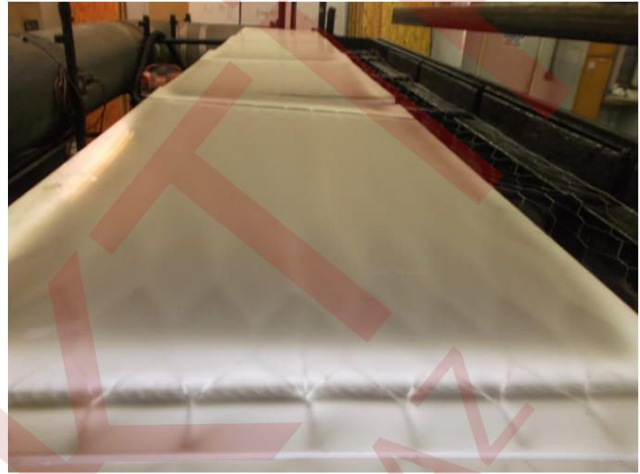
BUILDING CODES CITED:

1. National Fire Protection Association, ANSI/NFPA No. 101, "Life Safety Code", 2006 Edition.
2. International Building Code, 2006 Edition, Chapter 8, Interior Finishes, Section 803.



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PHOTOS: AFTER TEST IMAGES



*****END OF TEST REPORT*****

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