

EASTMAN PERFORMANCE FILMS, LLC. FIRE TEST REPORT

SCOPE OF WORK

ASTM E84 TESTING ON LLUMAR SCL SR PS13

REPORT NUMBER

H7867.05-121-24

TEST DATE

01/23/18

ISSUE DATE

02/12/18

REVISION DATE

06/20/18

RECORD RETENTION END DATE

01/23/18

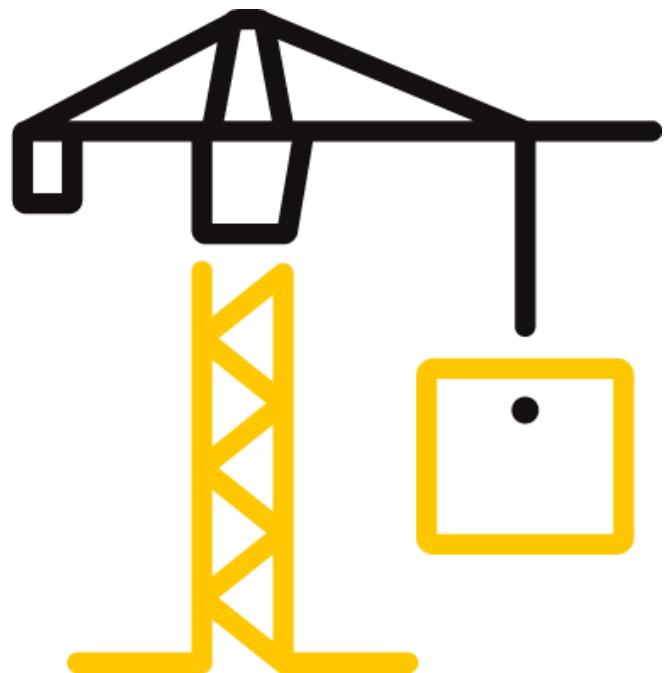
PAGES

10

DOCUMENT CONTROL NUMBER

RT-R-AMER-Test-2780 (10/18/17)

© 2017 INTERTEK



TEST REPORT FOR EASTMAN PERFORMANCE FILMS, LLC.

Report No.: H7867.05-121-24

Date: 02/12/18

Revision Date: 06/20/18

REPORT ISSUED TO

EASTMAN PERFORMANCE FILMS, LLC.

4210 The Great Road

Fieldale, Virginia 24089

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by Eastman Performance Films, LLC., Fieldale, Virginia, to evaluate the flame spread and smoke developed properties of LLumar SCL SR PS13. Testing was conducted at the Intertek B&C test facility in York, Pennsylvania. Results obtained are tested values and were secured by using the designated test method(s). A summary of test results and the complete graphical test data is reported herein.

This report does not constitute performance certification of this product nor an opinion or endorsement by this laboratory.

SECTION 2

SUMMARY OF TEST RESULTS

Specimen I.D.: LLumar SCL SR PS13 by Eastman Performance Films, LLC.

ASTM E84 Test Results

FLAME SPREAD INDEX	SMOKE DEVELOPED INDEX
0	75

For INTERTEK B&C:

COMPLETED BY:	Ben Samson	REVIEWED BY:	Ethan Grove
TITLE:	Technician – Fire Testing	TITLE:	Manager – Fire Testing
SIGNATURE:		SIGNATURE:	
DATE:	06/20/18	DATE:	06/20/18

BTS:ddr

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample(s) tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

TEST REPORT FOR EASTMAN PERFORMANCE FILMS, LLC.

Report No.: H7867.05-121-24

Date: 02/12/18

Revision Date: 06/20/18

SECTION 3

TEST METHOD

The specimens were evaluated in accordance with the following:

ASTM E84-17a, *Standard Test Method for Surface Burning Characteristics of Building Materials*

SECTION 4

MATERIAL SOURCE/INSTALLATION

The test specimen was submitted to Intertek directly from the client. Samples were not independently selected for testing. Intertek has not verified the composition, manufacturing techniques or quality assurance procedures. The specimens, identified as LLumar SCL SR PS13 by Eastman Performance Films, LLC., were received in good order.

SECTION 5

LIST OF OBSERVERS

NAME	COMPANY
Ben Samson	Intertek B&C
Nate Brillhart	Intertek B&C

TEST REPORT FOR EASTMAN PERFORMANCE FILMS, LLC.

Report No.: H7867.05-121-24

Date: 02/12/18

Revision Date: 06/20/18

SECTION 6

TEST PROCEDURE

This report describes the results of testing conducted in accordance with ASTM E84-17a; Standard Test Method for Surface Burning Characteristics of Building Materials. The test method is for comparative surface burning behavior of building materials by determining a flame spread index (FSI) and a smoke developed index (SDI). This test is generally applicable to exposed surfaces, such as finish materials for ceilings or walls, provided that the material or assembly of materials, by its own structural quality or the manner in which it is tested and intended for use, is capable of supporting itself in position or being supported during the test period.

“The use of supporting materials on the underside of the test specimen may lower the flame spread index from that which might be obtained if the specimen could be tested without such support. This method may not be appropriate for obtaining comparative surface burning behavior of some cellular plastic materials. Testing of materials that melt, drip, or delaminate to such a degree that the continuity of the flame front is destroyed, results in low flame spread indices that do not relate directly to indices obtained by testing materials that remain in place.” – ASTM E84-17a Section 1.3

The purpose of the method is to determine the relative burning behaviour of the material by observing the flame spread along the specimen. Flame spread and smoke density developed are reported, however, there is not necessarily a relationship between these two measurements.

It is the expressed intent of the test method to provide only comparative measurements of surface flame spread and smoke density of the tested material against measurements for select grade red oak flooring and fiber-cement board when tested under specific fire exposure conditions. The test method exposes a nominal 24-ft (7.32-m) long by 20-in. (508-mm) wide test specimen to a controlled air flow and flaming fire exposure adjusted to produce a specific flame spread distance vs time calibration using select grade red oak flooring.

The test method does not provide information regarding heat transmission through the tested surface, the effect of aggravated flame spread behavior resulting from the proximity of combustible walls and ceilings, or the classification or definition of materials as non-combustible using flame spread index alone.

This standard should be used to measure and describe the properties of materials, products, or assemblies in response to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire hazard or fire risk of materials, products, or assemblies under actual fire conditions. However, results of this test may be used as elements of a fire risk assessment which takes into account all of the factors which are pertinent to an assessment of the fire hazard of a particular end use.

TEST REPORT FOR EASTMAN PERFORMANCE FILMS, LLC.

Report No.: H7867.05-121-24

Date: 02/12/18

Revision Date: 06/20/18

There were no deviations from the requirements prescribed in ASTM E84.

SECTION 7

TEST SPECIMEN DESCRIPTION

MANUFACTURER*	Eastman Performance Films, LLC.
PRODUCT TYPE*	Safety/security film
SERIES/MODEL*	LLumar SCL SR PS13
COMPOSITION*	Glass, film
CONDITIONING TIME	72+ hr.
SPECIMEN SIZE	24 in. wide x 36 in. long
THICKNESS	0.15 in.
SPECIMEN SECTIONS	8
TOTAL WEIGHT	10.2 lbs.
COLOR	Clear
SIDE TO FLAME*	Client specified film face
SUPPORT USED*	Material was self-supporting
MOUNTING METHOD	Material was self-supporting
SUBSTRATE USED*	No substrate was utilized
CEMENT BOARD	1/4 in. thick fiber cement board was placed on top of the sample.

*From the client's material description and/or instructions

Note: Specimens were conditioned as per the requirements of Section 6.4 of ASTM E84.

TEST REPORT FOR EASTMAN PERFORMANCE FILMS, LLC.

Report No.: H7867.05-121-24

Date: 02/12/18

Revision Date: 06/20/18

SECTION 8

TEST RESULTS

TEST RESULTS	
Test Date	01/23/18
Test Operator	Ben Samson
Flame Spread Index (FSI)	0
Smoke Developed Index (SDI)	75
Red Oak Calibration (% * Min)	91.14

TEST DATA	
FSI (unrounded)	0.0
SDI (unrounded)	74.6
FS * Time Area (Ft * Min)	0.0
Smoke Area (% * Min)	68.0
Fuel Area (°F * Min)	5027.5

TEST OBSERVATIONS	
Ignition Time	00:45 (Min:Sec)
Max Flame Front Advance	0.0 Feet
Time to Max Flame Front	00:00 (Min:Sec)
Max Temp At Exposed T/C	579.9°F
Time To Max Temp	09:59 (Min:Sec)
Dripping Observed	00:47 (Min:Sec)
Flaming On Floor Observed	00:47 (Min:Sec)
After Flame Top Observed	None
After Flame Floor Observed	10:04 (Min:Sec)
Sagging Observed	None
Delamination Observed	None
Shrinkage Observed	None
Fallout Observed	01:08 (Min:Sec)
Cracking Observed	00:19 (Min:Sec)
Observations After the Test	None

TEST REPORT FOR EASTMAN PERFORMANCE FILMS, LLC.

Report No.: H7867.05-121-24

Date: 02/12/18

Revision Date: 06/20/18

SECTION 9 PHOTOGRAPHS

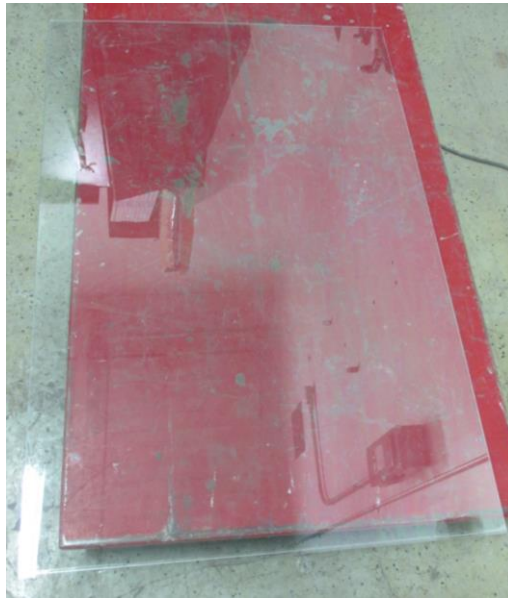


Photo No. 1
Exposed Surface of the Test Specimen (Pre-test)



Photo No. 2
Unexposed Surface of the Test Specimen (Pre-test)

TEST REPORT FOR EASTMAN PERFORMANCE FILMS, LLC.

Report No.: H7867.05-121-24

Date: 02/12/18

Revision Date: 06/20/18

SECTION 9 (Continued)

PHOTOGRAPHS



Photo No. 3

Unexposed Surface of the Test Specimen (Post-test)

TEST REPORT FOR EASTMAN PERFORMANCE FILMS, LLC.

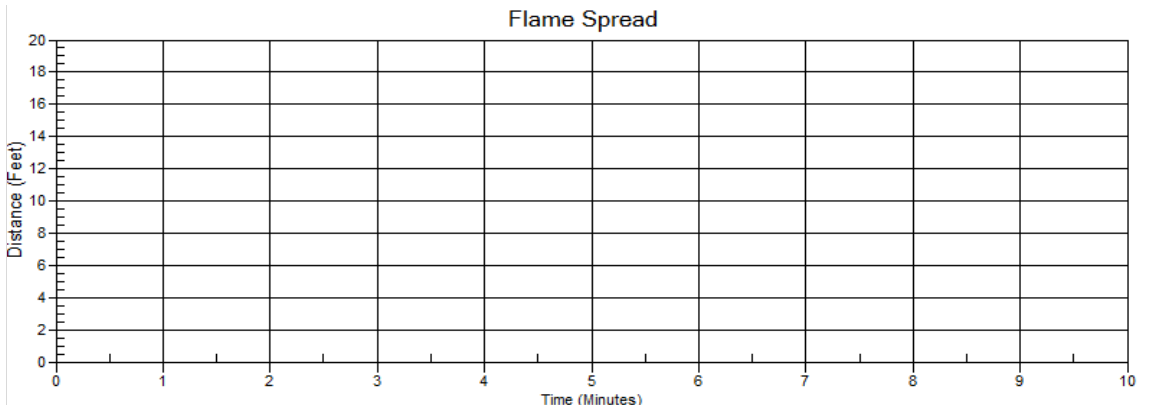
Report No.: H7867.05-121-24

Date: 02/12/18

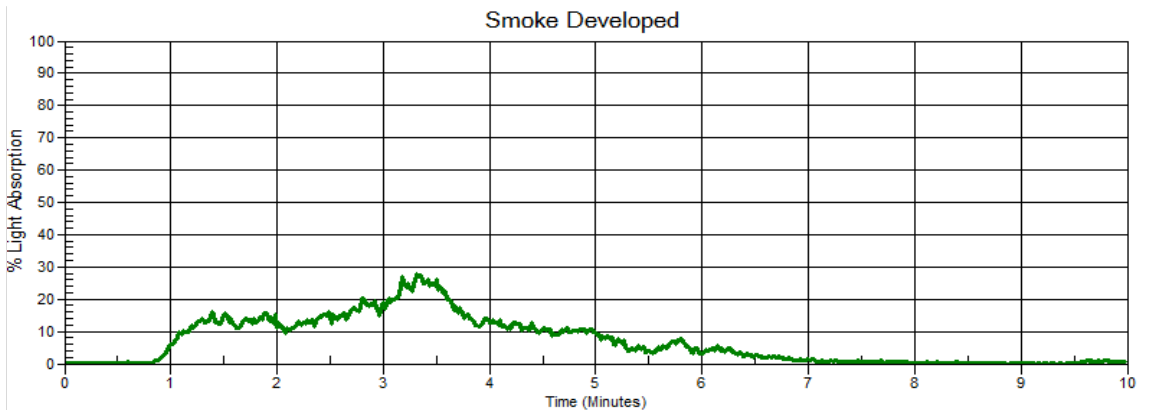
Revision Date: 06/20/18

SECTION 10

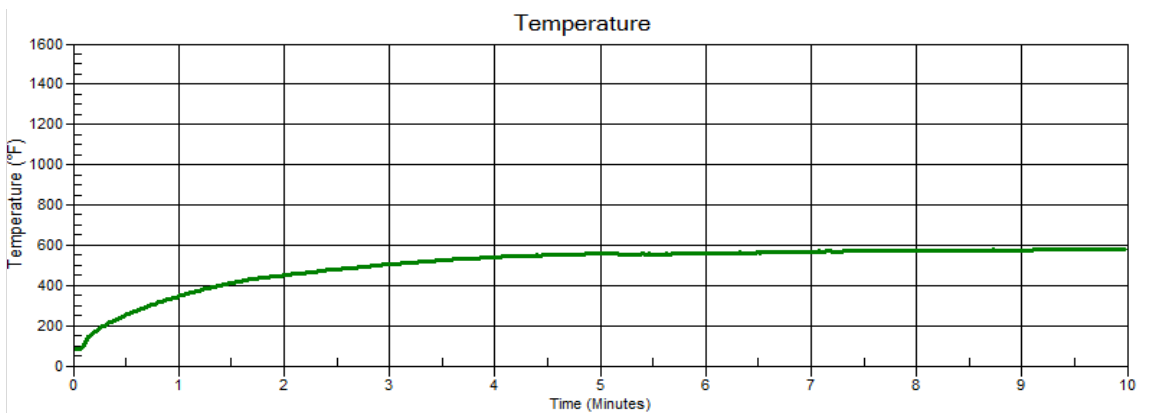
GRAPHS



Graph No. 1 - Flame Spread Distance Versus Time



Graph No. 2 - Light Obscuration Versus Time



Graph No. 3 - Tunnel Air Temperature Versus Time

TEST REPORT FOR EASTMAN PERFORMANCE FILMS, LLC.

Report No.: H7867.05-121-24

Date: 02/12/18

Revision Date: 06/20/18

SECTION 11

REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	02/12/18	N/A	Original Report Issue
1	06/20/18	1-10	Name change from Eastman Chemical Company to Eastman Performance Films, LLC.
1	06/20/18	1-3, 5	Model name change from SCL SR PS13 to LLumar SCL SR PS13
1	06/20/18	2	Address change from 100 Eastman Road, Kingsport, Tennessee 37662 to 4210 The Great Road, Fieldale, Virginia 24089