

FUNDERMAX GMBH

LETTER OF RESULTS

SCOPE OF WORK

ASTM E84 & ASTM E136 TESTING ON FUNDERMAX M LOOK GREY CORE PANEL

REFERENCE PROJECT NUMBERS

G1014.01-121-24-R1 & G3542.01-121-24-R0

TEST DATES

02/10/17 & 01/24/17

ISSUE DATE

01/24/18

PAGES

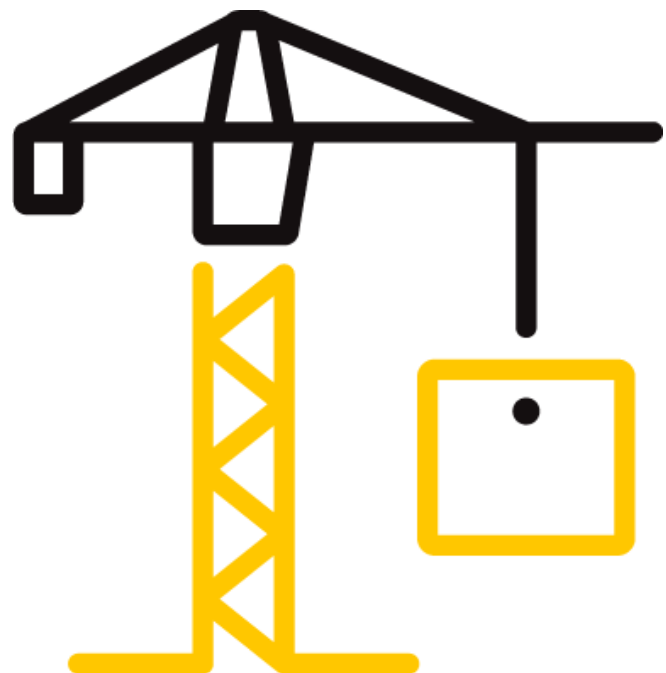
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LETTER OF RESULTS FOR FUNDERMAX GMBH

Project No.: G1014.01-121-24-R1 & G3542.01-121-24-R0

Date: 01/18/18

CERTIFICATE ISSUED TO

FunderMax GmbH

Klagenfurter Strasse 87-89

A-9300 St. Veit an der Glan, Austria

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by FunderMax GmbH, Austria to evaluate the flame spread and smoke developed properties as well as noncombustibility of FunderMax GmbH M Look Grey Core Panel. 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 test assembly is reported herein.

This report does not constitute a complete test report, certification of this product, nor an opinion or endorsement by this laboratory. For full details of the project, reference Intertek-ATI test report numbers G1014.01-121-24 (E84) and G3542.01-121-24-R0 (E136).

SECTION 2

SUMMARY OF TEST RESULTS

Series/Model: FunderMax M Look Grey Core Panel

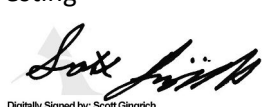
ASTM E84 Test Results

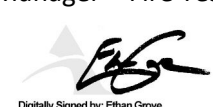
FLAME SPREAD INDEX	SMOKE DEVELOPED INDEX
0	10

ASTM E136 Test Conclusion

The material provided to Intertek-ATI from FunderMax GmbH, and described in this report **did** meet the condition of acceptance of ASTM E136.

For INTERTEK B&C:

COMPLETED BY:	Scott Gingrich
TITLE:	Senior Technician – Fire Testing
SIGNATURE:	 Digitally Signed by: Scott Gingrich
DATE:	01/24/18

REVIEWED BY:	Ethan Grove
TITLE:	Manager – Fire Testing
SIGNATURE:	 Digitally Signed by: Ethan Grove
DATE:	01/24/18

EJG:ddr

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SECTION 3

TEST METHOD

The assembly was evaluated in accordance with the following:

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

ASTM E136, *Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C – (Option A)*

SECTION 4

TEST PROCEDURE

ASTM E84

The tunnel is considered to be under calibrated conditions when the flame front reaches the end of the tunnel within 5 minutes and 30 seconds (plus or minus 15 seconds) during a red oak test. An initial preheat of the tunnel is performed and the test specimen is installed when the tunnel temperature drops to 105°F. When the test is initiated, the 88 KW dual burner and 240 feet per minute air current creates a flame that extends 4.5 feet down the tunnel. The flame progression is tracked from this point to the exhaust end of the tunnel which is 19.5 feet downstream. An observer simultaneously notes any test specimen anomalies such as melting, dripping, sagging, delamination, fall-out, etc. The smoke that is generated during the test is measured by a photometer. The flame spread and smoke developed data are automatically logged and graphed versus time by a data acquisition and computer system. The Flame Spread Index (FSI) and the Smoke Developed Index (SDI) are based on an area under the curve calculation and the red oak flooring calibration data.

ASTM E136

Four 1-1/2 in. x 1-1/2 in. x 2 in. samples were conditioned in an oven set at 60°C for 24 hours prior to testing. The samples were then instrumented with two thermocouples. One was placed on the outside surface and the other thermocouple was placed inside the center of the sample. After instrumentation, the sample was placed into a vertical furnace consisting of an enclosed refractory tube surrounded by a heating coil with a cone-shaped airflow stabilizer. The furnace was set at 750°C exposure and samples exposed for 30 minutes. Observations and data were recorded.

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Date: 01/18/18

SECTION 5

TEST SPECIMEN DESCRIPTION

For complete assembly description and installation procedures, reference Intertek-ATI Test Report numbers G1014.01-121-24 (E84) and G3542.01-121-24-R0 (E136).

ASTM E84

PRODUCT TYPE*	M Look Grey Core
SERIES/MODEL*	M Look 7mm thick Panel
COMPOSITION*	Proprietary
CONDITIONING TIME	72+ hr.
SPECIMEN SIZE	24 in. wide x 100 in. long
THICKNESS	1/4 in.
SPECIMEN SECTIONS	3
TOTAL WEIGHT	42.6 lbs.
COLOR	White with Grey Core
SIDE TO FLAME*	Sample is homogeneous. Sample profile is bilateral
SUPPORT USED*	Specimen was self-supporting
MOUNTING METHOD	Specimen was self-supporting
SUBSTRATE USED*	No substrate was utilized
CEMENT BOARD	The fiber cement board was placed on top of the sample.

ASTM E136

PRODUCT TYPE*	M Look Grey Core
SERIES/MODEL*	M Look 7mm thick Panel (Stacked)
COMPOSITION*	Proprietary
CONDITIONING TIME	24 hr. at 60°C
SPECIMEN SIZE	1-1/2 in. x 1-1/2 in.
THICKNESS	2 in.
NO. OF SAMPLES	4
COLOR	White with Grey Core
TESTING OPTION	Testing Option A

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Date: 01/18/18

SECTION 6

TEST RESULTS

ASTM E84

TEST RESULTS	
Test Date	2/10/2017
Test Operator	Ben Green
Flame Spread Index (FSI)	0
Smoke Developed Index (SDI)	10
Red Oak Calibration (% * Min)	102.38

TEST DATA	
FSI (unrounded)	1.0
SDI (unrounded)	10.0
FS * Time Area (Ft * Min)	2.0
Smoke Area (% * Min)	10.2
Fuel Area (°F * Min)	4846.3

TEST OBSERVATIONS	
Ignition Time	07:51 (Min:Sec)
Max Flame Front Advance	1.4 Feet
Time to Max Flame Front	09:54 (Min:Sec)
Max Temp At Exposed T/C	599.9°F
Time To Max Temp	09:55 (Min:Sec)
Dripping Observed	No
Flaming On Floor Observed	No
After Flame Top Observed	No
After Flame Floor Observed	No
Sagging Observed	No
Delamination Observed	No
Shrinkage Observed	No
Fallout Observed	01:41 (Min:Sec)
Cracking Observed	01:35 (Min:Sec)
Observations After the Test	None

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SECTION 6 (Continued)

TEST RESULTS

ASTM E136

TEST #1 RESULTS		
Test Requirements	Observation	Pass / Fail
Percentage of Mass Loss < 50%	Initial Mass = 127 grams <u>Final Mass = 89.8 grams</u> Mass Loss = 37.2%	N/A
Flaming of Material	None	Pass
Temperature Rise > 30°C above Initial Temperature of Sample Interior	Initial Temp. = 752.7°C <u>Maximum Temp. = 770.9°C</u> Temperature Rise = -11.8°C	Pass
Temperature Rise > 30°C above Initial Temperature of Sample Surface	Initial Temp. = 752.7°C <u>Maximum Temp. = 773.4°C</u> Temperature Rise = -9.3°C	Pass

TEST #2 RESULTS		
Test Requirements	Observation	Pass / Fail
Percentage of Mass Loss < 50%	Initial Mass = 127.2 grams <u>Final Mass = 94.4 grams</u> Mass Loss = 32.8%	N/A
Flaming of Material	None	Pass
Temperature Rise > 30°C above Initial Temperature of Sample Interior	Initial Temp. = 752.7°C <u>Maximum Temp. = 745°C</u> Temperature Rise = -37.7°C	Pass
Temperature Rise > 30°C above Initial Temperature of Sample Surface	Initial Temp. = 752.7°C <u>Maximum Temp. = 768.6°C</u> Temperature Rise = -14.1°C	Pass

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Date: 01/18/18

SECTION 6 (Continued)

TEST RESULTS

TEST #3 RESULTS		
Test Requirements	Observation	Pass / Fail
Percentage of Mass Loss < 50%	Initial Mass = 128.3 grams <u>Final Mass = 90.8 grams</u> Mass Loss = 37.5%	N/A
Flaming of Material	None	Pass
Temperature Rise > 30°C above Initial Temperature of Sample Interior	Initial Temp. = 752.7°C <u>Maximum Temp. = 745.8°C</u> Temperature Rise = -36.9°C	Pass
Temperature Rise > 30°C above Initial Temperature of Sample Surface	Initial Temp. = 752.7°C <u>Maximum Temp. = 781°C</u> Temperature Rise = -1.7°C	Pass

TEST #4 RESULTS		
Test Requirements	Observation	Pass / Fail
Percentage of Mass Loss < 50%	Initial Mass = 127.6 grams <u>Final Mass = 90.5 grams</u> Mass Loss = 29.1%	N/A
Flaming of Material	None	Pass
Temperature Rise > 30°C above Initial Temperature of Sample Interior	Initial Temp. = 752.7°C <u>Maximum Temp. = 770.9°C</u> Temperature Rise = -11.8°C	Pass
Temperature Rise > 30°C above Initial Temperature of Sample Surface	Initial Temp. = 752.7°C <u>Maximum Temp. = 773.4°C</u> Temperature Rise = -9.3°C	Pass

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