TEST REPORT
REACTION TO FIRE TEST

Test Sponsor:

Gerflor Middle East
Dammam, Saudi Arabia
T: +966 13 847 1779 | F: +966 13 847 1781
Website: www.gerflor.ae

Test Material / Assembly:

4mm thick Creation 30 rigid

Test Standard

ASTM E648-19a$^{\varepsilon 1}$: Standard Test Method for Critical Radiant Flux of Floor Covering System: Using a Radiant Heat Energy

THOMAS BELL-WRIGHT
INTERNATIONAL CONSULTANTS

Test Date: 31-May-23
Issue Date: 11-Jul-23
Test Reference No: XD008-2

PO BOX 26385, DUBAI UAE T +971 (0)4 821 5777 fire@bell-wright.com www.bell-wright.com

DUBAI DOHA RIYADH

Accreditation

Testing

ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories with:

United Kingdom Accreditation Service (UKAS) - Testing Laboratory: **4439**
www.ukas.com

Memberships

Members of European Group of Organization for Fire Testing, Inspection and Certification

www.egolf.org.uk

Member of Association for Specialist Fire Protection

www.asfp.org.uk

Member of Centre for Window and Cladding Technology

www.cwct.co.uk

The work which is the subject of this report falls under the accreditations of **ISO 17025 UKAS.**

Table of Contents

1. INTRODUCTION

Determination of critical radiant flux (the level of incident radiant heat energy on floor-covering systems at the most distant flame-out point and reported as W/cm^2) of 4mm thick Creation 30 rigid as per ASTM E 648-19a $^{\varepsilon 1}$; Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy.

2. SPONSOR

Name: Gerflor Middle East
Address: Dammam, Saudi Arabia
T: +966 13 847 1779 | F: +966 13 847 1781
Website: www.gerflor.ae

3. TESTING LABORATORY

Name: Thomas Bell-Wright International Consultants (TBWIC)
Address: Corner of 46th and 47th Streets,
Jebel Ali Industrial Area 1
Dubai, U.A.E.
+971 (0)4 821 5777
Website: www.bell-wright.com

4. DATE OF TEST

Sample received: 24-May-23
Test date: 31-May-23

The test was not witnessed by the sponsor

5. SPECIMEN DESCRIPTION

Note: The testing laboratory does not hold any responsibility for the information that has been provided by the test sponsor which could not be verified by the testing laboratory, as this could affect the validity of the test result. All information that could not be verified will be indicated by an asterisk (*) mark.

Product Description	4mm thick Creation 30 rigid *
Product Reference	Creation 30 rigid *
Manufacturer	Gerflor Middle East*
Overall Thickness	4mm (measured by TBWIC)
Overall Area Weight	7.92 kg/m^2 (measured by TBWIC)
Dimension per sample	1050 x 230 x 4mm (measured by TBWIC)
Number of specimens tested	3
Specimen placement	The 4mm thick Creation 30 rigid was placed in the mounting frame with the fibre cement board as a backing substrate. The steel bar clamps used to secure the sample were placed across the back of the specimen assembly.

6. SPECIMEN VERIFICATION

The choice and design and the definition of the specimen have been made by Gerflor Middle East, and TBWIC testing laboratory has not been involved in the selection or design of the specimen. The results apply to the sample as received.

Note: There are contexts where information has been provided by the sponsor and verification of information has been done through either technical datasheet or other document submission, or as indicated directly by the sponsor. For this reason, materials have been tested in an as-received condition and TBWIC bears no liability for the legitimacy of the submitted information.

7. METHOD OF TEST

7.1. Test Procedure

The test was performed in accordance with the requirements of ASTM E648-19a $^{\varepsilon 1}$: Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy

7.2. Conditioning

After delivery on 24-May-23, the specimen was stored in room temperature for [No. of days] days prior to the test at 18 to 24 °C and 45 to 55% relative humidity.

Note: There were deviations observed in the temperature and relative humidity in 4 separate probes of thermo-hygrometer in our conditioning room, however the average values were within the limit.

8. OBSERVATION

Test Data and Observation

Observations	1	2	3
Premature ignition during the initial 5 min heating period	Nil	Nil	Nil
Ignition, min:sec	05:04	05:03	05:06
Melting, min:sec	05:07	05:07	05:09
Blistering, min:sec	05:03	05:02	05:04
Penetration of flame to the substrate, min:sec	Nil	Nil	Nil
Smoking, min:sec	Nil	04:28	04:16
Sagging, min:sec	Nil	Nil	Nil
Shrinking, min:sec	Nil	Nil	Nil

9. SUMMARY OF RESULTS

The test specimen has been evaluated in accordance with ASTM E 648-19a $^{\varepsilon 1}$; Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy

The test results are:

Results	Specimen		
	1	2	3
Maximum distance, mm	80	95	110
Time to maximum distance, min:sec	9:04	7:43	7:51
Time to flame out, min:sec	10:12	10:04	10:02
Critical Radiant Flux, (W/cm^2)	1.13	1.13	1.11
Average Critical Radiant Flux, (W/cm^2)	1.12		
Standard deviation	0.01		
Coefficient of variation	1.0 %		

Results are valid for the tested configuration only.

10. CLASSIFICATIONS

The following information is designed to help put these test results into context. Average Critical Radiant Heat Flux value from an ASTM E648-19a$^{\varepsilon 1}$ test is often used by regulatory agencies to approve materials for various applications. For example, the International Building Code 2021, Section 804.2 requires that:

Interior floor finish and floor covering materials shall be classified in accordance with ASTM E648-19a$^{\varepsilon 1}$ or NFPA253:2019. Such interior finish materials shall be grouped in the following classes in accordance with their average Critical Radiant Heat Flux value.

Class I: 0.45 W/cm^2 or higher
Class II: 0.22 -0.44 W/cm^2

Note: Authorities having jurisdiction usually identifies the following classes in accordance with their average Critical Radiant Heat Flux value and the above example is the IBC requirement for Interior floor finish and floor covering materials only; the application of the tested specimen may differ.

11. RECOMMENDATION

This report and all records of the test to which it relates may not be retained by TBWIC further than 5 years from the date of testing.

This test report is respectfully submitted by: Thomas Bell-Wright International Consultants

Prepared by:

Malak Megly
Fire Testing Engineer

P.O.Box: 26385
DUBAI - U.A.E.
Thomas Bell-Wright Int'l Consultants (Dubai Br.)

Reviewed and Authorized by:

Suketa Tyagi
Manager – Reaction to Fire

Report Revision Tracking		
Report Reference	**Date Issued**	**Notes & Amendments**
Rev. 00	11-Jul-23	This is the first issue of the report. No revisions are included.

12. APPENDIX 1- PHOTOGRAPHS

		
Sample 1	Sample 2	Sample 3

Specimen before the test.

		
Sample 1	Sample 2	Sample 3

Specimen after the test.

---- End of Test Report ----