

Reaction to fire classification report No. 20037C-rev.1

Owner of the classification report

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Introduction

This classification report defines the classification assigned to the products **LEXAN™ SG305, LEXAN SG305 OB, LEXAN 9030, LEXAN EXELL D, LEXAN EXELL D OB & LEXAN EXELL D ST'** in accordance with the procedures given in the standard EN 13501-1:2018: Fire classification of construction products and building elements - Part 1: classification using data from reaction to fire tests.

This classification report consists of 9 pages and may only be used or reproduced in its entirety

1. DETAILS OF CLASSIFIED PRODUCT

a) General

The products **LEXAN™ SG305, LEXAN SG305 OB, LEXAN 9030, LEXAN EXELL D, LEXAN EXELL D OB & LEXAN EXELL D ST** are defined as 'light transmitting flat solid polycarbonate sheets'.

Their classification is valid for the following end use application(s):

Internal and external use in roofs, walls and ceilings

b) Product description

This description is based on information given by the sponsor.

Classified products taken over from EXAP report No. 16305F and classification report No. 16305D-rev.1.

Nominal values	
LEXAN™ SG305, LEXAN SG305 OB	
Material	The tested product is a polycarbonate solid sheet with on both sides a protective UV layer. The front side (tested side) of the product is finished with a matt surface and the back side of the product is finished with a polished surface.
Manufacturer	Sabic Italy
Thickness (mm)	2 & 6
Density (kg/m ³)	1200
Colour	
	<i>LEXAN SG305</i> Transparent (0 % organic pigmentation)
	<i>LEXAN SG305 OB</i> White translucent (0,6 % organic pigmentation)
Use of fire retardants	No
LEXAN 9030	
Material	The tested product is a polycarbonate solid sheet. Both sides of the product are finished with a polished surface.
Manufacturer	Sabic, Specialty Film & Sheet, Innovative Plastics BV
Thickness (mm)	6
Density (kg/m ³)	1200
Colour	Transparent (0 % organic pigmentation)
Use of fire retardants	No

Nominal values	
LEXAN™ EXELL D, LEXAN EXELL D OB	
Material	The tested product is a polycarbonate solid sheet with on both sides a protective UV layer. Both sides of the product are finished with a polished surface.
Manufacturer	Sabic, Specialty Film & Sheet, Innovative Plastics BV
Thickness (mm)	6
Density (kg/m ³)	1200
Colour	
	EXELL D Transparent (0 % organic pigmentation)
	EXELL D OB White translucent (0,6 % organic pigmentation)
Use of fire retardants	No

Product tested for the extension of EXAP report No. 16305F and classification report No. 16305D-rev.1 – see test reports Nos 20037A & 20037B

Nominal values	
LEXAN EXELL D ST	
Type of product	Light transmitting flat solid polycarbonate (PC) sheet, with on both sides a protective UV layer. The front side (tested side) of the product is finished with a pebbled texture and the back side is finished with a polished surface.
Manufacturer	SABIC
Thickness (mm)	6
Density (kg/m ³)	1200
Use of fire retardants	No
Colour and light transmission	Transparent (CLEAR) – 80,4 % light transmission
Organic pigmentation (w/w %)	< 0,1
Surface texture	Pebbled texture (see Figure 1) – front side Polished texture – back side

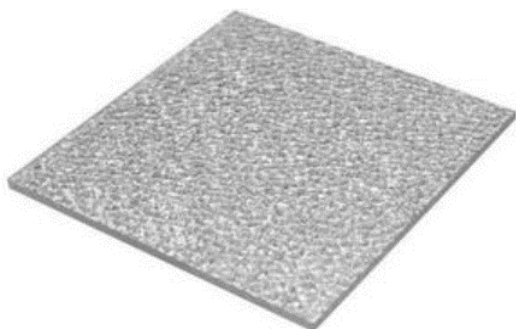


Figure 1: Pebbled texture of LEXAN EXELL D ST

More details (e.g. mounting and fixing) are available in the test reports in support of this classification (§2a).

2. TEST REPORTS AND EXAP REPORTS AND TEST RESULTS IN SUPPORT OF THIS CLASSIFICATION

a) Test reports (and EXAP reports)

Name of the laboratory	Name of the sponsor	Test report ref. No. and test date	Test method and date
WFRGENT nv Ghent, Belgium	SABIC	16194A-rev.1: 09/08/2013 16305A: 09/01/2014 20037A: 30/03/2020	EN ISO 11925-2:2010/AC:2011
WFRGENT nv Ghent, Belgium	SABIC	16194B: 01/08/2013 16305B: 22/01/2014 to 30/01/2014 16305C: 22/01/2014 to 14/02/2014 20037B: 16/01/2020	EN 13823:2010 & EN 13823:2010+A1:2014
WFRGENT nv Ghent, Belgium	SABIC	20037D	EXAP according to CEN/TS 15117:2005

b) Test results

Official test results used for the classification

Test method	Parameter	Number of tests	Results		Criteria for Class B-s1,d0	
			Continuous parameters Mean	Compliance parameters	Continuous parameters	Compliance parameters
EN ISO 11925-2 (*) (1) 30 s flame application:						
<u>Surface exposure</u> - front side	$F_s \leq 150$ mm Ignition filter paper	6	(-)	Yes	(-)	Yes
<u>Edge exposure (**)</u> - front side	$F_s \leq 150$ mm Ignition filter paper	6	(-)	(-)	(-)	(-)
<p>(*) <i>The material melted but didn't pull away from the pilot burner.</i> (**) According to EN 16240:2013 "the flame shall be applied to the surface of the test piece" and therefore only surface exposure has been performed. (1) <i>Based on the results obtained in test report No. 16194A – LEXAN SG 305 OB 2 mm.</i></p>						
EN 13823 (2)	FIGRA _{0,2 MJ} (W/s)	5	50	(-)	≤ 120	(-)
	FIGRA _{0,4 MJ} (W/s)		28	(-)	(-)	(-)
	LFS _{<edge}		(-)	Yes	(-)	Yes
	THR _{600s} (MJ)		1,6	(-)	$\leq 7,5$	(-)
	SMOGRA (m ² /s ²)		8 (***)	(-)	≤ 30	(-)
	TSP _{600s} (m ²)		32 (***)	(-)	≤ 50	(-)
	Flaming droplets/particles f < 10 s		(-)	No	(-)	No
	f > 10 s		(-)	No	(-)	No
<p>(***) <i>Smoke value was corrected according to § A.6.1.2 of EN 13823:2010+A1:2014 'Note' (p.34).</i> (2) <i>Based on the results obtained in test report No. 16305C – LEXAN 9030 6 mm.</i></p>						

(-) Not applicable.

Comparative test results taken over from EXAP report No. 16305F

EN ISO 11925-2 Test report No. 16194A	$F_s \leq 150$ mm	Ignition filter paper	Average maximal flame spread (mm)
LEXAN SG 305 OB 2 mm	Yes	No	18,3
LEXAN SG 305 OB 6 mm	Yes	No	10,0

<i>EN ISO 11925-2</i> <i>Test report No. 16305A</i>	$F_s \leq 150$ mm	Ignition filter paper	Average maximal flame spread (mm)
LEXAN SG 305 6 mm	Yes	No	7,5
LEXAN 9030 6 mm	Yes	No	8,7
LEXAN EXELL D 6 mm	Yes	No	9,5

<i>EN 13823</i> <i>Test report No. 16194B</i>	FIGRA (W/s)	THR _{600S} (MJ)	SMOGRA (m ² /s ²)	TSP _{600S} (m ²)
LEXAN SG 305 OB 2 mm	0	0,2	0	17
LEXAN SG 305 OB 6 mm	0	0,1	0	17
<i>EN 13823</i> <i>Test report No. 16305B</i>	FIGRA (W/s)	THR _{600S} (MJ)	SMOGRA (m ² /s ²)	TSP _{600S} (m ²)
LEXAN SG 305 6 mm	27,09	3,1	9,70	94,4
LEXAN SG 305 6 mm	16,24	1,4	5,50	41,2
Average: LEXAN SG305 6 mm	21,67	2,25	7,60	67,80
LEXAN 9030 6 mm	48,06	1,7	10,23	69,7
LEXAN 9030 6 mm	63,29	4,4	19,88	184,2
Average: LEXAN 9030 6 mm	55,68	3,05	15,06	126,95
LEXAN EXELL D 6 mm	70,67	2,3	13,35	68,6
LEXAN EXELL D 6 mm	45,60	1,3	7,57	35,7
Average: LEXAN EXELL D 6 mm	58,14	1,8	10,46	52,15

The SMOGRA- and TSP-values were calculated without smoke correction.

Comparative test results used for the extension (see §3c) of EXAP report No. 16305F and classification report No. 16305D-rev.1

<i>EN ISO 11925-2</i> <i>Test report No. 20037A</i>	$F_s \leq 150$ mm	Ignition filter paper	Average maximal flame spread (mm)
LEXAN EXELL D ST 6 mm Clear – with pebble texture	Yes	No	0

<i>EN 13823</i> <i>Test report No. 20037B</i>	FIGRA _{0,2 MJ} (W/s)	FIGRA _{0,4 MJ} (W/s)	THR _{600S} (MJ)	SMOGRA (m ² /s ²)	TSP _{600S} (m ²)
LEXAN EXELL D ST 6 mm Clear – with pebble texture	16	16	1,4	5	43

The SMOGRA- and TSP-value was calculated without smoke correction.

3. CLASSIFICATION AND FIELD OF APPLICATION

a) Reference of classification

This classification has been carried out in accordance with EN 13501-1:2018.

The related harmonized product standard is EN 16240:2013 and has been used for the mounting and fixing of the SBI specimens.

b) Classification

The products **LEXAN™ SG305, LEXAN SG305 OB, LEXAN 9030, LEXAN EXELL D, LEXAN EXELL D OB & LEXAN EXELL D ST** in relation to their reaction to fire behavior are classified as:

Fire behavior	Smoke production	Flaming droplets
B	s1	d0

c) Field of application

This classification for the product as described in §1b, is valid for the following end use applications:

- Freestanding
- With protection of cut edges (edge finishing with a material of at least Euro class A2-s1,d0)
- Without joints

This classification is valid for the following product parameters:

LEXAN SG305, LEXAN SG305 OB	Polycarbonate solid sheet with on both sides a protective UV layer.	
	Surface structure: the front side of the product is finished with a matt surface and the back side of the product is finished with a polished surface.	
	Nominal thickness: 2 mm – 6 mm	Nominal density: 1200 kg/m ³
	Colour: Transparent (0 % organic pigmentation) and all other colours with an organic pigmentation lower than or equal to 0,6 % (white translucent).	
	Use of fire retardants: No	
LEXAN 9030	Polycarbonate solid sheet (without protective UV layer).	
	Surface structure: the front side and back side of the product are both finished with a polished surface.	
	Nominal thickness: 2 mm – 6 mm	Nominal density: 1200 kg/m ³
	Colour: Transparent (0 % organic pigmentation) and all other colours with an organic pigmentation lower than or equal to 0,6 % (white translucent).	
	Use of fire retardants: No	

LEXAN™ EXELL D LEXAN EXELL D OB	Polycarbonate solid sheet with on both sides a protective UV layer.	
	Surface structure: the front side and back side of the product are both finished with a polished surface.	
	Nominal thickness: 2 mm – 6 mm	Nominal density: 1200 kg/m ³ .
	Colour: Transparent (0 % organic pigmentation) and all other colours with an organic pigmentation lower than or equal to 0,6 % (white translucent).	
	Use of fire retardants: No	
LEXAN EXELL D ST	Polycarbonate solid sheet with on both sides a protective UV layer.	
	Surface structure: the front side is finished with a pebbled surface and the back side is finished with a polished surface.	
	All other parameters (thickness, colour, etc.) are fully identical to the parameters of LEXAN EXELL D	

4. RESTRICTIONS

At the time the standard EN 13501-1:2018 was published, no decision was made concerning the duration of validity of a classification report.

Provisions of Regulation (EU) 305/2011, commonly known as the Construction Products Regulation (CPR), prevail over any conflicting provisions in the harmonized standards and technical specifications.

5. WARNING

This classification report does not represent type approval or certification of the product.

The classification assigned to the product in this report is appropriate to a Declaration of Performance (DoP) by the manufacturer within the context of System 3 of AVCP and CE marking under the Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 laying down harmonized conditions for the marketing of construction products.

The manufacturer has made a declaration, which is held on file. This confirms that the product's design requires no specific processes, procedures or stages (e.g. no addition of flame-retardants, limitation of organic content, or addition of fillers) that are aimed at enhancing the fire performance in order to obtain the classification achieved. As a consequence the manufacturer has concluded that System 3 attestation is appropriate.

The test laboratory has played no part in sampling the product for the test, although it holds appropriate references, supplied by the manufacturer, to provide evidence for the traceability of the samples tested.

PREPARED BY

APPROVED BY

This report supersedes report No. 20037C which shall be withdrawn. The issue of the new revision is caused by incorrect commercial names: 'LEXAN SG 305(OB), LEXAN 9030, LEXAN EXELL D (OB) & LEXAN EXELL D ST'.

This document is the original version of this classification report and is written in English.

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