

Reaction to fire classification report No. 16305D

Owner of the classification report

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Introduction

This classification report defines the classification assigned to the products '**Lexan SG 305, Lexan 9030, Lexan Exell D, Lexan Exell D-ST**' in accordance with the procedures given in the standard EN 13501-1:2007+A1: 2009: Fire classification of construction products and building elements - Part 1: classification using data from reaction to fire tests.

This classification report consists of 7 pages

1. DETAILS OF CLASSIFIED PRODUCT

a) Nature and end use application

The products **Lexan SG 305, Lexan 9030, Lexan Exell D and Lexan Exell D-ST** are defined as 'polycarbonate solid sheets'.

Its classification is valid for the following end use application(s):
'Internal and external use in roofs, walls and ceilings'.

b) Description

The products "**Lexan SG 305, Lexan 9030, Lexan Exell D and Lexan Exell D-ST**" consist of solid polycarbonate, having a nominal thickness of 2 to 6 mm and a nominal density of 1200 kg/m³.

More details are available in the test report(s) in support of this classification (§2a).

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

a) Test reports

Name of the laboratory	Name of the sponsor	Test report ref. No.	Test method
WFRGENT nv Ghent, Belgium	Sabic Innovative Plastics BV Bergen Op Zoom, The Netherlands	16194B 16305B 16305C	EN 13823 (July 2010)
WFRGENT nv Ghent, Belgium	Sabic Innovative Plastics BV Bergen Op Zoom, The Netherlands	16194A 16305A	EN ISO 11925-2 (November 2010)
WFRGENT nv Ghent, Belgium	Sabic Innovative Plastics BV Bergen Op Zoom, The Netherlands	16305F	EXAP according to CEN/TS 15117

b) Test results

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) 30s flame application: <u>Surface exposure</u> - front side <u>Edge exposure (**)</u> - front side	$F_s \leq 150\text{mm}$ Ignition filter paper	6	(-)	Yes	(-)	Yes
			(-)	No	(-)	No
	$F_s \leq 150\text{mm}$ Ignition filter paper	(-)	(-)	(-)	(-)	(-)
			(-)	(-)	(-)	(-)
EN 13823 (2)	FIGRA _{0,2 MJ} (W/s)	5	50	(-)	≤ 120	(-)
	FIGRA _{0,4 MJ} (W/s)		28	(-)	≤ 120	(-)
	LFS _{<edge}		(-)	Yes	(-)	Yes
	THR _{600s} (MJ)		1,6	(-)	$\leq 7,5$	(-)
	SMOGRA (m ² /s ²)		9 (***)	(-)	≤ 30	(-)
	TSP _{600s} (m ²)		39 (***)	(-)	≤ 50	(-)
	Flaming droplets/particles f<10s		(-)	No	(-)	No
	f>10s		(-)	No	(-)	No

(-) Not applicable

(*) The material did not melt nor pull away from the pilot burner.

(**) 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.

(***) Smoke value was corrected according to § A.6.1.2 of EN 13823: 2010 ‘Note’

(1) Based on the results obtained in test report No. 16194A – Lexan SG 305 OB 2mm

(2) Based on the results obtained in test report No. 16305C – Lexan 9030 6mm

	$F_s \leq 150\text{mm}$	Ignition filter paper	Average maximal flame spread (mm)
Lexan SG 305 OB 2mm	Yes	No	18,3
Lexan SG 305 OB 6mm	Yes	No	10,0

Based on the results obtained in test report No. 16194A: only surface exposure was performed.

	$F_s \leq 150\text{mm}$	Ignition filter paper	Average maximal flame spread (mm)
Lexan SG 305 (transparent)	Yes	No	7,5
Lexan 9030 (transparent)	Yes	No	8,7
Lexan Exell D (transparent)	Yes	No	9,5

Based on the results obtained in test report No. 16305A: only surface exposure was performed.

	FIGRA (W/s)	THR _{600S} (MJ)	SMOGRA (m ² /s ²)	TSP _{600S} (m ²)
Lexan SG 305 OB 2mm	0	0,2	0	17
Lexan SG 305 OB 6mm	0	0,1	0	17

Based on the results obtained in test report No. 16194B: Only one single test on each product has been carried out instead of the standard three replicates.

	FIGRA (W/s)	THR _{600S} (MJ)	SMOGRA (m ² /s ²)	TSP _{600S} (m ²)
<i>Lexan SG 305</i>	<i>27,09</i>	<i>3,1</i>	<i>9,70</i>	<i>94,4</i>
<i>Lexan SG 305</i>	<i>16,24</i>	<i>1,4</i>	<i>5,50</i>	<i>41,2</i>
Average: Lexan SG 305	21,67	2,25	7,60	67,80
<i>Lexan 9030</i>	<i>48,06</i>	<i>1,7</i>	<i>10,23</i>	<i>69,7</i>
<i>Lexan 9030</i>	<i>63,29</i>	<i>4,4</i>	<i>19,88</i>	<i>184,2</i>
Average: Lexan 9030	55,68	3,05	15,06	126,95
<i>Lexan Exell D</i>	<i>70,67</i>	<i>2,3</i>	<i>13,35</i>	<i>68,6</i>
<i>Lexan Exell D</i>	<i>45,60</i>	<i>1,3</i>	<i>7,57</i>	<i>35,7</i>
Average: Lexan Exell D	58,14	1,8	10,46	52,15

Based on the results obtained in test report No. 16305B: Two tests on each product have been carried out instead of the standard three replicates.

3. CLASSIFICATION AND DIRECT FIELD OF APPLICATION

a) Reference and direct field of application

This classification has been carried out in accordance with EN 13501-1:2007+A1:2009 and EN 16240: 2013.

b) Classification

The products **Lexan SG 305**, **Lexan 9030**, **Lexan Exell D** and **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 conditions:

- Freestanding
- With protection of cut edges
- Without joints

This classification is valid for the following product parameters:

Lexan SG 305	Polycarbonate solid sheet with on both sides a protective UV layer and on the front side mat textured	
	Nominal thickness: 2mm-6mm	Nominal density: 1200 kg/m ³
	Colour: Translucent with a pigmentation lower than or equal to 0,6% and transparent	
	Use of fire retardants: No	
Lexan 9030	Polycarbonate solid sheet	
	Nominal thickness: 2mm-6mm	Nominal density: 1200 kg/m ³
	Colour: Translucent with a pigmentation lower than or equal to 0,6% and transparent	
	Use of fire retardants: No	
Lexan Exell D	Polycarbonate solid sheet with on both sides a protective UV layer	
	Nominal thickness: 2mm-6mm	Nominal density: 1200 kg/m ³
	Colour: Translucent with a pigmentation lower than or equal to 0,6% and transparent	
	Use of fire retardants: No	
Lexan Exell D-ST	Polycarbonate solid sheet with on both sides a protective UV layer and on the front side mat textured	
	Nominal thickness: 2mm-6mm	Nominal density: 1200 kg/m ³
	Colour: Translucent with a pigmentation lower than or equal to 0,6% and transparent	
	Use of fire retardants: No	

4. RESTRICTIONS

At the time the standard EN 13501-1:2007+A1:2009 was published, no decision was made concerning the duration of validity of a classification report.

5. WARNING

This classification report does not represent type approval nor certification of the product.

The classification assigned to the product in this report is appropriate to a Declaration of Performance (DoP) of the essential characteristics of the construction product by the manufacturer within the context of a System 3 Assessment and Verification of Constancy of Performance (AVCP).

Under the Construction Products Regulation (CPR: EU 305/2011), such a Declaration of Performance (DoP) is a requirement for affixing the CE marking.

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 a System 3 Assessment and Verification of Constancy of Performance (AVCP) 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.

EN 13501-1:2007+A1:2009: Annex B Reaction to fire classification report § 5 Limitations: "The classification assigned to the product in this report is appropriate to a Declaration of Conformity by the manufacturer within the context of a System 3 Attestation of Conformity and CE marking under the Construction Products Directive.

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

SIGNED

APPROVED

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