

## ***Reaction to fire classification report Nr 14659E***

### **Owner of the classification report**

SABIC INNOVATIVE PLASTICS BV  
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### **Introduction**

This classification report defines the classification assigned to the product 'Lexan Thermoclear' in accordance with the procedures given in the standard EN 13501-1+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 8 pages**

## 1. DETAILS OF CLASSIFIED PRODUCT

### a) Nature and end use application

The product **Lexan Thermoclear** is defined as 'polycarbonate multi wall'.

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

'Exterior glazing applications'.

### b) Description

*This description is based on information given by the sponsor.*

The tested product is a polycarbonate multi-wall sheet.

	Nominal values
<b>Sample 1</b>	
Product	<b>Lexan Thermoclear LT2UV 4mm</b>
Structure	2-wall rectangular (image 1 below)
Coating	Standard UV-coating
Colour	Standard clear color (112)
Organic pigment loading (%)	0.000
Thickness (mm)	4
Surface mass (g/m <sup>2</sup> )	800
<b>Sample 2</b>	
Product	<b>Lexan Thermoclear LT2UV 16mm</b>
Structure	3-wall rectangular (image 2 below)
Coating	Standard UV-coating
Colour	Standard clear color (112)
Organic pigment loading (%)	0.000
Thickness (mm)	16
Surface mass (g/m <sup>2</sup> )	2700
<b>Sample 3</b>	
Product	<b>Lexan Thermoclear LT2UV 16mm</b>
Structure	3-wall rectangular (image 2 below)
Coating	Standard UV-coating
Colour	Standard opal white color (WH7A092X)
Organic pigment loading (%)	0.186
Thickness (mm)	16
Surface mass (g/m <sup>2</sup> )	2700
<b>Sample 4</b>	
Product	<b>Lexan Thermoclear LTD3TS 16mm</b>
Structure	3-wall rectangular (image 2 below)
Coating	Drippgard
Colour	Standard clear color (112)
Organic pigment loading (%)	0.000
Thickness (mm)	16
Surface mass (g/m <sup>2</sup> )	2700
<b>Sample 5</b>	
Product	<b>Lexan Thermoclear LTD2RS 20mm</b>
Structure	6-wall S-structure (image 3 below)
Coating	Drippgard
Colour	Standard clear color (112)
Organic pigment loading (%)	0.000
Thickness (mm)	20
Surface mass (g/m <sup>2</sup> )	3000
<b>Sample 6</b>	
Product	<b>Lexan Thermoclear LT2XP 20mm</b>

Structure	6-wall S-structure (image 3 below)
Coating	Sun XP
Colour	Standard clear color (112)
Organic pigment loading (%)	0.000
Thickness (mm)	20
Surface mass (g/m <sup>2</sup> )	3000

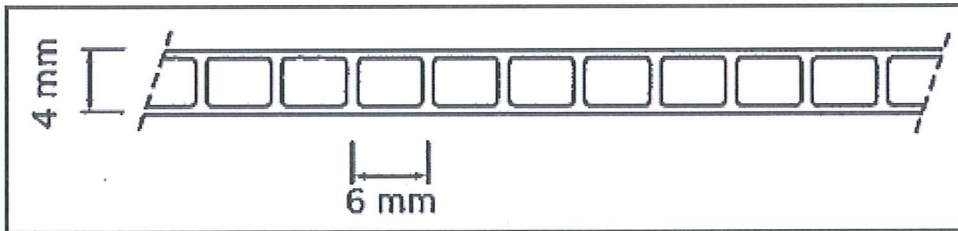


Image 1: 2-wall Rectangular

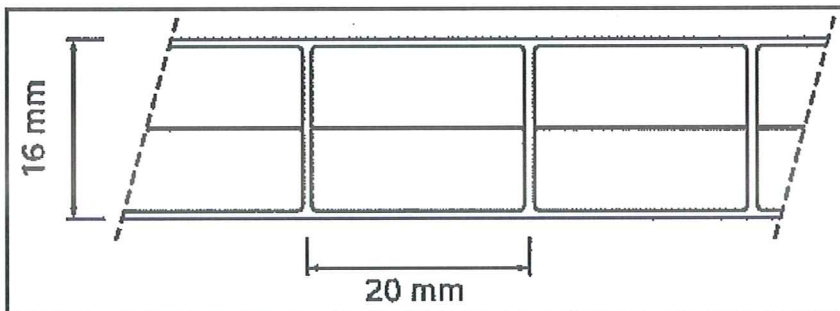


Image 2: 3-wall Rectangular

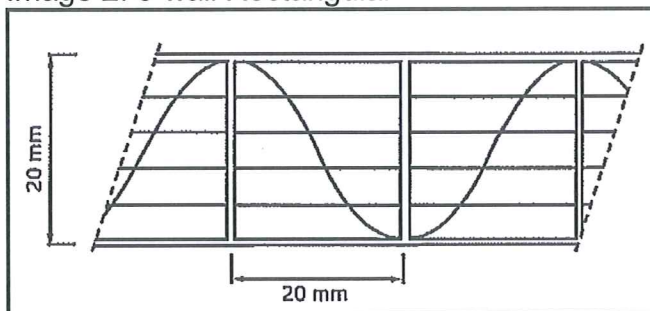


Image 3: 6-wall S-structure

## 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. Nr.	Test method
WFRGENT N.V. Ghent, Belgium	Sabic Innovative Plastics BV The Netherlands	14659C 14659D	EN 13823 (February 2002)
WFRGENT N.V. Ghent, Belgium	Sabic Innovative Plastics BV The Netherlands	14659A 14659B	EN ISO 11925-2 (February 2002)
WFRGENT N.V. Ghent, Belgium	Sabic Innovative Plastics BV The Netherlands	14659F	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	$F_s \leq 150\text{mm}$ Ignition filter paper	6	(-) (-)	Yes No	(-) (-)	Yes No
EN 13823 (2)	FIGRA <sub>0,2 MJ</sub> (W/s) FIGRA <sub>0,4 MJ</sub> (W/s) LFS <sub>&lt;edge</sub> THR <sub>600s</sub> (MJ) SMOGRA (m <sup>2</sup> /s <sup>2</sup> ) TSP <sub>600s</sub> (m <sup>2</sup> ) Flaming droplets/particles f<10s f>10s	3	6 6 (-) 0,5 2 32  (-) (-)	(-) (-) Yes (-) (-) (-)  No No	$\leq 120$ $\leq 120$ (-) $\leq 7,5$ $\leq 30$ $\leq 50$  (-) (-)	(-) (-) Yes (-) (-) (-)  No No

(-) Not applicable

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

(1) Based on the results obtained in test report Nr. 14659B: Lexan Thermoclear LT2UV 16mm (transparent)

(2) Based on the results obtained in test report Nr. 14659D: Lexan Thermoclear LT2UV 16mm (transparent)

	Surface exposure	
	FS $\leq$ 150mm	Ignition filter paper
Sample 1: Lexan Thermoclear LT2UV 4mm (transparent)	Yes	No
Sample 2: Lexan Thermoclear LT2UV 16mm (transparent)	Yes	No
Sample 3: Lexan Thermoclear LT2UV 16mm (white)	Yes	No
Sample 4: Lexan Thermoclear LTD3TS 16mm (transparent)	Yes	No
Sample 6: Lexan Thermoclear LT2XP 20mm (transparent)	Yes	No

Based on the results obtained in test report Nr. 14659A, only surface exposure was performed per product variation, with protection of cut edges.

	FIGRA (W/s)	THR <sub>600s</sub> (MJ)	SMOGRA (m <sup>2</sup> /s <sup>2</sup> )	TSP <sub>600s</sub> (m <sup>2</sup> )
Sample 1: Lexan Thermoclear LT2UV 4mm (transparent)	0	0,2	0	20,2
Sample 2: Lexan Thermoclear LT2UV 16mm (transparent)	0	0,2	0	25,2
Sample 3: Lexan Thermoclear LT2UV 16mm (white)	0	0,2	0	20,4
Sample 4: Lexan Thermoclear LTD3TS 16mm (transparent)	0	0,3	13	30
Sample 5: Lexan Thermoclear LTD2RS 20mm (transparent)	101	1,9	19	39
Sample 6: Lexan Thermoclear LT2XP 20mm (transparent)	77	1,6	16	46

Based on the results obtained in test report Nr. 14659C, only one test was performed per product variation.

### 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+A1: 2009.

b) Classification

The product **Lexan Thermoclear** in relation to its reaction to fire behavior is classified as:

Fire behavior	Smoke production	Flaming droplets
<b>B</b>	<b>s1</b>	<b>d0</b>

c) Field of application

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

- Self supporting
- With or without a void
- With protection of cut edges
- No Joints

This extended application is valid for the following product parameters:

- Nominal thickness : 4 mm to 16 mm
- Nominal mass per unit area: 800 g/m<sup>2</sup> to 2700 g/m<sup>2</sup>
- Coatings: Standard UV, Sun XP & Dripgard
- Structure: 2- to 9-wall sinus / tunnel / rectangular / X-structure
- Colours: all colours

Color Number	Color
WH7A092X	Standard opal white color
31923	Custom green color
GY5B422T	Standard SCIR grey color
215102	Custom blue color
715081	Custom smoke grey color
BL8B089T	Standard SCIR blue color
GN8B038T	Standard SCIR green color
515055	Standard bronze color

#### 4. RESTRICTIONS

At the time the standard EN 13501-1+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 following statement is included in accordance with Fire Sector Group Recommendation 001rev2:

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 to the manufacturer's factory production control that is aimed to be relevant to the samples tested and that will provide for their traceability.

Report	Name	Signature (*)	Date
Prepared by	Ir. K. CATRY		11 FEB, 2011
Reviewed by	Dr. Ir. Bart SETTE		11 FEB, 2011

(\*) For and on behalf of "WFRGENT N.V."

EN 13501-1 B-C-D WG 3E\*

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