

Title:

EXTENDED APPLICATION
REPORT IN ACCORDANCE
WITH EN/TS 15117

Notified Body No:

0833

Product Name:

LG HI-MACS

Report No:

167468

Issue No:

1

Prepared for:

LG Chem Europe GmbH,
Frankfurt Am Main, Lancy
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Date:

19th October 2007

1. Introduction

This report extends the field of application of test results obtained for 'LG HI-MACS', a family of acrylic solid surface sheets. Extended application enables the prediction of fire performance, on the basis of one or more test results to the same test standard.

2. Details of Product Family

A product family is a group of products, which differ only in aspects that do not influence the properties required in the relevant product standard and, if relevant, end-use parameters, for which the reaction to fire performance remains unchanged (i.e. does not get worse).

The product family for which extended application is to be used is 'LG HI-MACS'. There is only one product property which varies within this product family and that is colour. This property has been assessed to determine its influence on the fire performance of the product when tested in accordance with EN 13823 and EN ISO 11925-2, and classified in accordance with EN 13501-1.

2.1 Product description

The products, 'LG HI-MACS', a family of acrylic solid surface sheets, are fully described below and in the test reports provided in support of classification listed in Clause 3.1.

General description	Acrylic solid surface sheet
Trade name / product reference	"LG HI-MACS"
Detailed description / composition details	
Name of manufacturer	LG Chem, Ltd.
Density / weight per unit area	1.64 to 1.71 g/m ³ (stated by sponsor) 1.71 (determined by Bodycote warringtonfire)
Thickness	12mm 12.2mm (determined by Bodycote warringtonfire)
Colour	Any colour variation allowed
Flame retardant details	The sponsor of the test has confirmed that no flame retardant additives were utilised in the production of the product / component.
Brief description of manufacturing process	Blending components. Oven curing. Cutting to standard size. Sanding process.

3. Test reports/extended application reports & test results in support of classification

3.1 Test reports/extended application reports

Name of Laboratory	Name of sponsor	Test reports/extended application report Nos.	Test method / extended application rules & date
Bodycote warringtonfire	LG Chem Europe GmbH	WF 166566	EN ISO 11925-2
Bodycote warringtonfire	LG Chem Europe GmbH	WF 166569, 166571, 166570	EN 13823
Bodycote warringtonfire	LG Chem Europe GmbH	WF 167467	EN 13501-1

3.2 Test results

Test method & test number	Parameter	No. tests	Results	
			Continuous parameter - mean (m)	Compliance parameters
EN ISO 11925-2 (30s exposure - surface)	F _s	6	0	Compliant
	Flaming droplets/particles		None	Compliant
EN ISO 11925-2 (30s exposure – edge)	F _s	6	0	Compliant
	Flaming droplets/particles		None	Compliant
EN 13823	FIGRA _{0.2Mj}	3	57.93, 50.95, 41.37	Compliant
	THR _{600s}		7.06, 6.87, 5.98	Compliant
	LFS		N, N, N	Compliant
	SMOGRA		1.29, 0, 0	Compliant
	TSP _{600s}		28.90, 26.59, 35.38	Compliant

4. Classification and field of application

4.1 Definition of Limits of Extended Application

Three tests have been conducted in accordance with EN 13823 and one test in accordance with EN ISO 11925-2. The tests were conducted on three different colours to assess what influence this product property has on the fire performance of 'LG HI-MACS'.

EN ISO 11925-2

From the data generated during the EN 13823 testing it was apparent which colour and thickness gave the worst fire performance. This product was tested formally in accordance with EN ISO 11925-2 using surface and edge flame application, no flame spread was observed from either application.

4.2 EN 13823

The SBI test measures the following fire parameters, Fire Growth Rate (FIGRA), Total Heat Release (THR600s), Smoke Growth Rate (SMOGRA) and Total Smoke Production (TSP600s). Each of these parameters were evaluated to assess what influence colour has on the fire performance of 'LG HI-MACS'. This evidence is shown in Figures 1 and 2.

The average FIGRA values were approximately 40% below the maximum value allowed for Class B, (EN 13501-1). The average THR600s values were approximately 10% below the maximum value allowed for Class B, (EN 13501-1). As the results indicate, colour has little or no effect on the overall fire performance of the product.

The measured results relating to smoke parameters, SMOGRA and TSP600s, fall comfortably within the s1 criteria.

In no instance were flaming droplets/particles in evidence during the fire tests.

4.4 Reference of classification

This classification has been carried out in accordance with clause 8 of EN 13501-1:2007

4.5 Classification

The products, 'LG HI-MACS', a family of acrylic solid surface sheets, in relation to their reaction to fire behaviour are classified:

B

The additional classification in relation to smoke production is:

s1

The additional classification in relation to flaming droplets / particles is:

d0

The format of the reaction to fire classification for construction applications, excluding flooring and linear pipe thermal insulation:

Fire Behaviour		Smoke Production			Flaming Droplets	
B	-	s	1	,	d	0

i.e. **B – s1 , d0**

Reaction to fire classification: B – s1, d0

4.3 Field of application

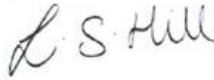
This classification is valid for the following end use applications:

- i) Construction applications, excluding flooring and linear pipe thermal insulation.
- ii) Installed with a minimum air gap of 120mm, without the presence of a substrate.

This classification is also valid for the following product parameters:

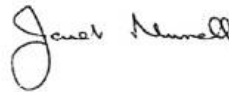
Product thickness	No variation allowed
Product weight per unit area	No variation allowed
Product colour	Any colour variation allowed
Product composition	No variation allowed
Product construction	No variation allowed

SIGNED



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Technical Consultant
Technical Department

APPROVED



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Bodycote warringtonfire

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