From: Keith Hughes
Sent: Wednesday, January 19, 2011 11:33 AM
To: Tali Gueta . Neyroud
Subject: Tests Conducted To BS EN ISO 11925 & BS EN13823 (SBI) - WF No.s 199595 & 199596

Dear Tali Gueta,

The product has attained a Euroclass "B-s1-d0"

PLAZIT – POLYCARBONATE + 2UV + FR3997PC 6% - 3mm boards – our results:

FIGRA (w/s)		THR 600s (MJ)	SMOGRA (m^2/s^2)		TSP 600s (m^2)	
(0.2MJ)	(0.4MJ)	**0.93**	Original	Recalculated	Original	Recalculated
12.15	**10.50**		**1.91**	**0.00**	**35.00**	**10.83**

Lateral Flame Spread to End of Specimen? : **None**
Fall of Flaming Drop/Particle? : **None**
Flaming of Fallen Particle Exceeding 10s? : **None**

Indicative performance descriptions and fire scenarios for Euroclasses.

Class	Performance description	Fire scenario and heat attack		Examples of products
A1	No contribution to fire	Fully developed fire in a room	At least 60 kW/m^2	Products of natural stone, concrete, bricks, ceramic, glass, steel and many metallic products
A2	"	"	"	Products similar to those of class A1, including small amounts of organic compounds
B	Very limited contribution to fire	Single burning item in a room	40 kW/m^2 on a limited area	Gypsum boards with different (thin) surface linings Fire retardant wood products
C	Limited contribution to fire	"	"	Phenolic foam, gypsum boards with different surface linings (thicker than in class B)
D	Acceptable contribution to fire	"	"	Wood products with thickness ≥ about 10 mm and density ≥ about 400 kg/m^3 (depending on end use)
E	"	Small flame attack	Flame height of 20 mm	Low density fibreboard, plastic based insulation products
F	No performance requirements	–	–	Products not tested (no requirements)

Classes of reaction to fire performance for construction products excluding floorings. The abbreviations of classification parameters are explained in the text.

Class	Test method(s)	Classification criteria	Additional classification
A1	EN ISO 1182 ([1]); *and*	$\Delta T \leq 30°C$; *and* $\Delta m \leq 50\%$; *and* $t_f = 0$ (i.e. no sustained flaming)	-
	EN ISO 1716	PCS ≤ 2.0 MJ.kg^{-1} ([1]); *and* PCS ≤ 2.0 MJ.kg^{-1} ([2]) ([2a]); *and* PCS ≤ 1.4 MJ.m^{-2} ([3]); *and* PCS ≤ 2.0 MJ.kg^{-1} ([4])	
A2	EN ISO 1182 ([1]); *or*	$\Delta T \leq 50°C$; *and* $\Delta m \leq 50\%$; *and* $t_f \leq 20s$	
	EN ISO 1716; *and*	PCS ≤ 3.0 MJ.kg^{-1} ([1]); *and* PCS ≤ 4.0 MJ.m^{-2} ([2]); *and* PCS ≤ 4.0 MJ.m^{-2} ([3]); *and* PCS ≤ 3.0 MJ.kg^{-1} ([4])	
	EN 13823 (SBI)	FIGRA ≤ 120 W.s^{-1}; *and* LFS < edge of specimen; *and* $THR_{600s} \leq 7.5$ MJ	Smoke production([5]); *and* Flaming droplets/ particles ([6])
B	EN 13823 (SBI); *and*	FIGRA ≤ 120 W.s^{-1}; *and* LFS < edge of specimen; *and* $THR_{600s} \leq 7.5$ MJ	Smoke production([5]); *and* Flaming droplets/ particles ([6])
	EN ISO 11925-2([8]): *Exposure = 30s*	Fs ≤ 150mm within 60s	
C	EN 13823 (SBI); *and*	FIGRA ≤ 250 W.s^{-1}; *and* LFS < edge of specimen; *and* $THR_{600s} \leq 15$ MJ	Smoke production([5]); *and* Flaming droplets/ particles ([6])
	EN ISO 11925-2([8]): *Exposure = 30s*	Fs ≤ 150mm within 60s	
D	EN 13823 (SBI); *and*	FIGRA ≤ 750 W.s^{-1}	Smoke production([5]); *and* Flaming droplets/ particles ([6])
	EN ISO 11925-2([8]): *Exposure = 30s*	Fs ≤ 150mm within 60s	
E	EN ISO 11925-2([8]): *Exposure = 15s*	Fs ≤ 150mm within 20s	Flaming droplets/ particles ([7])
F	No performance determined		

([1]) For homogeneous products and substantial components of non-homogeneous products.
([2]) For any external non-substantial component of non-homogeneous products.
([2a]) Alternatively, any external non-substantial component having a PCS ≤ 2.0 MJ/m^2, provided that the product satisfies the following criteria of EN xxxx(SBI) : FIGRA ≤ 20 W.s^{-1}; *and* LFS < edge of specimen; *and* $THR_{600s} \leq 4.0$ MJ; *and* s1; *and* d0.
([3]) For any internal non-substantial component of non-homogeneous products.
([4]) For the product as a whole.
([5]) **s1** = SMOGRA ≤ 30m^2.s^{-2} *and* $TSP_{600s} \leq 50$m^2 ; **s2** = SMOGRA ≤ 180m^2.s^{-2} *and* $TSP_{600s} \leq 200$m^2; **s3** = not s1 or s2.
([6]) **d0** = No flaming droplets/ particles in ENxxxx (SBI) within 600s; **d1** = No flaming droplets/ particles persisting longer than 10s in ENxxxx (SBI) within 600s; **d2** = not d0 or d1; Ignition of the paper in EN ISO 11925-2 results in a d2 classification.
([7]) Pass = no ignition of the paper (no classification); Fail = ignition of the paper (**d2** classification).
([8]) Under conditions of surface flame attack and, if appropriate to the end–use application of the product, edge flame attack.

Kind regards,

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