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Testing. Advising. Assuring.

[redacted]
Cladco Profiles Limited
North Road Industrial Estate
North Road
Okehampton
Devon
EX20 1BQ

30th April 2018

Our ref: 397795
Your Order No: [redacted]

Dear [redacted]

We confirm the result of the indicative test to BS EN 13823:2010 (SBI) which was performed on the 27th April 2018 on one specimen of your nominally 50mm thick cladding panel.

The specimen was supplied by yourselves on the 22nd March 2018. **Exova Warringtonfire** was not involved in any sampling or selection procedure.

The following results were obtained:

Parameter	**Result**
FIGRA (W/s) *(THR(t) threshold of 0.2MJ)*	**522.77**
FIGRA (W/S) *(THR(t) threshold of 0.4MJ)*	**522.77**
THR 600s (MJ)	**45.68**
SMOGRA (m^2/s^2) (Recalculated results)	**29.90**
TSP 600s (m^2) (Recalculated results)	**42.88**
Lateral Flame Spread to End of Specimen?	**None**
Fall of Flaming Drop/Particle?	**None**
Flaming of Fallen Particle Exceeding 10s?	**None**

It is important to note that the test was prematurely terminated following a period of 16 minutes 9 seconds due to excessive heat release. The above results relate only to this reduced test period.

Curves of time averaged rate of heat release contribution of the specimen (HRRav(t)), cumulative heat release (THR(t)), Fire Growth Rate (FIGRA), time averaged rate of smoke production (SPRav(t)), cumulative smoke production (TSP(t)) and smoke growth rate (SMOGRA) are appended as Graphs in Appendix 1 of this report.

In order to facilitate interpretation of these test results, the classification table, given in BS EN 13501-1:2007+A1:2009, *Fire Classification of Construction Products and Building Elements: Part 1, Classification Using Test Data from Reaction to Fire Tests,* is appended as table 1 in appendix 2 of this report.

Please note that the calculation of FIGRA utilises a THR(t) threshold of 0.2 MJ for Euroclasses A2 and B and a THR(t) threshold of 0.4MJ for Euroclasses C and D. FIGRA values calculated using both of these thresholds are tabulated for use where applicable.

These test results relate to an exploratory investigation which utilised the test methodology given in BS EN 13823:2010+A1:2014 (SBI), the full requirements of the Standard were not, however, complied with. The information is provided for the test sponsor's information only and should not be used to demonstrate performance against the Standard nor compliance with a regulatory requirement. The test was not conducted under the requirements of UKAS accreditation.

If we can be of any further assistance, please do not hesitate to contact us.

Yours sincerely

K Hughes
Technical Officer
Reaction to Fire Testing

Appendix 1

Graphs

Figure 1. $HRR_{av}(t)$ (kW)

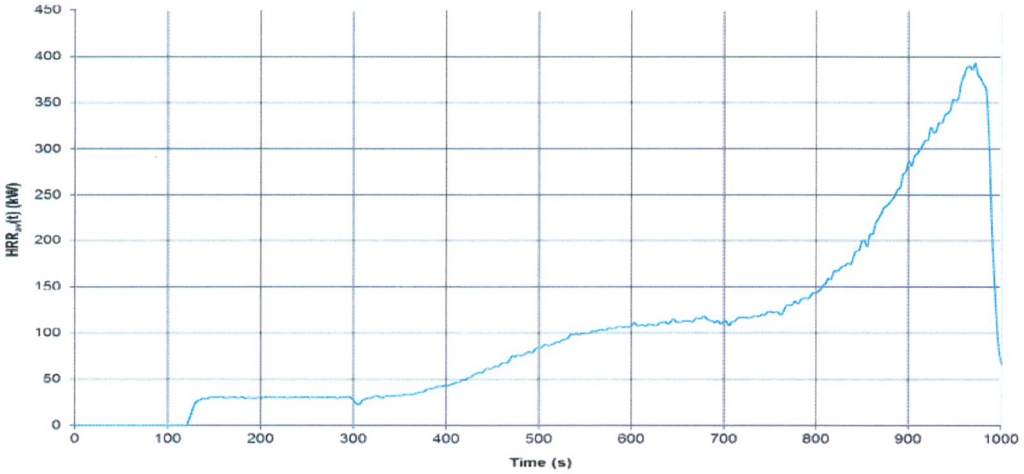


Figure 2. THR(t) (MJ)

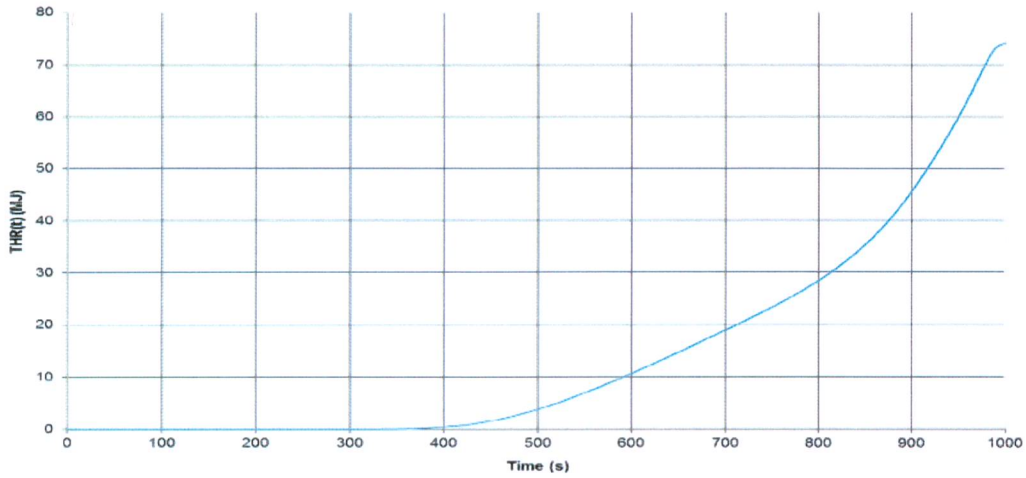


Figure 3. FIGRA

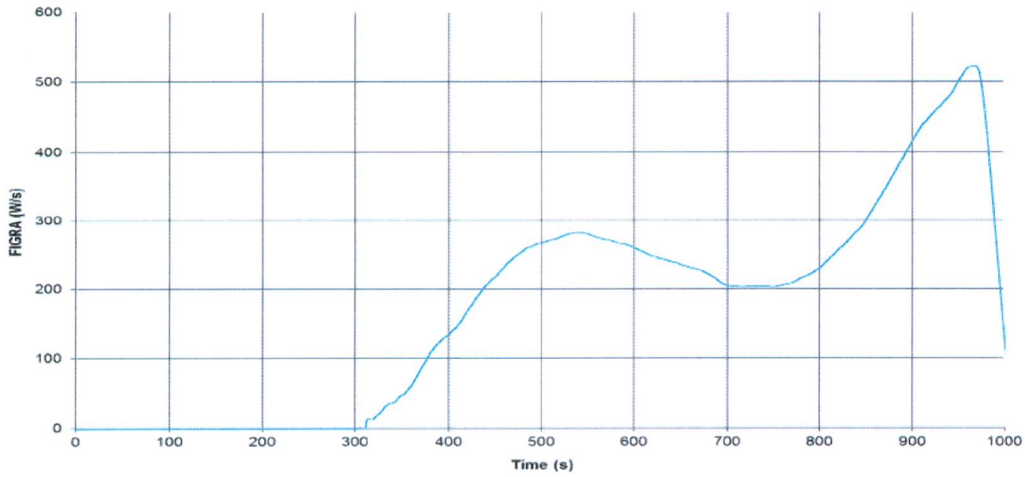


Figure 4. $SPR_{av}(t)$ (m^2/s)

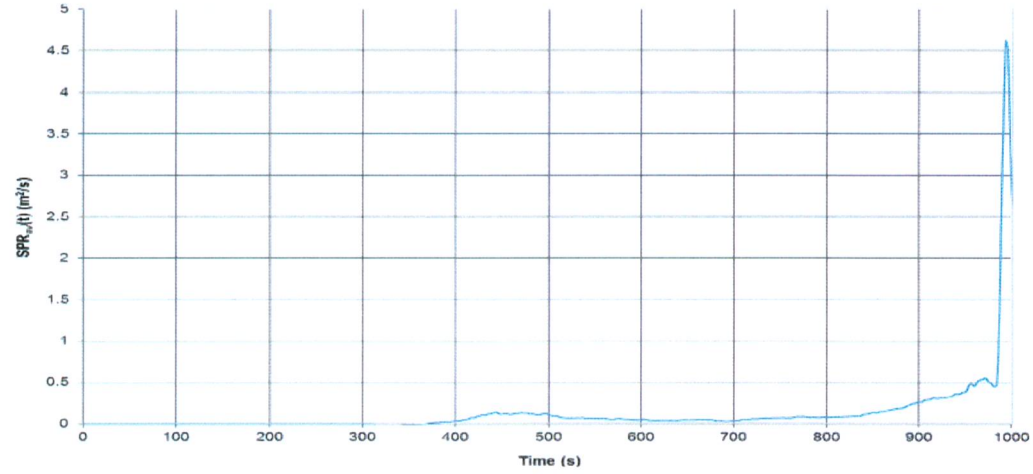


Figure 5. TSP(t) (m^2)

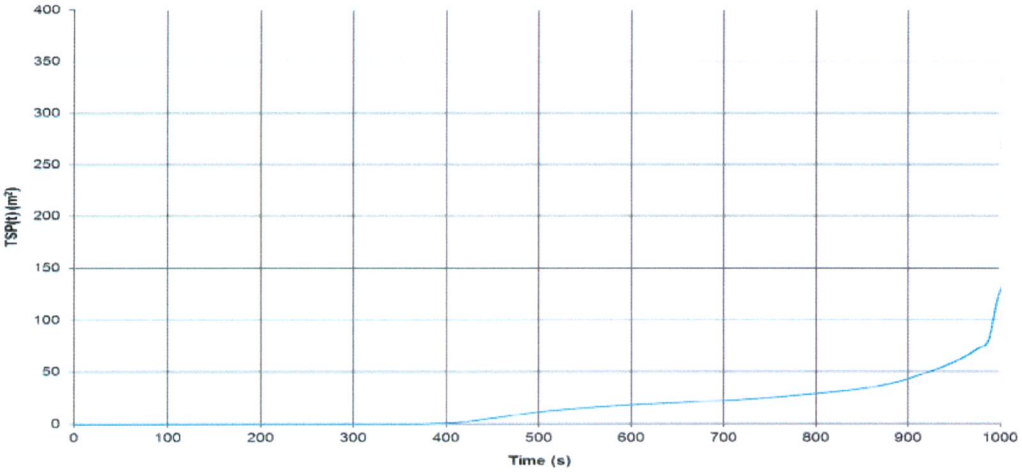
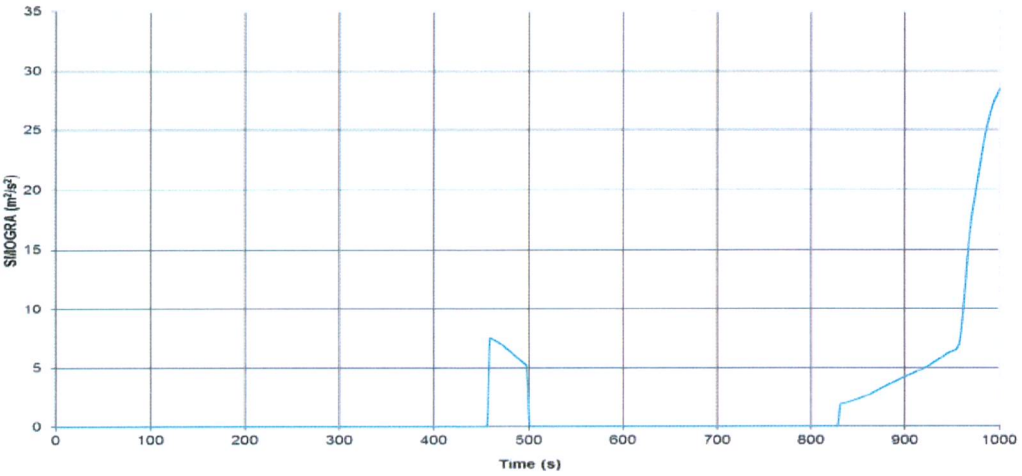


Figure 6. SMOGRA Graph.



Appendix 2

TABLE 1 : CLASSES OF REACTION TO FIRE PERFORMANCE FOR CONSTRUCTION PRODUCTS EXCLUDING FLOORINGS

Class	Test method(s)	Classification criteria	Additional classification
A1	prEN ISO 1182 ([1]); And	$\Delta T \leq 30°C$; and $\Delta m \leq 50\%$; and $t_f = 0$ (i.e. no sustained flaming)	-
	prEN ISO 1716	PCS ≤ 2,0 MJ/kg ([1]) and PCS ≤ 2,0 MJ/kg ([2]) ([2a]) and PCS ≤ 1,4 MJ/m² ([3]) and PCS ≤ 2,0 MJ/kg ([4])	-
A2	prEN ISO 1182 ([1]); or	$\Delta T \leq 50°C$; and $\Delta m \leq 50\%$; and $t_f \leq 20s$	-
	prEN ISO 1716; and	PCS ≤ 3,0 MJ/kg ([1]) and PCS ≤ 4,0 MJ/m² ([2]) and PCS ≤ 4,0 MJ/m² ([3]) and PCS ≤ 3,0 MJ/kg ([4])	-
	EN 13823	FIGRA ≤ 120 W/s; and LFS < edge of specimen; and $THR_{600s} \leq 7,5$ MJ	Smoke production([5]); and Flaming droplets/particles ([6])
B	EN 13823 and	FIGRA ≤ 120 W/s; and LFS < edge of specimen; and $THR_{600s} \leq 7,5$ MJ	Smoke production([5]); and Flaming droplets/particles ([6])
	prEN ISO 11925-2([8]): Exposure = 30s	Fs ≤ 150mm within 60s	
C	EN 13823; and	FIGRA ≤ 250 W/s; and LFS < edge of specimen; and $THR_{600s} \leq 15$ MJ	Smoke production([5]); and Flaming droplets/particles ([6])
	prEN ISO 11925-2([8]): Exposure = 30s	Fs ≤ 150mm within 60s	
D	EN 13823; and	FIGRA ≤ 750 W/s	Smoke production([5]); and Flaming droplets/particles ([6])
	prEN ISO 11925-2([8]): Exposure = 30s	Fs ≤ 150mm within 60s	
E	prEN ISO 11925-2([8]): Exposure = 15s	Fs ≤ 150mm within 20s	Flaming droplets/particles
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/m², provided that the product satisfies the following criteria of EN 13823, FIGRA ≤ 20 W/s, 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 ≤ 30m²/s² and $TSP_{600s} \leq 50m^2$; **s2** = SMOGRA ≤ 180m²/s² and $TSP_{600s} \leq 200m^2$; **s3** = not s1 or s2

([6]) **d0** = No flaming droplets/ particles in En 13823 within 600s;
d1 = No flaming droplets/ particles persisting longer than 10s in EN13823 within 600s;
d2 = not d0 or d1;
Ignition of the paper in prEN 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.0