FIRE
TECHNOLOGY
SERVICES

# Confidential Report

## Our Ref: 2702598E/07/12

Notified Body
for PPE Directive,
Construction Products Directive
& Marine Equipment Directive
I.D. No. 0338 & 0339

**Fire Technology Services**
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30 August 2012

Our Ref: 2702598E/07/12
Your Ref:



Client: MSL Firecheck
Butler Works
Wyresdale Road
Lancaster
LA1 3JJ

Job Title: **Fire Test on One Sample of Wood**

Clients Order Ref: ---

Date of Receipt: 31 July 2012

Description of Sample: One sample of wood, referenced: **Birch Plywood coated with three coats of Timbercheck®**.

Work Requested: Fire Technology Services were requested to carry out a fire test on the sample supplied to BS EN 13501-1 (Indicative).

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MSL Firecheck

**INDICATIVE FIRE TEST ACCORDING TO BS EN 13823:2002**
**Reaction to fire tests for Building Products - Building Products excluding floorings exposed to the thermal attack by a single burning item.**
**Classified According to BS EN 13501-1:2002 (Indicative)**

**Date of Test: 23/08/2012**

## Conditioning

One specimen from the sample was conditioned otherwise in accordance with BS EN 13238:2001.

## Principle

The test specimen, consisting of two vertical wings forming a right-angled corner, is exposed to the flames of a burner placed at the bottom of that corner. The flames are obtained by the combustion of propane gas, injected through a sandbox to give a heat output of 30.7±2.0kW.

The performance of the test specimen is evaluated over a period of 20 minutes. The performance requirements are: heat production, smoke production, lateral flame spread and falling flaming droplets and particles.

The heat production is measured by use of oxygen calorimeter that uses the principle that the amount of oxygen consumed in a fire is proportional to the amount of heat produced. The smoke production is measured by use of a light attenuation instrument installed in the exhaust duct alongside the sampling equipment used to measure the heat release. Visual observations are made of the horizontal flame spread and falling of flaming droplets and particles.

## Procedure

The test was carried out following the procedure described in BS EN13823:2002.

The specimen was placed in the trolley as per the instructions given and placed underneath the hood in the testing chamber. The volume flow of the exhaust was set to 0.60±0.05 $m^3/s$ and maintained at this throughout the test period.

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**Procedure (Continued)**

The temperatures in the exhaust hood and the ambient temperature should be within 4°C with the ambient temperature being within 20±10 °C. The other pre-test conditions of ambient pressure and ambient relative humidity were also recorded.

The recording of baseline data is started at 0 s. At 120 s the auxiliary burner is ignited and the propane mass flow adjusted to the specified flow before 150 s, this flow to be kept constant throughout the test.

With the pre-test conditions met, the propane supply is switched from the auxiliary burner to the main burner at 300 s.

The burning behaviour of the specimen was recorded both automatically and visually over a period of 1,260 s from when the main burner was ignited.

At 1560 s the gas supply was terminated along with the automatic recording of the data. The conditions at the end of the test were recorded at least one minute after any remaining combustion has been totally extinguished.

The individual pre-test and baseline conditions, apparatus specifications, test validity criteria, burner details was found to be within specified parameters. The graphs of HRR, HRR(30), THR, FIGRA, SPR, SPR(60), TSP and SMOGRA are found below with the results and classification.

**Classification Criteria**

The sample was classified according to BS EN 13501:2002: Fire classification of Construction Products and Building Elements: Part 1: Classification using Test Data from Reaction to Fire Tests.

For construction products excluding floorings the classes are:

| Classification | Classification Criteria (mean values) | | | |
|---|---|---|---|---|
| | $FIGRA_{0.2MJ}$ (W/s) | $FIGRA_{0.4MJ}$ (W/s) | LFS | $THR_{600s}$ (MJ) |
| A2 | ≤120 | N/A | Edge of specimen | ≤7.5 |
| B | ≤120 | N/A | Edge of specimen | ≤7.5 |
| C | N/A | ≤250 | Edge of specimen | ≤15 |
| D | N/A | ≤750 | No requirement | No requirement |

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**Classification Criteria (Continued)**

To meet classification A2 the sample also has to meet the requirements of either BS EN ISO 1182:2002 or BS EN ISO 1716:2002

To meet classification B, C and D the sample also has to meet the requirements of BS EN ISO 11925-2:2002

**Additional Classifications - Smoke and Flaming droplets/particles**

| Classification | Classification Criteria (mean values) | |
|---|---|---|
| | SMOGRA ($m^2/s^2$) | $TSP_{600s}$ ($m^2$) |
| s1 | ≤30 | ≤50 |
| s2 | ≤180 | ≤200 |
| s3 | Not s1 or s2 | Not s1 or s2 |
| d0 | No flaming droplets/particles in BS EN 13823 within 600seconds | |
| d1 | No flaming droplets/particles persisting longer than 10 seconds in BS EN 13823 within 600 seconds | |
| d2 | Not d0 or d1 | |

**Results**

| Classification criteria | | **Class** |
|---|---|---|
| $FIGRA_{0.2MJ}$ (W/s) | 396.8 | **D** |
| $FIGRA_{0.4MJ}$ (W/s) | 396.8 | |
| $THR_{600s}$ (MJ) | 11.0 | |
| LFS to edge (yes or no) | No | |
| SMOGRA ($m^2/s^2$) | 1.7 | **s1** |
| $TSP_{600s}$ ($m^2$) | 31.9 | |
| FDP flaming ≤ 10 s (yes or no) | No | **d0** |
| FDP flaming > 10 s (yes or no) | No | |

The test results relate to the behaviour of the test specimen of a product under the particular conditions of the test; they are not intended to be the sole criteria for assessing the potential fire hazard of the product in use.

Sample was tested as an essentially flat product, the specimens were tested loose laid onto a 12mm calcium silicate board as defined in BS EN 13238:2001.

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**Comments**

In our opinion, based on the test carried out on the sample supplied the results of the BS EN 13823:2002 test indicate the sample meets the requirements of a Class D, S1, d0 when tested to this method alone.

**Note**

Only one specimen was tested to BS EN 13823:2002. No guarantee can be given as to the outcome of definitive testing. This report does not have the status of a full UKAS Accredited Test Certificate, therefore, it cannot be substituted or used as such.

To meet classification B, C and D the sample also has to meet the requirements of BS EN ISO 11925-2:2002

An estimation of uncertainty of measurement has not been taken into account when making a judgement to any pass/fail criteria.

Reported by:…… R Ryan, Fire Technician

Countersigned by:…….. P Doherty, Operational Head

Enquiries concerning this report should be addressed to Customer Services.