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## Title:

CLASSIFICATION OF REACTION TO FIRE PERFORMANCE
IN ACCORDANCE WITH
EN 13501-1: 2018.

## Product Name:

"Shadow Line+ Cladding"

## Report No:

526003

## Issue No:

2

## Prepared for:

**The Millboard Company Ltd**
Ryton Lodge,
Oxford Road,
Coventry,
Warwickshire,
CV8 3EJ

## Date:

5th May 2023

## 1. Introduction

This classification report defines the classification assigned to "Shadow Line+ Cladding", a family of cladding panel products, in line with the procedures given in EN 13501-1: 2018.

## 2. Details of classified product

### 2.1 General

The products, "Shadow Line+ Cladding", are defined as being suitable for construction applications, excluding flooring and linear pipe thermal insulation.

### 2.2 Product description

The products, "Shadow Line+ Cladding", are fully described below and in the test reports provided in support of classification listed in Clause 3.1.

| Item | Detail |
|---|---|
| General description | Millboard shadow line+ cladding, fixed through the tongue to treated timber battens with Millboard corner profiles and aluminium trims |
| Product reference | "Shadow Line+ Cladding" |
| Name of manufacturer | The Millboard Company Limited |
| Plank thickness | 18mm (stated by sponsor) |
| Plank width | 200mm (stated by sponsor) |
| Plank dimensions | 200mm x 18mm x 3600mm (stated by sponsor) |
| Plank weight per unit area | 12kg/m$^2$ (stated by sponsor) |
| Profile diagram of plank |  |

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| Item | | Detail |
|---|---|---|
| Coating | Generic type | UV stable 2K coated elastomer layer |
| | Product reference | See Note 1 below |
| | Name of manufacturer | The Millboard Company Limited |
| | Colour | Tested: Jarrah, Limed Oak and Burnt Cedar |
| | Thickness | 3mm |
| | Weight per unit area | 3.5kg/$m^2$ |
| | Flame retardant details | See Note 2 below |
| | Curing process | See Note 2 below |
| Core | Generic type | Blend of natural minerals bonded in a polymer resin, with long fibre reinforcement |
| | Product reference | See Note 1 below |
| | Name of manufacturer | The Millboard Company Limited |
| | Colour | Grey |
| | Thickness | 15mm |
| | Weight per unit area | 8.5kg/$m^2$ |
| | Flame retardant details | See Note 1 below |

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| Item | | | Detail |
|---|---|---|---|
| Metal framework | Corner profile | Generic type | UV stable 2K coated flexible polymer |
| | | Product reference | "Shadow Line+ Corner Profile" |
| | | Dimensions | 50mm x 50mm x 3050mm |
| | | Name of manufacturer | The Millboard Company Limited |
| | | Thickness | See Note 2 below |
| | | Weight per unit area | See Note 2 below |
| | | Flame retardant details | See Note 2 below |
| | Aluminium trims | Generic type | Aluminium trims |
| | | Product reference | "Envello Aluminium trims" |
| | | Detailed description | Perforated closures, located at the bottom and top of cladding area to allow ventilation behind the boards) |
| | | Dimensions | 50mm x 25mm |
| | | Name of manufacturer | See Note 2 below |
| | | Thickness | See Note 2 below |
| | | Density | See Note 2 below |
| | | Flame retardant details | The component is inherently flame retardant |
| Brief description of manufacturing process | | | Products are made through a layering process in wood-grained moulds, before being machined to form the finished profile. |
| Fixing details | | | |
| Timber battens | | Generic type | Treated timber battens at max 600mm centres |
| | | Product reference | "Treated timber battens" |
| | | Timber species | See Note 1 below |
| | | Thickness | 25mm |
| | | Weight per unit area | See Note 1 below |
| | | Name of supplier | See Note 1 below |
| | | Flame retardant details | See Note 1 below |
| | | Cycle details | See Note 1 below |

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| Item | | Detail |
|---|---|---|
| Substrate details | | |
| Breather membrane | Generic type | Vapour permeable underlay |
| | Product reference | "Breather Membrane" |
| | Name of manufacturer | See Note 1 below |
| | Colour | See Note 1 below |
| | Thickness | 0.7mm |
| | Weight per unit area | 0.16kg/m² |
| | Type of weave | See Note 1 below |
| | Flame retardant details | See Note 1 below |
| Sheathing board | Generic type | Oriented strand board (OSB) |
| | Product reference | "OSB" |
| | Name of manufacturer | See Note 1 below |
| | Thickness | 12mm |
| | Weight per unit area | 7kg/m² |
| | Density | 600kg/m³ |
| | Flame retardant details | See Note 1 below |
| Joint details | Joint type | Horizontal and vertical joints |
| | Position of horizontal joint from bottom edge of specimen | 500mm |
| | Position of vertical joint from the corner line, measured when the wings are mounted ready for testing | 200mm |
| | Depth of joint | 18mm |
| | Width of joint | Butt joint |
| | Photograph of joint (Example) |  |
| Orientation of planks | | Horizontal or vertical orientation only |

**Note 1:** The sponsor was unable to provide this information.
**Note 2:** The sponsor was unwilling to provide this information.

## 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/classification report Nos. | Test method / classification rules & date |
|---|---|---|---|
| Warringtonfire | The Millboard Company Limited | Formal: 525851 (Issue 2) Indicative: 525852 (Issue 3), 525853 (Issue 3) | EN ISO 11925-2: 2020 |
| Warringtonfire | The Millboard Company Limited | Formal: 550123 & 524434 (Issue 5) | EN 13823: 2020 + A1: 2022 |
| Warringtonfire | The Millboard Company Limited | Indicative: 524431 (I5), 524433 (I5), 524435 (I5), 524924 (I4) | EN 13823: 2020 |
| Warringtonfire | The Millboard Company Limited | 526004 (Issue 2) | EN 15725:2010 and EN/TS 15117:2005 |

### 3.2 Test results

| Test method & test number | Parameter | No. tests | Report | Results | |
|---|---|---|---|---|---|
| | | | | Continuous parameter - mean (m) | Compliance parameters |
| EN ISO 11925-2 (30s exposure - surface) | $F_s$ | 6 | 525851 (I2) | - | Compliant (≤ 40 mm) |
| | | 2 | 525852 (I3) | - | Compliant (≤ 40 mm) |
| | | 2 | 525853 (I3) | | Compliant (Nil mm) |
| | Flaming droplets/ particles | 6 | 525851 (I2) | - | Compliant |
| | | 2 | 525852 (I3) | | Compliant |
| | | 2 | 525853 (I3) | - | Compliant |
| EN ISO 11925-2 (30s exposure – edge) | $F_s$ | 6 | 525851 (I2) | - | Compliant (≤ 40 mm) |
| | | 2 | 525852 (I3) | | Compliant (≤ 30 mm) |
| | | 2 | 525853 (I3) | - | Compliant (≤ 40 mm) |
| | Flaming droplets/ particles | 6 | 525851 (I2) | - | Compliant |
| | | 2 | 525852 (I3) | | Compliant |
| | | 2 | 525853 (I3) | - | Compliant |
| EN ISO 11925-2 (30s exposure – edge, turned through 90º) Core | $F_s$ | 6 | 525851 (I2) | - | Compliant (≤ 80 mm) |
| | | 2 | 525852 (I3) | | Compliant (≤ 70 mm) |
| | | 2 | 525853 (I3) | - | Compliant (≤ 70 mm) |
| | Flaming droplets/ particles | 6 | 525851 (I2) | - | Compliant |
| | | 2 | 525852 (I3) | | Compliant |
| | | 2 | 525853 (I3) | - | Compliant |
| EN 13823 | FIGRA $_{0.2MJ}$ | 3 | 550123 | 192 W/s | - |
| | | 1 | 524431 (I5) | 215 W/s | - |
| | | 1 | 524433 (I5) | 239 W/s | - |
| | | 3 | 524434 (I5) | 197 W/s | - |
| | | 1 | 524435 (I5) | 231 W/s | |
| | | 1 | 524924 (I4) | 234 W/s | - |

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|---|---|---|---|---|---|
| EN 13823 (Continued) | FIGRA 0.4MJ | 3 | 550123 | 192 W/s | - |
| | | 1 | 524431 (I5) | 215 W/s | - |
| | | 1 | 524433 (I5) | 239 W/s | - |
| | | 3 | 524434 (I5) | 197 W/s | - |
| | | 1 | 524435 (I5) | 231 W/s | |
| | | 1 | 524924 (I4) | 234 W/s | - |
| | THR 600s | 3 | 550123 | 17.0 MJ | - |
| | | 1 | 524431 (I5) | 19.2 MJ | - |
| | | 1 | 524433 (I5) | 19.0 MJ | - |
| | | 3 | 524434 (I5) | 13.7 MJ | - |
| | | 1 | 524435 (I5) | 23.5 MJ | - |
| | | 1 | 524924 (I4) | 18.0 MJ | - |
| | LFS | 3 | 550123 | - | Compliant |
| | | 1 | 524431 (I5) | - | Compliant |
| | | 1 | 524433 (I5) | - | Compliant |
| | | 3 | 524434 (I5) | - | Compliant |
| | | 1 | 524435 (I5) | - | Compliant |
| | | 1 | 524924 (I4) | - | Compliant |
| | SMOGRA | 3 | 550123 | 152 $m^2/s^2$ | - |
| | | 1 | 524431 (I5) | 117 $m^2/s^2$ | - |
| | | 1 | 524433 (I5) | 120 $m^2/s^2$ | - |
| | | 3 | 524434 (I5) | 110 $m^2/s^2$ | - |
| | | 1 | 524435 (I5) | 109 $m^2/s^2$ | - |
| | | 1 | 524924 (I4) | 113 $m^2/s^2$ | - |
| | $TSP_{600s}$ | 3 | 550123 | 884 $m^2$ | - |
| | | 1 | 524431 (I5) | 645 $m^2$ | - |
| | | 1 | 524433 (I5) | 659 $m^2$ | - |
| | | 3 | 524434 (I5) | 652 $m^2$ | - |
| | | 1 | 524435 (I5) | 590 $m^2$ | - |
| | | 1 | 524924 (I4) | 537 $m^2$ | - |
| | Fall of Flaming Droplet/Particle? | 3 | 550123 | - | Compliant |
| | | 1 | 524431 (I5) | - | Compliant |
| | | 1 | 524433 (I5) | - | Compliant |
| | | 3 | 524434 (I5) | - | Compliant |
| | | 1 | 524435 (I5) | - | Compliant |
| | | 1 | 524924 (I4) | - | Compliant |

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| | | | | | |
|---|---|---|---|---|---|
| EN 13823 (Continued) | Flaming of Fallen Particle Exceeding 10s? | 3 | 550123 | - | Compliant |
| | | 1 | 524431 (I5) | - | Compliant |
| | | 1 | 524433 (I5) | - | Compliant |
| | | 3 | 524434 (I5) | - | Compliant |
| | | 1 | 524435 (I5) | - | Compliant |
| | | 1 | 524924 (I4) | - | Compliant |

## 4. Classification and field of application

### 4.1 Reference of classification

This classification has been carried out in accordance with clause 8 of EN 13501-1: 2018, BS EN 15725: 2010 and EN/TS 15117: 2005.

### 4.2 Classification

The products, "Shadow Line+ Cladding", a family of cladding panel products, in relation to their reaction to fire behaviour are classified:

**D**

The additional classification in relation to smoke production is:

**s3**

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 is:

| Fire Behaviour | | Smoke Production | | | Flaming Droplets | |
|---|---|---|---|---|---|---|
| **D** | **-** | **s** | **3** | **,** | **d** | **0** |

**i.e. D – s3 , d0**

# Reaction to fire classification: D – s3, d0

### 4.3 Field of application

This classification is valid for the following end use applications:

| End use | Description | Origin |
|---|---|---|
| Substrate | Valid fixed to 12mm thick oriented strand board substrate, with a density of 600 kg/m$^3$, referenced "OSB", with a 0.7mm vapour permeable underlay referenced "Breather Membrane" and a density of 0.16 kg/m$^2$ between the product and substrate only | N/A |
| Air gap | Valid for a 25mm air gap created by 25mm thick timber battens, referenced "Treated timber battens" only | N/A |
| Joints | Vertical and horizontal joints allowed | N/A |
| Orientation | Horizontal and vertical orientation of planks allowed | N/A |
| Metal framework | Valid only with the corner profile and aluminium trims as described in the product description | N/A |

This classification is also valid for the following product parameters:

| | |
|---|---|
| Plank thickness | 18mm (No variation allowed) |
| Plank weight per unit area | 12 kg/m$^2$ (No variation allowed) |
| Plank width | 200mm (No variation allowed) |
| Plank profile | No variation allowed |
| Plank dimensions | 200mm x 18mm x 3600mm (No variation allowed) |
| Coating thickness | 3mm (No variation allowed) |
| Coating weight per unit area | 3.5 kg/m$^2$ (No variation allowed) |
| Coating colour | Antique Oak, Smoked Oak, Brushed Basalt, Limed Oak, Burnt Cedar, Golden Oak, Coppered Oak, Jarrah only, all within the 'enhanced grain' range (No further variation allowed) |
| Core thickness | 15mm (No variation allowed) |
| Core weight per unit area | 8.5 kg/m$^2$ (No variation allowed) |
| Core colour | Grey (No variation allowed) |
| Product composition | No variation allowed |
| Product construction | No variation allowed |

## 5. Limitations

This document does not represent type approval or certification of the product.

**SIGNED**

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**Claire Lawrence**
Product Assessor
Technical Department

**APPROVED**

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**Stacey Deeming**
Principal Product Assessor
Technical Department
on behalf of Warringtonfire



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|---|---|
| Issue No: 2 | Re-issue Date: 13th May 2026 |
| Revised By: Michael Walford | Authorised By: S. Deeming |
| Reason for Revision: This document replaces issue 1 (dated 05 May 2023) of the same number which has been withdrawn. Report amended to reflect a re-issue of supporting EN 13823 test evidence, which required re-calculation due to the use of an incorrect calibration reference in the original test report and to reflect new supporting EN 13823 test evidence following the re-testing of a product sample. Additionally, further test evidence from the original product test was found to have been affected by a calibration issue, which required a sample of the product to be re-tested. | |