

# Reaction to fire test report

Issuing laboratory: Warringtonfire Testing and Certification Limited

Test standard: EN ISO 11925-2:2020  
Test sponsor(s): The Millboard Company Ltd  
Product(s): Shadow Line+ Cladding  
Report number: 525851  
Version: 1

Warringtonfire Testing and Certification Limited , accredited for compliance with ISO/IEC 17025:2017 – Testing

## Quality management

| Version | Date            | Summary of amendments including reasons                                       |   |
|---------|-----------------|---|---|
| 1       | 27 January 2023 | <b>Description</b>  | <b>Initial issue</b>  |
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## 1. Introduction

This report documents the findings of the reaction to fire test of “Shadow Line+ Cladding” in accordance with EN ISO 11925-2:2020.

Warringtonfire Testing and Certification Limited (Warringtonfire) performed the test on 12 January 2023 at the request of the test sponsor listed in Table 1.

**Table 1 Test sponsor details**

| Entity                    | Address   |
|---------------------------|---|
| <b>Test sponsor</b>       |   |
| The Millboard Company Ltd | Ryton Lodge, Oxford Road<br>Coventry, Warwickshire CV8 3EJ United Kingdom |

## 2. Test specimens

The description of the test specimens is detailed in Table 2. Unless otherwise specified:

- The information including measurements was provided by the test sponsor.
- All measurements taken by Warringtonfire are clearly identified.

**Table 2 Test specimen description**

| 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 of coating system | “Shadow Line+ Cladding”  |                                     |
| Name of manufacturer                | The Millboard Company Limited  |                                     |
| Overall thickness                   | 18mm (stated by sponsor)<br>17.17mm (determined by Warringtonfire)   |                                     |
| Overall weight per unit area        | 12kg/m <sup>2</sup> (stated by sponsor)<br>12.03kg/m <sup>2</sup> (determined by Warringtonfire)                                       |                                     |
| Coating                             | Generic type   | UV stable 2K coated elastomer layer |
|                                     | Product reference  | See Note 1 below                    |
|                                     | Name of manufacturer   | The Millboard Company Limited       |
|                                     | Colour   | Burnt Cedar                         |
|                                     | Thickness  | 3mm                                 |
|                                     | Weight per unit area   | 3.5kg/m <sup>2</sup>                |
|                                     | Flame retardant details  | See Note 2 below                    |
|                                     | Curing process   | See Note 2 below                    |

Continued on next page.

| Item                                       | Detail                          |  |
|--|---------------------------------|--|
| 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 <sup>2</sup>   |
|  | Flame retardant details         | See Note 1 below   |
| Breather membrane                          | Generic type                    | Vapour permeable underlay  |
|  | Product reference               | See Note 1 below   |
|  | Name of manufacturer            | See Note 1 below   |
|  | Colour                          | See Note 1 below   |
|  | Thickness                       | See Note 1 below   |
|  | Weight per unit area            | See Note 1 below   |
|  | Type of weave / cell dimensions | See Note 1 below   |
|  | Flame retardant details         | See Note 1 below   |
| Substrate                                  | Generic type                    | Sheathing board  |
|  | Product reference               | "OSB"  |
|  | Name of manufacturer            | See Note 1 below   |
|  | Thickness                       | 12mm   |
|  | Density                         | See Note 1 below   |
|  | Flame retardant details         | See Note 1 below   |
| Brief description of manufacturing process |                                 | Products are made through a layering process in wood-grained moulds, before being machined to form the finished profile. |

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

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

### 3. Test procedure

Table 3 details the test procedure for this reaction to fire test.

**Table 3 Test procedure**

| Item                                    | Detail  |
|---|---|
| Test standard                           | The test was performed in accordance with EN ISO 11925-2:2020.  |
| Supplementary standard                  | EN 13501-1:2018   |
| Deviations from the test standard       | None  |
| Product standard and/or EAD             | The client did not provide an instruction to work in accordance with a product standard.  |
| EGOLF agreements and/or recommendations | None  |
| Pre-test conditioning                   | The test specimens were received on 14 November 2022.<br>Before testing, the test specimens were conditioned in accordance with the requirements of EN 13238:2010 at a temperature of $23 \pm 2$ °C and a relative humidity of $50 \pm 5\%$ for a minimum period of 48 hours, until constant mass was achieved.   |
| Sampling / specimen selection           | The test specimens were supplied by the test sponsor. Warringtonfire was not involved in any selection or sampling procedure.   |
| Test face                               | The coated face of the specimen was exposed to the heating conditions of the test when the specimens were mounted in the test position.   |
| Number of replicate tests               | Six specimens were tested, each of which were subjected to surface exposure to flame with the coated face exposed.<br>Six specimens were tested, each of which were subjected to edge exposure to flame with the coated face exposed.<br>Six specimens were tested, each of which were subjected to edge exposure to flame with the specimen turned at 90° round its vertical axis and the coated face exposed. |
| Flame application time                  | 30 s  |
| Test duration                           | 60 s  |
| Intended application                    | Exterior cladding   |
| Condition of specimen edges             | Layered product   |

## 4. Test results and observations

### 4.1 Test results

Table 4 shows a summary of the results for the test specimens. A fully detailed overview of the measurements is given in the laboratory record sheet (see Appendix).

**Table 4 Test results**

| Exposure condition                                       | Did flame front exceed 150mm above the flame application point? | Were flaming droplets/particles produced that ignited the filter paper? |
|--|---|---|
| Surface  | No  | No  |
| Edge   | No  | No  |
| Edge with specimen turned at 90° round its vertical axis | No  | No  |

### 4.2 Test observations

No significant observations were noted during the course of testing (according to section 8.2.d of the test standard).

## 5. Application of test results

### 5.1 Validity

This document is the original version of this test report and is written in English. In case of doubt the original version prevails over a translation.

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The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use, nor can the results be extrapolated and applied to other products.

Test reports are statements of fact prepared in accordance with the referenced version of the standards stated in Section 3 of this report. Test reports are based upon the information provided to Warringtonfire. Warringtonfire takes no responsibility for the accuracy or completeness of such information.

The results stated in this report apply to the sample as received. Any differences in composition, production process, thickness, density or colour of the product may significantly affect the performance and will therefore invalidate the application of the test results to the variant product. It is recommended that any proposed variation to the tested configuration or product should be referred to the test sponsor. The test sponsor should then obtain appropriate documentary evidence of compliance from Warringtonfire or another accredited testing authority. The supplier of the product is responsible for ensuring that the product which is supplied for use is identical to the test sample as received.

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### 5.2 Uncertainty of measurement

The uncertainty of measurement values determined for EN ISO 11925-2: 2020 are as follows:

Surface application, maximum flame height:  $\pm 1.7\text{mm}$ .

Edge application, maximum flame height:  $\pm 0.8\text{mm}$

Edge application with specimen turned at  $90^\circ$  from its vertical axis, maximum flame height:  $\pm 0.8\text{mm}$

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor  $k=2$ , providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.



## Appendix A Test data

### A.1 Laboratory record sheet – Surface Application

Centre line of the specimen, 40 mm above the bottom edge (see figure 11 of the standard).

| Specimen number | Test date  | Ignition | Time from start of test for flame to reach 150 mm | Extent of flame spread | Flaming droplets / particles that ignite filter paper |
|-----------------|------------|----------|---|------------------------|---|
| (-)             | (-)        | (-)      | (sec)   | (mm)                   | (-)   |
| Specimen 1      | 12/01/2023 | Yes      | Did not reach                                     | 40                     | Filter paper not ignited                              |
| Specimen 2      | 12/01/2023 | Yes      | Did not reach                                     | 40                     | Filter paper not ignited                              |
| Specimen 3      | 12/01/2023 | Yes      | Did not reach                                     | 40                     | Filter paper not ignited                              |
| Specimen 4      | 12/01/2023 | Yes      | Did not reach                                     | 40                     | Filter paper not ignited                              |
| Specimen 5      | 12/01/2023 | Yes      | Did not reach                                     | 40                     | Filter paper not ignited                              |
| Specimen 6      | 12/01/2023 | Yes      | Did not reach                                     | 40                     | Filter paper not ignited                              |

### A.2 Laboratory record sheet – Edge Application

At the mid point on the bottom edge of the test specimen (see figure 8a of the standard).

| Specimen number | Test date  | Ignition | Time from start of test for flame to reach 150 mm | Extent of flame spread | Flaming droplets / particles that ignite filter paper |
|-----------------|------------|----------|---|------------------------|---|
| (-)             | (-)        | (-)      | (sec)   | (mm)                   | (-)   |
| Specimen 1      | 12/01/2023 | Yes      | Did not reach                                     | 40                     | Filter paper not ignited                              |
| Specimen 2      | 12/01/2023 | Yes      | Did not reach                                     | 40                     | Filter paper not ignited                              |
| Specimen 3      | 12/01/2023 | Yes      | Did not reach                                     | 40                     | Filter paper not ignited                              |
| Specimen 4      | 12/01/2023 | Yes      | Did not reach                                     | 40                     | Filter paper not ignited                              |
| Specimen 5      | 12/01/2023 | Yes      | Did not reach                                     | 40                     | Filter paper not ignited                              |
| Specimen 6      | 12/01/2023 | Yes      | Did not reach                                     | 40                     | Filter paper not ignited                              |

### A.3 Laboratory record sheet – Edge Application with the specimen turned at 90° round its vertical axis

Specimen turned at 90° round its vertical axis and the flame impinging at the bottom edge of the centreline at the underside of each different layer (see figure 8c of the standard).

| Specimen number | Test date  | Ignition | Time from start of test for flame to reach 150 mm | Extent of flame spread | Flaming droplets / particles that ignite filter paper | Tested layer |
|-----------------|------------|----------|---|------------------------|---|--------------|
| (-)             | (-)        | (-)      | (sec)   | (mm)                   | (-)   | (-)          |
| Specimen 1      | 12/01/2023 | Yes      | Did not reach                                     | 70                     | Filter paper not ignited                              | Core         |
| Specimen 2      | 12/01/2023 | Yes      | Did not reach                                     | 60                     | Filter paper not ignited                              | Core         |
| Specimen 3      | 12/01/2023 | Yes      | Did not reach                                     | 70                     | Filter paper not ignited                              | Core         |
| Specimen 4      | 12/01/2023 | Yes      | Did not reach                                     | 70                     | Filter paper not ignited                              | Core         |
| Specimen 5      | 12/01/2023 | Yes      | Did not reach                                     | 70                     | Filter paper not ignited                              | Core         |
| Specimen 6      | 12/01/2023 | Yes      | Did not reach                                     | 80                     | Filter paper not ignited                              | Core         |



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