Classification Report

CONFIDENTIAL

Report: BMT/CR14042 AR1


Date of report: 28th May 2014
BM TRADA – the new name for Chiltern International Fire Ltd

From July 1st 2013, Chiltern International Fire Ltd commenced trading under the name of its parent company BM TRADA and at the same time adopted a brand new visual identity.

Historically, the group has delivered its services through a number of individual companies: BM TRADA Certification Ltd, TRADA Technology Ltd, Chiltern International Fire Ltd (including Chiltern Dynamics) and a network of international offices. Both BM TRADA Group and these individual companies will now trade under the same name - BM TRADA - and adopt the new visual identity.

To coincide with this change, our Technical Reports, Test Reports, Products Assessments, company stationery and marketing collateral have been re-designed to carry the new branding and visual identity.

The validity of all documents previously issued by the individual companies including certificates, test reports and product assessments is unaffected by this change and a letter to this effect will be available to download from our website www.bmtradagroup.com.

About BM TRADA.

With origins dating back to 1934, we have a deep history and services which are highly valued by our customers. We offer independent certification, testing, inspection, training and technical services around the world. In all these areas we continue to use industry-leading experts in their chosen fields to develop and deliver services – an ethos that has been at the heart of our approach since we began.

A recent review of our businesses and customers revealed that the individual identities sometimes make communications confusing, and that in an already complex business area, clarity and simplicity in communications is rare, but valued. It also revealed that a single identity and combined offer would help us strengthen our appeal.

With this in mind, we brought the companies together under the name BM TRADA and took the opportunity to create a fresh new visual identity.

We have modernised our image and combined our strengths. However, our values, our people and the integrity of our services remain the same. I hope you will welcome these changes and the improvements they will bring.

Jon Osborn
Chief Operating Officer
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1 Introduction

This resistance to fire classification report defines the classification assigned to the partition in accordance with the procedures given in BSEN 13501-2: 2007 +A1: 2009.

2 Details of classified element

2.1 Type of function

The partition is defined in clause 7.5.2 of BSEN 13501-2 as a loadbearing element. Its function is to resist fire in respect of the fire performance characteristics given in clause 5 of BSEN 13501-2.

2.2 Description

The partition is described in the test report in support of this classification detailed in clause 3.

3 Test reports and test results in support of classification

3.1 Summary of test report

This classification report is supported by the following test reports:

<table>
<thead>
<tr>
<th>Test laboratory</th>
<th>Test sponsor</th>
<th>Test report ref</th>
<th>Test method</th>
<th>Test date</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM TRADA</td>
<td>ModCell</td>
<td>BMT/FEP/F14042 AR1</td>
<td>BSEN 1363-1: 1999 and BSEN 1365-1: 2012</td>
<td>20th March 2014</td>
</tr>
</tbody>
</table>

The partition measured 2700mm high x 3000mm wide x 233mm thick overall.
Key to figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Outer board exposed face</strong> – Fermacell Gypsum Board, 15mm thick, fixed to outer board battens with 30mm long Drywall screws at 250mm centres</td>
</tr>
<tr>
<td>2</td>
<td><strong>Outer board battens</strong> – Softwood timber, 38mm x 38mm, treated with Tanalith E green preservative, fixed to the studs with 90mm long x Ø2.65mm plain wire nails at 150mm centres</td>
</tr>
<tr>
<td>3</td>
<td><strong>Inner board exposed face</strong> – OSB/3, 11mm thick, fixed to the studs and panel perimeter with 50mm long x Ø3.1mm plain round wire nails at 300mm (studs) and 150mm (perimeter) centres</td>
</tr>
<tr>
<td>4</td>
<td><strong>Unexposed face board layer</strong> – Timbervent board, 12mm thick, fixed to the studs with with 50mm long x Ø3.1mm plain round wire nails at 300mm centres</td>
</tr>
<tr>
<td>5</td>
<td><strong>Head and base plates</strong> – GL24H Glulam, 43 thick x195mm wide</td>
</tr>
<tr>
<td>6</td>
<td><strong>End studs</strong> – GL24H Glulam, 43 thick x195mm wide</td>
</tr>
<tr>
<td>7</td>
<td><strong>Centre studs</strong> – JJI-Joist 195A+24, 45 thick x 195mm wide</td>
</tr>
<tr>
<td>8</td>
<td><strong>Core</strong> – Wheat straw bales. (between 100kg/m$^3$ and 120kg/m$^3$ nominal density) straw lain horizontally with ends at the wall faces, 990mm high x 550mm x 195mm thick (nominal uncompressed size)</td>
</tr>
</tbody>
</table>

Horizontal cross section

![Horizontal cross section diagram](image)
3.2 Test results

The specimen achieved the following performance under the test conditions specified in BSEN 1365:1 - 2012

<table>
<thead>
<tr>
<th>Loadbearing capacity</th>
<th>52 (fifty two) minutes*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrity</td>
<td></td>
</tr>
<tr>
<td>Cotton pad</td>
<td>52 (fifty two) minutes*</td>
</tr>
<tr>
<td>Continuous flaming</td>
<td>52 (fifty two) minutes</td>
</tr>
<tr>
<td>Gap gauges</td>
<td>52 (fifty two) minutes</td>
</tr>
<tr>
<td>Insulation</td>
<td></td>
</tr>
<tr>
<td>Average set</td>
<td>52 (fifty two) minutes*</td>
</tr>
<tr>
<td>Standard set (maximum)</td>
<td>52 (fifty two) minutes*</td>
</tr>
</tbody>
</table>

* No failure of the test criteria at termination of the test at 52 minutes

4 Classification and direct field of application

4.1 Reference of classification

This classification has been carried out in accordance with clause 7 of BSEN 13501-2: 2007 + A1: 2009.

Performance Criteria

Loadbearing capacity (R)

Failure of loadbearing capacity shall be deemed to have occurred when both of the following criteria have been exceeded:

a) Axial contraction \( C = \frac{h}{100} \) (mm) and
b) Rate of axial contraction \( \frac{cD}{Dt} = \frac{3h}{1000} \) (mm/min)

Integrity (E)

The assessment of integrity shall be made on the basis of the following three aspects:

a) cracks or opening in excess of given dimensions
b) ignition of a cotton pad
c) sustained flaming on the unexposed face

Classification for integrity shall be according to whether or not the element is also classified both for integrity and insulation, the value of integrity is that determined by whichever of the three aspects fails first. Where an element is classified without an insulation classification, the value of integrity is that determined by the time to failure of only the cracks/openings or sustained flaming aspects, whichever fails first.
Insulation (I)

The performance level used to define thermal insulation shall be the mean temperature rise on the unexposed face, limited to 140°C above the initial mean temperature, with the maximum temperature rise at any point limited to 180°C above the initial mean temperature.

4.2 Classifications

The partition may be classified to the following combinations of performance parameters and classes as appropriate:

<table>
<thead>
<tr>
<th>R</th>
<th>E</th>
<th>I</th>
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<tbody>
<tr>
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</table>

Considering the test evidence submitted for classification, the partition provides the following classification:

Fire resistance classification = RE20, RE30, REI15, REI20, REI30, REI45

4.3 Field of direct application

As stated in clause 13 of BSEN 1365-1: 2012, the results of the test are directly applicable to similar constructions where one or more of the changes listed under the Field of Direct Application* are made. Other changes are not permitted by this document.

*Copies available on request from BM TRADA

5 Limitations

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

Signature:

Name: Robert Axe
Title: Lead Technical Officer
Date of issue: 03-06-2014

Name: Vincent Kerrigan
Title: Technical Manager
Date of issue: 03-06-2014

The legal validity of this report can only be claimed on presentation of the complete report.
BM TRADA provides independent certification, testing, inspection, training and technical services around the world. We help customers large and small to prove their business and product credentials and to improve performance and compliance. With an international presence across many industry sectors, we offer a special focus and long history of technical excellence in supply chain certification, product certification and testing, and technical services to the timber, building, fire and furniture industries.