

## BRE Global Test Report

**Classification of reaction to fire performance in accordance with EN 13501-1: 2007 + A1: 2009 on Multi-Pro, Multi-Pro XS and Render Pro**

**Prepared for:** Resistant Building Products Limited

**Date:** 10 December 2014

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## 1 Introduction

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This classification report defines the classification assigned to 'Multi-Pro, Multi-Pro XS and Render Pro' in accordance with the procedures given in EN 13501-1:2007+A1: 2009<sup>1</sup>.

# BRE Global

## CLASSIFICATION OF REACTION TO FIRE IN ACCORDANCE WITH EN 13501-1: 2007+A1: 2009

<b>Sponsor:</b>	Resistant Building Products Limited, Newforge Lane, Malone Road, Belfast, BT9 5NW, Northern Ireland.
<b>Prepared for:</b>	Resistant Building Products Limited, Newforge Lane, Malone Road, Belfast, BT9 5NW, Northern Ireland.
<b>Place of Manufacture:</b>	Sanwa Yoshida (Jiaxing) Construction Material Industry Co. Ltd, Jiashan County, Xitang Town South, Zhejiang, China.
<b>Prepared by:</b>	BRE Global Limited, Bucknalls Lane, Garston, Watford, WD25 9XX, England.
<b>Notified Body No.:</b>	0832.
<b>Product name:</b>	Multi-Pro, Multi-Pro XS and Render Pro.
<b>Classification report No.:</b>	300890
<b>Issue number:</b>	1
<b>Date of issue:</b>	10 December 2014

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## 2 Details of classified product

### 2.1 General

The products, 'Multi-Pro, Multi-Pro XS and Render Pro', are defined by the test sponsor as magnesium oxide boards.

### 2.2 Product description

The products, 'Multi-Pro, Multi-Pro XS and Render Pro', are described in section 2.2.2.

#### 2.2.1 Traceability

The test samples were supplied by the test sponsor. BRE Global was not involved in the sampling process and therefore cannot comment upon the relationship between the samples supplied for test and the products supplied to market.

#### 2.2.2 Sample details

Parameter	Details
Test sponsor	Resistant Building Products Limited Newforge Lane Malone Road Belfast BT9 5NW Northern Ireland
Manufacturer of sample	Sanwa Yoshida (Jiaxing) Construction Material Industry Co. Ltd Jiashan County Xitang Town South Zhejiang China
Place of manufacture	As above
Trade names	Multi-Pro, Multi-Pro XS and Render Pro
Sample reference	See Note 1.
Sample description (as provided by test sponsor/manufacture)	Magnesium Oxide Building Board
Description of sample (as received)	Off-white board material
<b>Test sponsor's product data</b>	
Generic type of product	Magnesium Oxide Building Board
Nominal thickness (mm)	Multi-Pro: 3 mm, 6 mm, 9 mm and 12 mm Multi-Pro XS and Render Pro: 9 mm and 12 mm
Nominal density of core (kg/m <sup>3</sup> )	1050 kg/m <sup>3</sup> (± 10%)
Nominal mass per unit area (kg/m <sup>2</sup> )	Multi-Pro: 3.15 kg/m <sup>2</sup> (3 mm) - 12.6 kg/m <sup>2</sup> (12 mm) Multi-Pro XS and Render Pro:
Colour	Off-white



Parameter	Details
Test face	Not applicable
Flame retardant treatment added or organic content limited during production	None
<b>Substrate and ventilation conditions</b>	
Substrate	Not applicable
Type of air gap	Not applicable

### 3 Reports & results in support of this classification

#### 3.1 Reports

Name of Laboratory	Name of test sponsor	Test reports Nos.	Test method/field of application rules
BRE Global	Resistant Building Products Limited	238996	BS EN ISO 1716 <sup>2</sup>
BRE Global	Resistant Building Products Limited	238058	BS EN ISO 1716 <sup>2</sup>
BRE Global	Resistant Building Products Limited	238057	BS EN ISO 1182 <sup>3</sup>



### 3.2 Results

Test method & test number	Parameter	No. tests	Results	
			Continuous parameter - mean (m)	Compliance with parameters Criterion / Compliance status A1
EN ISO 1716: 2002 Substantial component (Core only)  238058	$Q_{PCS}$	3	-0.51 MJ/kg	Compliant
	$Q_{PCSs}$ 3.15 kg/m <sup>2</sup>		-1.61 MJ/m <sup>2</sup>	Compliant
	$Q_{PCSs}$ 6.3 kg/m <sup>2</sup>		-3.21 MJ/m <sup>2</sup>	Compliant
	$Q_{PCSs}$ 9.45 kg/m <sup>2</sup>		-4.86 MJ/m <sup>2</sup>	Compliant
	$Q_{PCSs}$ 12.6 kg/m <sup>2</sup>		-6.43 MJ/m <sup>2</sup>	Compliant
EN ISO 1716: 2002 Multi-Pro (Mesh only)  238996	$Q_{PCS}$	3	0.28 MJ/kg	Compliant
	$Q_{PCSs}$ 0.068 g/m <sup>2</sup>		0.02 MJ/m <sup>2</sup>	Compliant
EN ISO 1716: 2002 Multi-Pro XP, Render Pro (Mesh only)  238996	$Q_{PCS}$	3	0.28 MJ/kg	Compliant
	$Q_{PCSs}$ 0.136 g/m <sup>2</sup>		0.04 MJ/m <sup>2</sup>	Compliant
EN ISO 1716: 2002 3 mm and 6 mm thick Multi-Pro	$Q_{PCS}$ whole product	By calculation	0.01 MJ/kg 0.04 MJ/m <sup>2</sup>	Compliant
EN ISO 1716: 2002 9 mm and 12 mm thick Multi-Pro	$Q_{PCS}$ whole product	By calculation	0.00 MJ/kg 0.04 MJ/m <sup>2</sup>	Compliant
EN ISO 1716: 2002 Multi-Pro XP, Render Pro	$Q_{PCS}$ whole product	By calculation	0.01 MJ/kg 0.08 MJ/m <sup>2</sup>	Compliant
EN ISO 1716: 2002 Multi-Pro	$Q_{PCS}$ ext. non-substantial component	By calculation	0.28 MJ/kg 0.02 MJ/m <sup>2</sup>	Compliant
EN ISO 1716: 2002 Multi-Pro XP, Render Pro	$Q_{PCS}$ ext. non-substantial component	By calculation	0.28 MJ/kg 0.04 MJ/m <sup>2</sup>	Compliant
EN ISO 1716: 2002 Multi-Pro	$Q_{PCS}$ int. non-substantial component	-	-	-
EN ISO 1182: 2002 Core only  238057	$\Delta T$	5	1.6 °C	Compliant
	$\Delta m$		38.8 %	Compliant
	tf		0	Compliant

(-) Not applicable



## 4 Classification and field of application

### 4.1 Reference of classification

This classification has been carried out in accordance with EN 13501-1:2007+A1: 2009.

### 4.2 Classification

The products, 'Multi-Pro, Multi-Pro XS and Render Pro', in relation to reaction to fire behaviour are classified:

**A1**

The format of the reaction to fire classification for construction products excluding floorings and linear pipe thermal insulation products is:

Fire Behaviour		Smoke Production		Flaming Droplets
A1	-	s	-	, d -

i.e. A1

**Reaction to fire classification: A1**

### 4.3 Field of application

This classification is valid for the following product and mounting and fixing parameters:

Thickness	Valid for all thicknesses
Colour	White. No variation in colour allowed
Composition/build up	No variation in composition allowed
Density of core	Nominal 1050 kg/m <sup>3</sup> . No variation in density allowed.
Mass per unit area and thickness of mesh	68 g/m <sup>2</sup> - 136 g/m <sup>2</sup> . 0.15 mm - 0.30 mm.
Composition/build up	No variation in composition or build-up allowed. No variation in ordering of layers.

## 5 Limitations

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

The classification assigned to the product in this report is appropriate to a declaration of performance by the manufacturer within the context of system 3 of assessment and verification of constancy of performance and CE marking under the Construction Products Regulation.

The manufacturer has made a declaration, which is held on file. This confirms that the product's design requires no specific processes, procedures or stages (e.g. no addition of flame-retardants, limitation of





organic content, or addition of fillers) that are aimed at enhancing the fire performance in order to obtain the classification achieved. As a consequence the manufacturer has concluded that system 3 attestation is appropriate.

The test laboratory has, therefore, played no part in sampling the product for the test, although it holds appropriate references, supplied by the manufacturer, to provide for traceability of the samples tested.

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## 6 References

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- 1 EN 13501-1: 2007+A1: 2009. Fire classification of construction products and building elements. Part 1: Classification using data from reaction to fire tests. CEN, Avenue Marnix 17, B-1000 Brussels. 2009.
1. EN ISO 1716: 2002. Reaction to fire tests for products – Determination of the gross heat of combustion (calorific value) (ISO 1716:2010). CEN, Avenue Marnix 17, B-1000 Brussels. 2010.
2. EN ISO 1182: 2002 Incorporating corrigendum August 2010. Reaction to fire tests for products - Non-combustibility test. CEN, Avenue Marnix 17, B-1000 Brussels. 2010.



## Appendix A

**Table A.1: Test sponsor's product description – Multi-Pro**

<b>Product Definition</b>	
Trade name or other identification marks	Resistant Multi-Pro
General description	Magnesium oxide building board
Product reference/number	Not declared
Product thickness	3 mm, 6 mm, 9 mm and 12 mm
Density of mass per unit area of product	1050 kg/m <sup>3</sup> (± 10%)
Type of product	Fire resistant product
Flame retardant treatment added or organic content limited during production	None
Interior facing 1 - Generic type - Product reference - Manufacturer - Thickness - Density - Colour reference - Flame retardant - Generic type of flame retardant - Amount flame retardant	Glass fiber mesh CW-150 Not declared 0.15 mm 68 g/m <sup>2</sup> White NA NA NA
Core material - Generic type - Product reference - Manufacturer - Thickness - Density - Colour reference - Flame retardant - Generic type of flame retardant - Amount flame retardant	Core composed of magnesia, magnesium chloride, wood fibre, modifier and perlite Not declared Sanwa Yoshida (Jiaxing) Construction Material Industry Co 3 mm, 6 mm, 9 mm and 12 mm 1050 kg/m <sup>3</sup> White NA NA NA
Exterior facing 1 - Generic type - Product reference - Manufacturer - Thickness - Density - Colour reference - Flame retardant - Generic type of flame retardant - Amount flame retardant	Glass fiber mesh CW-150 Not declared 0.15 mm 68 g/m <sup>2</sup> White NA NA NA
Adhesive	None
Orientation aspects	Not declared
Sampling Identification Reference	Not declared


**Table A.2: Test sponsor's product description – Multi-Pro XS / Render Pro**

<b>Company: Resistant Building Products Ltd</b>	
<b>Parameter</b>	<b>Details (if applicable)</b>
Trade name	Multi-Pro XS / Render Pro
General description	Non-Combustible High Performance Building Board
Name and address of manufacturer of product	Sanwa Yoshida (Jiaxing) Construction Material Co.ltd South Xitang Town, Jiashan County, Jiaxing City, Zhejiang province, China
Place of manufacture	China
Product reference/number	Multi-Pro XS / Render Pro
Thickness	9 mm and 12 mm
Density	1050 kg/m <sup>3</sup>
Mass per unit area	9mm = 9.375 kg/m <sup>2</sup> 12mm = 12.5 kg/m <sup>2</sup>
Generic type of product	Magnesium oxide building board
Flame retardant treatment added or organic content limited during production (yes/no), if yes give details	No
European product standard, if applicable	CE marked
Industry/in-house product standard, if applicable	ISO 9001:2008
Attestation of conformity systems, if applicable	N/A
Interior facing 1 (test face) <ul style="list-style-type: none"> <li>- Generic type</li> <li>- Product reference</li> <li>- Manufacturer</li> <li>- Thickness</li> <li>- Mass per unit area/ density</li> <li>- Colour reference</li> <li>- Trade name flame retardant</li> <li>- Generic type flame retardant</li> <li>- Amount flame retardant</li> </ul>	Glass Fibre Mesh CW-150 Not Declared 0.15 mm 68 g/m <sup>2</sup> White N/A N/A N/A
Interior facing 2 <ul style="list-style-type: none"> <li>- Generic type</li> <li>- Product reference</li> <li>- Manufacturer</li> <li>- Thickness</li> <li>- Mass per unit area/ density</li> <li>- Colour reference</li> <li>- Trade name flame retardant</li> <li>- Generic type flame retardant</li> <li>- Amount flame retardant</li> </ul>	Glass Fibre Mesh CW-150 Not Declared 0.15 mm 68 g/m <sup>2</sup> White N/A N/A N/A
Core material <ul style="list-style-type: none"> <li>- Generic type</li> <li>- Product reference</li> <li>- Manufacturer</li> <li>- Thickness</li> <li>- Mass per unit area/density</li> <li>- Colour reference</li> <li>- Trade name flame retardant</li> <li>- Generic type flame retardant</li> <li>- Amount flame retardant</li> </ul>	Core composed of Magnesia, Magnesium Chloride, Wood Fibre, Modifier and perlite. Not Declared Sanwa Yoshida (Jiaxing) Construction Material Industry Co 9 mm & 12 mm 1050 kg/m <sup>3</sup> White N/A N/A N/A



<b>Company: Resistant Building Products Ltd</b>	
<b>Parameter</b>	<b>Details (if applicable)</b>
Exterior facing 2 <ul style="list-style-type: none"> <li>- Generic type</li> <li>- Product reference</li> <li>- Manufacturer</li> <li>- Thickness</li> <li>- Mass per unit area/density</li> <li>- Colour reference</li> <li>- Trade name flame retardant</li> <li>- Generic type flame retardant</li> <li>- Amount flame retardant</li> </ul>	Glass Fibre Mesh CW-150 Not Declared 0.15 mm 68 g/m <sup>2</sup> White N/A N/A N/A
Exterior facing 1 <ul style="list-style-type: none"> <li>- Generic type</li> <li>- Product reference</li> <li>- Manufacturer</li> <li>- Thickness</li> <li>- Mass per unit area/density</li> <li>- Colour reference</li> <li>- Trade name flame retardant</li> <li>- Generic type flame retardant</li> <li>- Amount flame retardant</li> </ul>	Glass Fibre Mesh CW-150 Not Declared 0.15 mm 68 g/m <sup>2</sup> White N/A N/A N/A
Adhesive (if applicable) <ul style="list-style-type: none"> <li>- Generic type</li> <li>- Product reference</li> <li>- Manufacturer</li> <li>- Application rate</li> <li>- Application method</li> <li>- Specific gravity</li> <li>- Colour reference</li> <li>- Trade name flame retardant</li> <li>- Generic type flame retardant</li> <li>- Amount flame retardant</li> </ul>	None
Substrate (if applicable) <ul style="list-style-type: none"> <li>- Generic type</li> <li>- Product standard</li> <li>- Product name/reference</li> <li>- Manufacturer</li> <li>- Thickness</li> <li>- Density or mass per unit area</li> <li>- Class (EN 13501-1)</li> </ul>	None
Face to be tested	N/A
Orientation aspects	Not Declared
Sampling Identification Reference	Not Declared
Additional information:	N/A