RCM (Roofing and Cladding Materials Ltd)

PRODUCT Y-Wall

Date prepared: December 2020

Valid until: 31st December 2021

Version 2

RCM Y-wall is a high-quality flexible calcium silicate based fibre cement building board, perfect for use as a fire rated sheathing board. Offering excellent fire properties as well as high levels of dimensional stability, Y-wall is an exceptional board for use in multiple applications. Y-wall is used primarily as a fire rated sheathing board or building board. Used extensively on both steel frame and timber frame structures, Y-wall is used behind all types of facade solutions, as well in ceilings offering a non-combustible classification. Y-wall is ideal for modular construction methods.

Key applications
- Fire rated sheathing board
- Ceilings
- Partition walling
- OEM applications for improved strength and density
- Recommended for buildings above 18m

Product Appearance

light grey/ light pink

Composition

Y-wall is a calcium silicate sheathing board manufactured from a mixture of Portland cements, lime, calcium silicate, mica and cellulose.

General Technical Properties	Unit	Value	Applicable Standard
Nominal Density (Oven Dry)	kg/m3	1200	
Bending Strength (Modulus of Rupture)	N/mm2	12	
Modulus of Elasticity (MoE)	N/mm2	4000	
Thermal Conductivity	W/mk	0.23	BS EN 12524 : 2000
Moisture Content	%	≤9	
Reaction to Fire		A1	BS EN 13501-1:2007+A1:2009
Biological Resistance	Highly Resistant		
Surface Condition			
Front	Smooth		
Back	Textured		
Durability (Life Expectancy - Minimum)	Years	30	
Standard Board Sizes	mm	2400, 2800 & 3050 x 1200mm	
Thickness	mm	6 9 12 15	
Nominal Mass of Product	kg/m²	7.3 11.1 14.6 18.2	
Dimensional Tolerance			
Length	mm	+/-3mm	
Width	mm	+/-2mm	
Thickness	mm	+/-0.5mm	

Durability

Moisture Resistance	Class	A	Sheets which are intended for applications where they may be subjected to heat, high moisture and severe frost.	BS EN 12467:2012+A1:2018
Exposure	months	12		
Heat-Rain performance	Pass			BS EN 12467:2012+A1:2018
Warm water perfromance	Pass			BS EN 12467:2012+A1:2018
Freeze-thaw performance	Pass			BS EN 12467:2012+A1:2018
Soak-dry performance	Pass			BS EN 12467:2012+A1:2018

Reaction to Fire

Combustibility	Class	A1	BS EN 13501-1:2007+A1:2009

Fire Resistance

Unloaded	Integrity	contact RCM Technical Support	BS EN 1364-1:2015
	Insulation	contact RCM Technical Support	
Loaded	Integrity	contact RCM Technical Support	BS EN 1365-1:2012
	Insulation	contact RCM Technical Support	

Certification & Warranty

CE marked	Yes	
Certification	Yes	BBA 14/5109

Limitations of Use

Installation	The board is designed to be installed by a competent builder, or a contractor, experienced with this type of product.A suitably qualified and experienced individual must check the design and method of installation of the boards. Y-Wall board can be cut with a fine tooth hand saw or power saw, ensuring suitable dust control measures are taken (eg protective safety glasses, gloves and respiratory masks) and observing all necessary health and safetyregulations. Damaged boards must not be used. The level of supervision during installation of the board and the associated structure, must be sufficient to ensure the quality of workmanship. Framing grade timber studs or galvanized steel framework should be provided at a maximum 600 mm centres for single-layer partitions. The frame to which the panels are fixed must be structurally sound and constructed in accordance with the requirements of the relevant national Building Regulations and Standards (see sections 4.3 and 4.4). Screws should be a minimum of 12 mm from board edges and spaced at a maximum of 300 mm. The screws must not be over-tightened.
Water protection	The design water vapour resistivity of Y-wall board can be taken as 164 MN s·g–1·m–1. Walls must have suitable weather protection on the outside and a vented cavity. The product should be treated as conventional sheathing board with regard to detailing and damp-proofing at openings, eaves and sole plate, and the fixing of wall ties. Where required by design, the addition of a breather membrane must be in accordance with BS 5250 : 2011. The outer weatherproofing should have adequate resistance to wind-driven rain, particularly in regions classified as severe exposure.
Fixings	Steel Frame:- 4.8mm x 38mm Wing tip self drilling fixing Timber Frame:-4.2mm x 42mm Climaseal self drilling fixing
Applications	The design water vapour resistivity of Y-wall board can be taken as 164 MN s·g–1·m–1. Walls must have suitable weather protection on the outside and a vented cavity. The product should be treated as conventional sheathing board with regard to detailing and damp-proofing at openings, eaves and sole plate, and the fixing of wall ties. Where required by design, the addition of a breather membrane must be in accordance with BS 5250 : 2011. The outer weatherproofing should have adequate resistance to wind-driven rain, particularly in regions classified as severe exposure.

Health & Safety

see separate msds vaialable at	www.buildingboards.co.uk

Handling & Storage

Handling	Y-wall panels are stacked on timber pallets. Each pack contains a label incorporating the manufacturer's name, product name, thickness, width, length, batch number, number of boards per pallet, pallet weight, recommended storage and handling method.The boards must be stored in a ventilated and dry environment on a flat, level surface protected from contamination. To avoid excessive flexing of the boards, long edges must be supported when lifting and handling. The Certificate holder's instructions on site handling and storage must be followed.
Cutting	For cutting the product in any volume, we recommend the use of an RCM poly crystalline diamond Dart Blade to avoid excessive wear on other blades. Alternatively, RCM offer a complete fabrication service, please contact our technical department for details. Y-Wall board can be cut with a fine tooth hand saw or power saw, ensuring suitable dust control measures are taken (eg protective safety glasses, gloves and respiratory masks) and observing all necessary health and safety regulations. Damaged boards must not be used.
Screws	Screws should be a minimum of 12 mm from board edges and spaced at a maximum of 300 mm. The screws must not be over-tightened. Ancillary items used in conjunction with the boards but outside the scope of this Certificate: Fasteners (for use with timber frame) — 32 mm long self-driving screws with 10.4 mm diameter head, 4.2 mm diameter shaft. Fasteners (for use with steel frame)— 41 mm long self-driving screws with 10.4 mm diameter head, 4.2 mm diameter shaft. The design pull-through value of Y-wall board, calculated by applying a safety factor of 3.0 to the mean failure pull-through values (determined by tests in accordance with BS EN 1383 : 1999) for the 4.2 mm diameter shaft, 10.4 mm diameter head, length 32 mm self-driving screws.
Joints	Fire rated walls - On site to allow for expansion and contraction, RCM Y-wall boards should be installed as per RCM fixing guidance. However, there is a very small risk during construction in highly exposed locations or where boards have been exposed to excessive moisture for prolonged periods minor expansion of board may occur. In this situation our recommendation would be for a gap of 2-5mm to be left between the boards and an RCM seal fire mastic used within the joints. Non fire rated walls.- RCM Y-wall, can all be butt jointed for limited exposure periods that are not subjected to excessive moisture penetration. As a precaution where excessive moisture penetration situations arise, our guidance has typically been to leave a small gap of between 2-5mm.
Nailing	RCM Y-wall can be cut, drilled and nailed using conventional hand tools; offering many of the properties of timber.