

SPRA COMPONENT QUALITY STANDARD 04

STONE MINERAL WOOL INSULATION BOARDS FOR FLAT ROOFING

WHAT ARE SPRA COMPONENT QUALITY STANDARDS?

SPRA Component Quality Standards set a benchmark of performance for products used in single ply roofing systems. They are a vital aid to specification and define the minimum technical standard for membership of the Association. All SPRA Component Quality Standards are available to download from www.spra.co.uk.

PRODUCT DESCRIPTION

Rigid boards formed by a process of spinning molten volcanic rock at 1,500°C into wool, which is then impregnated with resin and cured. Boards may have additional facing for certain applications.

TYPICAL APPLICATIONS

Warm, flat and pitched roof constructions in conjunction with single ply membranes where thermal, acoustic and fire protection performance is required. Products for use under mechanically fastened or fully-adhered single ply membranes. Contact the appropriate manufacturer for product-specific data.

DESIGNATION/HARMONISED STANDARD

BS EN 13162:2012+A1:2015 Thermal insulation products for buildings. Factory made mineral wool (MW) products. Specification.

COMPRESSIVE STRENGTH, POINT LOAD STRENGTH AND LOADING DATA

The purpose of providing compressive strength and point load strength is to be able to understand the influence of the insulation materials on the load-bearing behaviour of the roof construction. This behaviour should be considered in terms of both uniformly distributed and concentrated/localised loads. Normally, the objective is to restrict the deflection of the roof construction to be less than a limiting value that is set by the membrane manufacturer. The deflection resulting from a uniformly distributed load is a function of the compressive strength modulus of insulation material and its thickness, whereas for a concentrated localised load, it is a function of the point load strength modulus, the compressive strength modulus, and the thickness of each layer of insulation material and the number of layers (ignoring any load-spreading function of the membrane).

Each manufacturer will have their own data in relation to these specific characteristics, due to differing manufacturer technology utilised in the relevant processes. The values provided by each manufacturer are declared in accordance with the relevant designated/harmonised product standard (BS EN 13162:2012+A1:2015) and can be obtained from the product (UKCA or CE) Declaration of Performance. These values give a guide to relative strength characteristics, but do not provide a direct link to the product and system performance in terms of load-bearing behaviour. Therefore, each request should be sent to the relevant manufacturer for the data to be reviewed and comment provided in line with the manufacturer of the single ply membrane.

GLASS MINERAL WOOL

At the time of writing, SPRA is unaware of any glass mineral wool insulation products that are suitable for use in flat roofing applications. Such products are excluded from the scope of this Component Quality Standard.

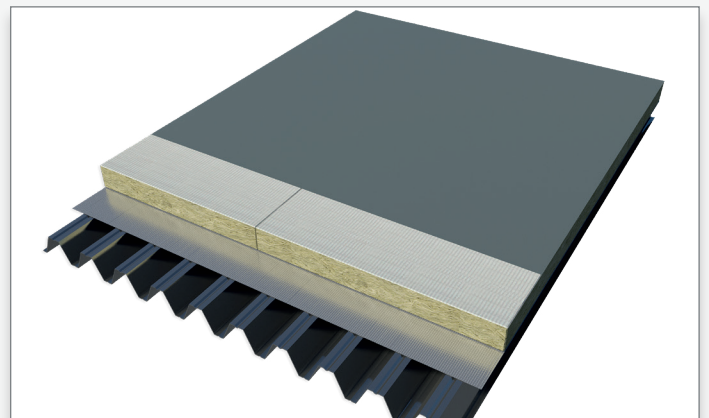
SPRA ASSOCIATE MEMBERS

Knauf Insulation Limited (www.knaufinsulation.co.uk)

Linroc Limited (linroc.co.uk)

Rockwool Limited (www.rockwool.com/uk/)

TaperedPlus Limited (www.taperedplus.co.uk)



CHARACTERISTIC	SYMBOL	VALUE/CLASS	TOLERANCE	TEST METHOD(S)
DIMENSIONAL				
Thickness	d	30–195mm	-1 mm, +3mm, T5	BS EN 823
Width	b	600–1,200mm	≥6mm	BS EN 822
Length	l	1,000–2,400mm	≥6mm	BS EN 822
Deviation from Squareness	S _b	±3mm/500mm <small>length and width</small>	—	BS EN 824
Flatness	S _{max}	±6mm	—	BS EN 825
Dimensional Stability	DS (70, 90)	Dimensionally stable	—	BS EN 1604
THERMAL				
Conductivity (10°C)	λ _D	0.036–0.044 W/mK ¹	—	BS EN 12677 or BS EN 12939
REACTION TO FIRE				
Euroclass	—	A1; A2–s1, d0 ² <small>non-combustible</small>	—	BS EN 13501-1
MECHANICAL				
Density	—	≥140kg/m ³	±10%	—
Compressive Strength	CS (10)	≥70kPa <small>at 10% deformation</small>	—	BS EN 826 ³
Point Load Strength	PL (5)	≥650N	—	BS EN 12430
Tensile Strength	σ _{mt}	≥15kPa <small>perpendicular to face</small>	—	BS EN 1607
MOISTURE				
Water Vapour Transmission ⁴	μ	1	—	BS EN 13162 or BS EN 10456 ⁵

NOTES

- ¹ Thermal conductivity ranges due to processing and can be affected by density. Refer to manufacturers' declarations for applicable values.
- ² Reaction to fire classifications differ due to organic content and/or the addition of facings. Refer to manufacturers' declarations for applicable values.
- ³ Further testing and data may be applicable to BS EN 1606.
- ⁴ All constructions must have an Air and Vapour Control Layer (AVCL) installed on the warm side of the insulation in accordance with BS 5250 *Management of moisture in buildings. Code of practice.*
- ⁵ BS EN 13162 and BS EN 10456 are used for default values. For values declared on a Declaration of Performance as a result of determination of product type and subsequent Factory Production Control, the test method is in accordance with BS EN 12086.

SINGLE PLY ROOFING ASSOCIATION

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