

Specialist materials for civil engineering, infrastructure and construction

TECHNICAL INFORMATION SHEET

Expanded Polystyrene Insulation: Compressive and Bending Strengths, Thermal Resistance and the effects on thickness.

EPS INSULATION – Compressive Strengths

All the EPS products we supply are block moulded in 610mm and 1200mm deep moulds to BS EN 13163. Tests are carried out under this standard for compressive strength to EN 826 and for bending strength to EN 12089. Random specimens of 50mm thick EPS are taken from a block to carry out the required tests. This ensures that within required targets each sample demonstrates the required levels set out in BS EN 13163 regardless of which part of the block it is taken.

EPS block moulded boards have consistent performance throughout the block and therefore any thickness of board taken from the block would have corresponding results when tested using a 50mm section of that board.

EPS INSULATION – Compressive and Bending Strengths, Thermal Resistance and the effects on Thickness

All grades, including EPS 70E, are tested within standards laid down in BS EN 13163. The current test is to PR EN 12667:2001 and is by either guarded hot plate or heat flow methods. We test all our grades using a minimum 50mm thick sample to this standard.

The effect of increasing thicknesses of EPS is covered under BS EN 13163 (see extracts attached).

Extract 'B.2.4 Thickness Effect' states that 'For boards of 50mm with a declared thermal conductivity of equal or less than 0.038 W/(m²K) the thickness effect is negligible'.

Table B.3 $\lambda = \lambda/L$ shows L at 1.00 for a thickness of 100mm i.e. no effect on the Lambda value and therefore the thermal resistance of 100mm is 2 x that of 50mm.

If you have any questions or require additional information, please feel free to contact the Parex Technical Department.

For additional information or other Technical Information Sheets, please visit our Web site link http://www.parex.co.uk/Render_Systems/Technical_Information_Sheets_and_FAQs

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