

Styrozone® Range

HIGH PERFORMANCE RIGID EXTRUDED
POLYSTYRENE INSULATION



Styrozone® Range

Product Description



Composition

Kingspan Styrozone® H350 R, H 350 S, H 500 R and N 700 R are high performance rigid extruded polystyrene insulants of density between 35 and 45 kg/m³, with a smooth, dense skin on both faces.

CFC/HCFC-free

Kingspan Styrozone® is manufactured without the use of HCFC/CFCs and has zero Ozone Depletion Potential (ODP).



Product Data

Standards and Approvals

Kingspan Styrozone® is manufactured to the highest quality standards under a quality management system which complies with the requirements of BS EN ISO 9001: 2000 (Quality management systems. Requirements).



Manufactured to BS EN ISO 9001: 2000

Standard Dimensions

Kingspan Styrozone® H 350 R is available in the following standard sizes:

Nominal Dimension	Availability	
Length	(m)	1.25
Width	(m)	0.6
Insulant Thickness	(mm)	Refer to local distributor or Kingspan Insulation price list for current stock and non-stock sizes.
Edge Profile	Rebated to all four edges	

Kingspan Styrozone® H 350 S is available in the following standard sizes:

Nominal Dimension	Availability	
Length	(m)	1.25
Width	(m)	0.6
Insulant Thickness	(mm)	Refer to local distributor or Kingspan Insulation price list for current stock and non-stock sizes.
Edge Profile	Straight edges	

Kingspan Styrozone® H 500 R is available in the following standard sizes:

Nominal Dimension	Availability	
Length	(m)	1.25
Width	(m)	0.6
Insulant Thickness	(mm)	Refer to local distributor or Kingspan Insulation price list for current stock and non-stock sizes.
Edge Profile	Rebated to all four edges	

Kingspan Styrozone® N 700 R is available in the following standard sizes:

Nominal Dimension	Availability	
Length	(m)	1.25
Width	(m)	0.6
Insulant Thickness	(mm)	Refer to local distributor or Kingspan Insulation price list for current stock and non-stock sizes.
Edge Profile	Rebated to all four edges	

Insulation Compressive Strength

The compressive strengths of *Kingspan Styrozone®* H 350 R, H 350 S, H 500 R and N 700 R typically exceed 300, 300, 500 and 700 kPa respectively at 10% compression when tested to BS EN 826: 1996 (Thermal insulating product for building applications. Determination of compression behaviour).

Thermal Expansion

The linear thermal expansion coefficient of *Kingspan Styrozone®* is 0.07 mm/m·K when tested to BS 4370-3: 1988 (2002) (Methods of test for rigid cellular materials. Method 13).

Water Vapour Resistivity

The boards achieve a resistivity greater than 825 MN·s/gm when tested in accordance with BS EN 12086: 1997 (Thermal insulating products for building applications. Determination of water vapour transmission properties).

Absorption of Moisture

Kingspan Styrozone[®] is highly resistant to water absorption. Boards are very resistant to the passage of water vapour and are unaffected by repeated freeze/thaw cycles.

Durability

Properly installed, *Kingspan Styrozone*[®] boards have a service life comparable with that of the building or structure.

Resistance to Solvents, Fungi & Rodents

Kingspan Styrozone[®] boards are resistant to most commonly occurring construction materials such as lime, cement, plaster, anhydrous gypsum, solvent-free bituminous compounds, water-based wood preservatives, as well as alcohols, acids and alkalis. Certain organic materials such as solvent-based wood preservatives, coal tar and derivatives (creosote), paint thinners and common solvents (e.g. acetone, ethyl acetate, petrol, toluene and white spirit) will attack *Kingspan Styrozone*[®], resulting in softening, shrinkage and possible dissolution, with a consequent loss of performance.

Kingspan Styrozone[®] does not provide any food value to vermin and is not normally attractive to them.

Fire Performance

Kingspan Styrozone[®] meets Euroclass E requirement. See BS EN 13164: 2001 Fire Classification Reaction to Fire.

Maximum Service Temperature

Kingspan Styrozone[®] should not be brought into direct contact with high temperature heat sources. The maximum service temperature of *Kingspan Styrozone*[®] is 75°C.

Thermal Properties

The declared λ -values and R-values quoted are in accordance with the Harmonised European Standard BS EN 13164: 2001 (Thermal insulation products for buildings – Factory made products of extruded polystyrene (XPS) – Specification) using so called 90/90 principles. Comparison with alternative products may not be appropriate unless the same procedures have been followed.

Thermal Conductivity

The declared thermal conductivity (λ -value) of *Kingspan Styrozone*[®] H 350 R, H 350 S and H 500 R is 0.029 W/m·K (insulant thickness 120 mm), 0.031 W/m·K (insulant thickness 130 mm). The declared thermal conductivity (λ -value) of *Kingspan Styrozone*[®] N 700 R is 0.036 W/m·K (insulant thickness 50–60 mm).

Thermal Resistances

The declared thermal resistance (R-value) of H 350 R, H 350 S and H 500 R varies with thickness and is calculated by dividing the thickness of the board (expressed in metres) by its thermal conductivity.

Insulant Thickness (mm)	Thermal Resistance (m ² .K/W)
60	2.05
70	2.40
75	2.55
80	2.75
90	3.10
100	3.40
120	4.10
130	4.15
140	4.50
150	4.80
160	5.15

Refer to local distributor or *Kingspan Insulation price list* for current stock and non-stock sizes.

Contact Details

Customer Service

For quotations, order placement and details of despatches please contact the Kingspan Insulation Customer Services Department on the numbers below:

UK	– Telephone:	+44 (0) 870 850 8555
	– Fax:	+44 (0) 870 850 8666
	– email:	commercial.uk@insulation.kingspan.com
Ireland	– Telephone:	+353 (0) 42 97 95000
	– Fax:	+353 (0) 42 97 46129
	– email:	commercial.ie@insulation.kingspan.com

Literature & Samples

Kingspan Insulation produce a comprehensive range of technical literature for specifiers, contractors, stockists and end users. The literature contains clear 'user friendly' advice on typical design; design considerations; thermal properties; sitework and product data.

Available as a complete Design Manual or as individual product brochures, Kingspan Insulation technical literature is an essential specification tool. For copies please contact the Kingspan Insulation Marketing Department on the numbers below:

UK	– Telephone:	+44 (0) 870 733 8333
	– Fax:	+44 (0) 1544 387 299
	– email:	literature.uk@insulation.kingspan.com
Ireland	– Telephone:	+353 (0) 42 97 95038
	– Fax:	+353 (0) 42 97 46129
	– email:	literature.ie@insulation.kingspan.com

Tapered Roofing

For technical guidance, quotations, order placement and details of despatches please contact the Kingspan Insulation Tapered Roofing Department on the numbers below:

UK	– Telephone:	+44 (0) 870 761 7770
	– Fax:	+44 (0) 1544 387 289
	– email:	tapered.uk@insulation.kingspan.com
Ireland	– Telephone:	+353 (0) 42 97 95032
	– Fax:	+353 (0) 42 97 95669
	– email:	tapered.ie@insulation.kingspan.com

Technical Advice/Design

Kingspan Insulation Ltd support all of their products with a comprehensive Technical Advisory Service for specifiers, stockists and contractors.

This includes a computer-aided service designed to give fast, accurate technical advice. Simply phone the Kingspan Insulation **TECHLINE** with your project specification. Calculations can be carried out to provide U-values, condensation/dew point risk, required insulation thicknesses etc... Thereafter any number of permutations can be provided to help you achieve your desired targets.

The Kingspan Insulation Technical Services Department can also give general application advice and advice on design detailing and fixing etc... Site surveys are also undertaken as appropriate.

Please contact the Kingspan Insulation Building Fabric Insulation Technical Services Department on the **TECHLINE** numbers below:

UK	– Telephone:	+44 (0) 870 850 8333
	– Fax:	+44 (0) 1544 387 278
	– email:	techline.uk@insulation.kingspan.com
Ireland	– Telephone:	+353 (0) 42 97 95032
	– Fax:	+353 (0) 42 97 95669
	– email:	techline.ie@insulation.kingspan.com

General Enquiries

For all other enquiries contact Kingspan Insulation on the numbers below:

UK	– Telephone:	+44 (0) 870 850 8555
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	– email:	info.uk@insulation.kingspan.com
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	– Fax:	+353 (0) 42 97 46129
	– email:	info.ie@insulation.kingspan.com

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