BASF Styrodur® 2800 C Extruded Rigid Polystyrene Foam (Europe)

Category : Polymer , Thermoplastic , Polystyrene (PS) , Expanded Polystyrene (EPS) , Polystyrene, Extrusion Grade

Material Notes:

Description: Styrodur C is the green extruded rigid polystyrene foam (XPS) from BASF. As a thermal insulation, it makes a significant contribution to climate protection by reducing CO2 emissions. The key features of Styrodur C are high compressive strength, low water absorption, and outstanding thermal insulation. It is also rot-proof and easy to handle on site. Compressive strength is the major factor that differentiates the various grades of Styrodur C.Applications: Domestic floors, Internal walls, Lost formwork, Cold bridges, Exterior basement wall insulation, Plaster base, Parapet walls, Pitched roofs, Plasterboard laminates, and Sandwich panels.Information provided by BASF

Order this product through the following link:
http://www.lookpolymers.com/polymer_BASF-Styrodur-2800-C-Extruded-Rigid-Polystyrene-Foam-Europe.php

Physical Properties	Metric	English	Comments
Density	0.0300 g/cc	0.00108 lb/in³	
Water Absorption	0.20 %	0.20 %	by immersion; DIN EN 12087
	<= 5.0 %	<= 5.0 %	by diffusion; DIN EN 12088
Water Vapor Transmission	80.0 - 200 g/m²/day	5.15 - 12.9 g/100 in²/day	DIN EN 12086
Deformation	<= 5.0 % @Pressure 0.0400 MPa, Temperature 70.0 °C	<= 5.0 % @Pressure 5.80 psi, Temperature 158 °F	DIN EN 1605

Mechanical Properties	Metric	English	Comments
Tensile Strength	0.200 MPa	29.0 psi	
Creep Strength	0.0800 MPa @Strain <=2.00 %	11.6 psi @Strain <=2.00 %	Compressive; DIN EN 1606
	0.100 MPa @Strain <=2.00 %	14.5 psi @Strain <=2.00 %	Compressive; long-term; 50 years; DIN EN 1606
	0.160 MPa @Strain <=2.00 %, Time 3.60e+6 sec	23.2 psi @Strain <=2.00 %, Time 1000 hour	Compressive; mid-term; DIN EN 1606
Modulus of Elasticity	0.00650 GPa	0.943 ksi	Long-term; DIN EN 826
	0.0200 GPa	2.90 ksi	DIN EN 826
Tensile Modulus	0.0200 GPa	2.90 ksi	

Mechanical Properties	Metric	English	Comments
Compressive Strength	0.200 - 0.300 MPa @Strain 10.0 %	29.0 - 43.5 psi @Strain 10.0 %	DIN EN 826
Compressive Modulus	0.0150 GPa	2.18 ksi	Elasticity; Short term E; DIN EN 826
Shear Strength	0.300 MPa	43.5 psi	
	0.300 MPa	43.5 psi	Allowable
Adhesive Bond Strength	0.100 - 0.200 MPa	14.5 - 29.0 psi	on plasters
	0.150 - 0.300 MPa	21.8 - 43.5 psi	on mineralic surfaces
	0.150 - 0.300 MPa	21.8 - 43.5 psi	on gluing mortar
	0.200 - 0.400 MPa	29.0 - 58.0 psi	on concrete; DIN EN 1607
	>= 0.300 MPa	>= 43.5 psi	on metals
	>= 0.300 MPa	>= 43.5 psi	on wood
	>= 0.300 MPa	>= 43.5 psi	on plastic

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	8.00 µm/m-°C	4.44 µin/in-°F	DIN 53752
CTE, linear, Transverse to Flow	6.00 µm/m-°C	3.33 µin/in-°F	DIN 53752
Thermal Conductivity	0.0330 W/m-K	0.229 BTU-in/hr-ft²-°F	Moisture Content: 0%
	0.0340 W/m-K	0.236 BTU-in/hr-ft²-°F	Moisture Content: 1%
	0.0340 W/m-K	0.236 BTU-in/hr-ft²-°F	Moisture Content: 2%
	0.0350 W/m-K	0.243 BTU-in/hr-ft²-°F	Moisture Content: 3%
	0.0350 W/m-K	0.243 BTU-in/hr-ft²-°F	Moisture Content: 4%
	0.0360 W/m-K	0.250 BTU-in/hr-ft²-°F	Moisture Content: 5%
	0.0370 W/m-K	0.257 BTU-in/hr-ft²-°F	Moisture Content: 6%
	0.0380 W/m-K	0.264 BTU-in/hr-ft²-°F	Moisture Content: 8%
	0.0390 W/m-K	0.271 BTU-in/hr-ft²-°F	Moisture Content: 10%
	0.0400 W/m-K	0.278 BTU-in/hr-ft²-°F	Moisture Content: 12%
	0.0240 W/m-K @Temperature -80.0 °C	0.167 BTU-in/hr-ft²-°F @Temperature -112 °F	

Thermal Properties	Metric	English	Comments
	0.0260 W/m-K	0.180 BTU-in/hr-ft²-°F	
	@Temperature -60.0 °C	@Temperature -76.0 °F	
	0.0280 W/m-K	0.194 BTU-in/hr-ft²-°F	
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	0.0300 W/m-K	0.208 BTU-in/hr-ft²-°F	
	@Temperature -20.0 °C	@Temperature -4.00 °F	
	0.0320 W/m-K	0.222 BTU-in/hr-ft²-°F	
	@Temperature 0.000 °C	@Temperature 32.0 °F	
	0.0330 W/m-K	0.229 BTU-in/hr-ft²-°F	
	@Temperature 10.0 °C	@Temperature 50.0 °F	
	0.0340 W/m-K	0.236 BTU-in/hr-ft²-°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	0.0350 W/m-K	0.243 BTU-in/hr-ft²-°F	
	@Temperature 30.0 °C	@Temperature 86.0 °F	
	0.0360 W/m-K	0.250 BTU-in/hr-ft²-°F	
	@Temperature 40.0 °C	@Temperature 104 °F	
	0.0370 W/m-K	0.257 BTU-in/hr-ft²-°F	
	@Temperature 50.0 °C	@Temperature 122 °F	
	0.0300 W/m-K	0.208 BTU-in/hr-ft²-°F	DIN EN 13164
	@Thickness 20.0 mm	@Thickness 0.787 in	
	0.0310 W/m-K	0.215 BTU-in/hr-ft²-°F	DIN EN 13164
	@Thickness 30.0 mm	@Thickness 1.18 in	
	0.0320 W/m-K	0.222 BTU-in/hr-ft²-°F	DIN EN 13164
	@Thickness 40.0 mm	@Thickness 1.57 in	
	0.0330 W/m-K	0.229 BTU-in/hr-ft²-°F	DIN EN 13164
	@Thickness 50.0 mm	@Thickness 1.97 in	
	0.0340 W/m-K	0.236 BTU-in/hr-ft²-°F	DIN EN 13164
	@Thickness 60.0 mm	@Thickness 2.36 in	
	0.0350 W/m-K	0.243 BTU-in/hr-ft²-°F	DIN EN 13164
	@Thickness 80.0 mm	@Thickness 3.15 in	
	0.0370 W/m-K	0.257 BTU-in/hr-ft²-°F	

Thermal Properties	Metric	English	Comments
	@Thickness 100 mm	@Thickness 3.94 in	DIN EN 13164
	0.0380 W/m-K @Thickness 120 mm	0.264 BTU-in/hr-ft²-°F @Thickness 4.72 in	DIN EN 13164
Maximum Service Temperature, Air	75.0 °C	167 °F	DIN EN 14706

Descriptive Properties	Value	Comments
Commercial Status	Europe	
Dimensional Stability at Heat	< 5%	70°C, 90% rh; DIN EN 1604
Dynamic Stiffness	120-800 MN/m^3	
	130 MN/mm^2	120 mm
	150 MN/mm^2	100 mm
	190 MN/mm^2	80 mm
	260 MN/mm^2	60 mm
	390 MN/mm^2	40 mm
	780 MN/mm^2	20 mm
Freeze-Thaw-Resistance	<1%	DIN EN1209
Long-term Bedding Modulus for 30-160 mm	0.036 - 0.217 N/mm^3	EN 1606

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