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Technical Data Sheet

Polyflam SDR 5005 HP25 WHI81990

Polystyrene, General Purpose

Product Description

non reinforced flame-retardant PS, mixing grade. Data are based on 100% compound.

Processing Method	Injection Molding
Resin ID	PSHI (FR 16)

Typical Properties	Nominal Value	Units	Test Method
Physical			
Melt Volume Flow Rate, (200 °C/5.0 kg)	35	cm³/10 min	ISO 1133
Density, (Method A)	1.19	g/cm³	ISO 1183
Mechanical			
Tensile Stress at Yield, (Type 1A, 50 mm/min)	30.0	MPa	ISO 527-2
Nominal Tensile Strain at Break, (50 mm/min)	15	%	ISO 527-2
Flexural Modulus, (2.0 mm/min)	2700	MPa	ISO 178
Tensile Strain at Yield, (Type 1A, 50 mm/min)	2.0	%	ISO 527-2
Tensile Stress at Break, (Type 1A, 50 mm/min)	25.0	MPa	ISO 527-2
Tensile Modulus, (1 mm/min, Type 1A)	2500	MPa	ISO 527-1
Flexural Stress			
(2.0 mm/min, 3.5%)	50.0	MPa	ISO 178
(2.0 mm/min, 4.3%)	50.0	MPa	ISO 178
Impact			
Charpy Impact Strength - Notched			
(23 °C, Type 1, Edgewise, Notch A)	6.0	kJ/m²	ISO 179
(-30 °C, Type 1, Edgewise, Notch A)	2.0	kJ/m²	ISO 179
Charpy Impact Strength - Unnotched			
(23 °C, Type 1, Edgewise)	50	kJ/m²	ISO 179
(-30 °C, Type 1, Edgewise)	45	kJ/m²	ISO 179
Thermal			
Vicat Softening Temperature			
(B (50N), 50 °C/h)	77.0	°C	ISO 306
(A (10N), 50 °C/h)	85.0	°C	ISO 306
Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise)	73.0	°C	ISO 75-2/B
Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise)	67.0	°C	ISO 75-2/A
Flammable			

Glow Wire Flammability Index			
(0.75 mm)	960	°C	IEC 60695-2-12
(1.5 mm)	960	°C	IEC 60695-2-12
(3.0 mm)	960	°C	IEC 60695-2-12
UL Information			
Flame Rating			
(1.6 mm)	V-2		UL 94
(3.2 mm)	V-2		UL 94
(0.8 mm)	V-2		UL 94
Flammability Classification			
(0.8 mm)	V-2		IEC 60695-11-10, -20
(1.6 mm)	V-2		IEC 60695-11-10, -20
(3.2 mm)	V-2		IEC 60695-11-10, -20

Injection Parameters	Nominal Value	Units
Drying Time	2.0 to 4.0	hr
Drying Temperature	70 to 80	°C
Screw Speed	<250	mm/sec
Processing (Melt) Temp	190 to 210	°C
Injection Rate	Slow-Moderate	
Back Pressure	5.00 to 10.0	MPa
Mold Temperature	30 to 60	°C