

## Technical Data Sheet

**Polyflam SDR 5005 GRY64540**

Polystyrene, General Purpose

**Product Description**

Flame retardant PS standard grade, without PBDE and HBCD, free of antimony

**Processing Method** Injection Molding**Attribute** Antimony Free**Additive** Flame Retardant

Typical Properties	Nominal Value	Units	Test Method
<b>Physical</b>			
Melt Volume Flow Rate, (200 °C/5.0 kg)	13	cm <sup>3</sup> /10 min	ISO 1133
Density, (Method A)	1.06	g/cm <sup>3</sup>	ISO 1183
<b>Mechanical</b>			
Tensile Stress at Yield, (Type 1A, 50 mm/min)	33.0	MPa	ISO 527-2
Nominal Tensile Strain at Break, (50 mm/min)	35	%	ISO 527-2
Flexural Modulus, (2.0 mm/min)	2700	MPa	ISO 178
Tensile Strain at Yield, (Type 1A, 50 mm/min)	1.6	%	ISO 527-2
Tensile Stress at Break, (50 mm/min)	27.0	MPa	ISO 527-2
Tensile Modulus, (1 mm/min, Type 1A)	2550	MPa	ISO 527-1
Flexural Stress			
(2.0 mm/min, 3.5%)	49.0	MPa	ISO 178
(2.0 mm/min, 5.3%)	50.0	MPa	ISO 178
<b>Impact</b>			
Charpy Impact Strength - Notched			
(23 °C, Type 1, Edgewise, Notch A)	7.0	kJ/m <sup>2</sup>	ISO 179
(-30 °C, Type 1, Edgewise, Notch A)	5.0	kJ/m <sup>2</sup>	ISO 179
Charpy Impact Strength - Unnotched			
(23 °C, Type 1, Edgewise)	70	kJ/m <sup>2</sup>	ISO 179
(-30 °C, Type 1, Edgewise)	60	kJ/m <sup>2</sup>	ISO 179
<b>Thermal</b>			
Vicat Softening Temperature			
(B (50N), 50 °C/h)	85.0	°C	ISO 306
(A (10N), 50 °C/h)	92.0	°C	ISO 306
Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise)	79.0	°C	ISO 75-2/B
Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise)	73.0	°C	ISO 75-2/A

RTI Elec			
(1.5 mm)	50.0	°C	UL 746B
(3.0 mm)	50.0	°C	UL 746B
RTI Imp			
(1.5 mm)	50.0	°C	UL 746B
(3.0 mm)	50.0	°C	UL 746B
RTI Str			
(1.5 mm)	50.0	°C	UL 746B
(3.0 mm)	50.0	°C	UL 746B
<b>Electrical</b>			
Volume Resistivity	>1.0E+13	ohm*m	IEC 62631-3-1
Comparative Tracking Index (CTI)	375	V	IEC 60112
High Amp Arc Ignition			UL 746A
Surface Resistivity	>1.0E+15	ohm	IEC 60093
<b>Flammable</b>			
Hot-wire Ignition (HWI)			UL 746A
Burning Rate			
(2.00 mm, Self-Extinguishing)	0.0	mm/min	ISO 3795
(2.00 mm, Self-Extinguishing)	0.0	mm/min	FMVSS 302
Glow Wire Flammability Index			
(1.5 mm)	960	°C	IEC 60695-2-12
(3.0 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			
(1.5 mm)	850	°C	IEC 60695-2-13
(3.0 mm)	675	°C	IEC 60695-2-13
Oxygen Index	25	%	ISO 4589-2
<b>UL Information</b>			
Flame Rating			
(1.5 mm)	V-2		UL 94
(3.0 mm)	V-2		UL 94
Flammability Classification			
(1.5 mm)	V-2		IEC 60695-11-10, -20
(3.0 mm)	V-2		IEC 60695-11-10, -20
UL File Number	E86615		

<b>Injection Parameters</b>	<b>Nominal Value</b>	<b>Units</b>
Drying Time	2.0 to 4.0	hr
Drying Temperature	70 to 80	°C
Screw Speed	<250	mm/sec
Processing (Melt) Temp	180 to 210	°C
Injection Rate	Slow-Moderate	
Back Pressure	5.00 to 10.0	MPa
Mold Temperature	30 to 60	°C