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Technical Data Sheet

EDISTIR ®

RK 451G

Polystyrene

UL94 V-0, polybromobiphenylether (PBBE) free, flame retarded, high impact polystyrene.

This grade combines medium flow, heat resistance and good light stability for injection moulding of technical parts.

Designation: Thermoplastics ISO 2897-PS-I,MF,088-06-04-18

Applications

Printers and copiers, ventilators, TV back covers, business machines, monitor cabinets.

Typical processing data

Injection moulding:

- predrying recommended at 70°C for 2 h
- melt temperature 190-230°C
- mould temperature 20-60°C

General information

RK 451G may be supplied in natural or colored version upon request.

This grade is certified UL94 V-0 at 1.5 mm "all colors";
UL94-5VA at 6.0 mm "all colors" in the foamed version at density from 0.86 to 1.2 g/cm³ and UL94-5VA at 4.0 mm "all colors" in the foamed version at density from 0.96 to 1.2 g/cm³ (UL file E83071).

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Properties	Test conditions	Test methods	Units	Values
General				
Density		ISO 1183	g/cm³	1.15
Bulk density		ISO 60	g/cm³	0.7
Water absorption	24 h - 23°C	ISO 62	%	<0.1
Rheological				
Melt flow rate	200°C - 5 kg	ISO 1133	g/10 min	4
Mechanical				
Tensile stress at yield	50 mm/min	ISO 527	MPa	23
Tensile stress at break	50 mm/min	ISO 527	MPa	22
Tensile strain at break	50 mm/min	ISO 527	%	50
Tensile modulus	1 mm/min	ISO 527	MPa	1950
Flexural strength	2 mm/min	ISO 178	MPa	31
Izod impact strength, notched	+23°C - thickness 3.2 mm	ISO 180/4A	J/m	80
	+23°C - thickness 4 mm	ISO 180/1A	kJ/m²	6
	-30°C - thickness 4 mm	ISO 180/1A	kJ/m²	-
Rockwell hardness	L/M scale	ISO 2039/2	-	-
Thermal				
Vicat softening temperature	10 N - 50°C/h	ISO 306/A	°C	98
	50 N - 50°C/h	ISO 306/B	°C	90
Deflection temperature under load (annealed)	1.8 MPa - 120°C/h	ASTM D 648	°C	85
Coefficient of linear thermal expansion		ASTM D 696	10^{-5}/°C	9
Thermal conductivity		ISO 8302	W/(K· m)	0.17
Moulding shrinkage		internal method	%	0.4 - 0.7
Flammability				
Flame behaviour	thickness 1.5 mm	UL 94	class	V-0
Glow wire test (GWT)	thickness 1.6 mm	IEC 60695-2-1	°C	850
Electrical				
Surface resistivity		IEC 60093	10^{15} ohm	>1.5
Volume resistivity		IEC 60093	10^{15} ohm·cm	>7
Comparative tracking index (CTI)	solution A	IEC 60112	-	400
Dielectric strength		IEC 60243	kV/mm	26
Dielectric constant (relative permittivity)	50 Hz	IEC 60250	-	2.5
Dissipation factor	50 Hz	IEC 60250	-	0,0004

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