Edistir®

versalis

RK 451G

Technical Data Sheet

Polystyrene

Edistir® RK 451G is a UL94 V-0, polybromobiphenylether (PBBE) free flame retarded high impact polystyrene. Edistir® RK 451G 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

Edistir® RK 451G is suitable in sectors such as:

- electrical & electronics for V0 components

Typical processing data

Injection moulding:

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

Certification

✓ UL 94 V0 at 1.5 mm ✓UL 94 5VA at 3.5 mm

Storage

Store away from atmospheric agents and direct sunlight, away from sources of heat and light.

The product, if stored correctly, keeps its characteristics for at least fifteen months.

General information

Edistir® RK 451G is available in different color shades:

- natural version
- light grey Versalis code 33000
- black Versalis code 39105
- white Versalis code 31266.

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Property	Test Conditions	Test method	Units	Values
General				
Water absorption	24h - 23°C	ISO 62	%	< 0,1
Density	-	ISO 1183	g/cm³	1,15
Bulk density	-	ISO 60	g/cm³	0,7
Rheological				
Melt flow rate	200°C - 5kg	ISO 1133	g/10'	5
Mechanical				
Tensile strain at break	50 mm/min	ISO 527	%	50
Tensile stress at break	50 mm/min	ISO 527	MPa	22
Tensile stress at yield	50 mm/min	ISO 527	MPa	23
Flexural strength	2 mm/min	ISO 178	MPa	31
Tensile modulus	1 mm/min	ISO 527	MPa	1950
Izod impact strength, notched	+23°C - 4mm	ISO 180/1A	kJ/m²	6
Thermal				
Coefficient of linear thermal expansion	-	ASTM D 696	10^-5/°C	9
Thermal conductivity	-	ISO 8302	W/(K·m)	0,17
Moulding shrinkage	-	ISO 294/4	%	0,4 - 0,7
Deflection temperature under load (annealed)	1,82 MPa - 120°C/h	ISO 75 A	°C	85
Vicat softening temperature	50 N - 50°C/h	ISO 306/B	°C	90
Vicat softening temperature	10 N - 50°C/h	ISO 306/A	°C	98
Flammability				
Flame behaviour	1,5 mm	UL 94	cl.	V0
Glow wire test (GWT)	1,6 mm	IEC 60695-2-10	°C	850
Electrical				
Dielectric constant (relative permittivity)	50 Hz	IEC 60250	-	2,5
Dissipation factor	50 Hz	IEC 60250	-	0,0003
Comparative tracking index (CTI)	Sol. A	IEC 60112	-	400
Surface resistivity	-	IEC 60093	10^15ohm	> 1,5
Volume resistivity	-	IEC 60093	10^15ohm·cm	> 7
Dielectric strength	-	IEC 60243	kV/mm	26