



versalis

Technical Data Sheet

**EDISTIR**®

Polystyrene

**RK 451G**

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/cm<sup>3</sup>  
and UL94-5VA at 4.0 mm "all colors" in the foamed version at density from 0.96 to 1.2 g/cm<sup>3</sup> (UL file E83071).



Properties	Test conditions	Test methods	Units	Values
<b>General</b>				
Density		ISO 1183	g/cm <sup>3</sup>	1.15
Bulk density		ISO 60	g/cm <sup>3</sup>	0.7
Water absorption	24 h - 23°C	ISO 62	%	<0.1
<b>Rheological</b>				
Melt flow rate	200°C - 5 kg	ISO 1133	g/10 min	4
<b>Mechanical</b>				
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/m <sup>2</sup>	6
	-30°C - thickness 4 mm	ISO 180/1A	kJ/m <sup>2</sup>	-
Rockwell hardness	L/M scale	ISO 2039/2	-	-
<b>Thermal</b>				
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 <sup>-5</sup> /°C	9
Thermal conductivity		ISO 8302	W/(K·m)	0.17
Moulding shrinkage		internal method	%	0.4 - 0.7
<b>Flammability</b>				
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
<b>Electrical</b>				
Surface resistivity		IEC 60093	10 <sup>15</sup> ohm	>1.5
Volume resistivity		IEC 60093	10 <sup>15</sup> 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

