

K-Resin® KR99HG

Styrene Butadiene Copolymer (SBC)

TECHNICAL
DATASHEET

DESCRIPTION

K-Resin® KR99HG is a clear and rigid styrene-butadiene copolymer (SBC). It processes very well in injection molding, providing good cycle times and design flexibility.

FEATURES

- Excellent clarity
- Good stiffness
- Good toughness
- High surface gloss
- Can be blended with GPPS

APPLICATIONS

- Garment Hangers

Property, Test Condition	Standard	Units	Values
Rheological Properties			
Melt Volume Rate, 200 °C/5 kg	ISO 1133	cm ³ /10 min	8
Mechanical Properties			
Charpy Notched Impact Strength, 23 °C	ISO 179-1eA	kJ/m ²	2
Charpy Impact Strength, 23 °C	ISO 179 1eU	kJ/m ²	nB
Tensile Stress at Yield, 50 mm/min, 23 °C	ISO 527-1/-2	MPa	26
Tensile Strain at Yield, 50 mm/min, 23 °C	ISO 527-1/-2	%	2.2
Tensile Strain at Break	ISO 527-1/-2	%	170
Tensile Modulus	ISO 527-1/-2	MPa	1500
Flexural Strength	ISO 178	MPa	32
Flexural Modulus	ISO 178	MPa	1400
Hardness, Shore D	ISO 868	-	65
Thermal Properties			
Vicat Softening Temperature, VST/B/50 (50 °C/50 N)	ISO 306	°C	53
Heat Deflection Temperature A; (annealed, 1.8 MPa)	ISO 75	°C	61
Heat Deflection Temperature B; (annealed, 0.45 MPa)	ISO 75	°C	76
Coefficient of Linear Thermal Expansion	ISO 11359	10 ⁻⁶ /°C	60-90
Other Properties			
Density	ISO 1183	kg/m ³	1020
Water Absorption, saturated at 23°C	ISO 62	%	0,07

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Optical Properties

Refractive Index, Sodium D Line	ISO 489	-	1,57
Light Transmission, 2 mm	ASTM D 1003	%	90
Haze, 2 mm	ASTM D 1003	%	1,0

Processing

Linear Mold Shrinkage	ISO 294-4	%	0.3-1
Melt Temperature Range	ISO 294	°C	180 to 250
Mold Temperature Range	ISO 294	°C	30 to 50

Typical values for uncolored products

SUPPLY FORM

K-Resin® is delivered in the form of spherical pellets. The bulk density of the pellets is from 0.55 to 0.65 g/cm³. In dry areas with normal temperature control, K-Resin pellets can be stored for relatively long periods of time without any change in mechanical properties. Avoid direct exposure to sunlight. Under poor storage conditions, K-Resin may absorb low amounts of moisture, but this can be removed easily by drying.

PRODUCT SAFETY

No adverse effects on the health of processing personnel have been observed where the products are correctly processed and the production areas are suitably ventilated. For styrene the maximum allowable workplace concentrations must be observed according to the pertaining national regulations. In Germany, the following limit values are valid TRGS 900 (Aug. 2004): styrene, MAK-value: 20 ml/m³. Experience has shown that when K-Resin® is processed correctly with appropriate ventilation, the levels are far below the limits mentioned above. Inhalation of the vapors of degradation products which can arise on severe overheating of the materials or during purging out should be avoided. Further information can be found in the K-Resin® safety data sheets.

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