

K-Resin KR03

Styrene Butadiene Copolymer (SBC)

TECHNICAL
DATASHEET

DESCRIPTION

K-Resin® KR03 process very well in injection molding, providing good cycle times and design flexibility. K-Resin® KR03 alone or in blends, can be extruded into sheet and thermoformed on conventional equipment at high output rates. The favorable economics of K-Resin® SBC, along with high productivity, have made possible tough clear disposable drinking cups, lids and other packaging applications. K-Resin® KR03 will process on most conventional equipment, allowing the molder to run a crystal clear bottle without expensive machine modifications, special molds, different screws, or dryers. K-Resin® KR03 can be blow molded in a broad range of sizes and shapes, from small pill bottles and medical drainage units, to very tall display bottles. They can also be injection blow molded into extremely high impact bottles with glass-like clarity.

FEATURES

- Excellent Clarity
- Good Stiffness
- Good Formability
- Good Toughness
- High Surface Gloss

APPLICATIONS

- Toys
- Clam Packaging
- Displays
- Container, Cups and Lids
- Extruded Sheets
- Blow Bottles

Property, Test Condition	Standard	Unit	Values
Rheological Properties			
Melt Volume Rate, 200 °C/5 kg	ISO 1133	cm ³ /10 min	7.5
Mechanical Properties			
Izod Notched Impact Strength, 23 °C	ISO 180/A	kJ/m ²	3.5
Charpy Notched Impact Strength, 23° C	ISO 179/1eA	kJ/m ²	2
Charpy Unnotched, 23 °C	ISO 179/1eU	kJ/m ²	No Break
Tensile Stress at Yield, 23 °C	ISO 527	MPa	25
Tensile Stress at Break, 23 °C	ISO 527	MPa	17
Tensile Strain at Break, 23 °C	ISO 527	%	170
Tensile Modulus	ISO 527	MPa	1500
Flexural Strength, 23 °C	ISO 178	MPa	30
Flexural Modulus, 23 °C	ISO 178	MPa	1400

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Property, Test Condition	Standard	Unit	Values
Hardness, Shore D	ISO 868	-	63
Thermal Properties			
Vicat Softening Temperature VST/B/50 (50N, 50 °C/h)	ISO 306	°C	60
Vicat Softening Temperature, VST/A/120 (10N, 120 °C/h)	ISO 306	°C	88
Heat Deflection Temperature A; (annealed 4 h/80 °C; 1.8 MPa)	ISO 75	°C	61
Heat Deflection Temperature B; (annealed 4 h/80 °C; 0.45 MPa)	ISO 75	°C	76
Optical Properties			
Refractive Index, Sodium D Line	ISO 489	-	1.57
Haze	ASTM D 1003	%	< 1.5
Light Transmission at 550 nm	ASTM D 1003	%	91
Other Properties			
Density	ISO 1183	kg/m³	1010
Moisture Absorption, Equilibrium 23 °C/50% RH	ISO 62	%	0.07
Processing			
Linear Mold Shrinkage	ISO 294-4	%	0.3 - 1
Melt Temperature Range	ISO 294	°C	180 - 240
Mold Temperature Range	ISO 294	°C	30 - 50

The nominal properties herein are typical of the product but do not reflect normal testing variance and therefore should not be used for specification purposes. Values are rounded.

[Tensile Yield Strength/Tensile Elongation @ Break] = Type 1 @ 2 in/min (50 mm/min)

[Flexural Modulus/Flexural Yield Strength] = 0.125 in (3.2 mm) specimen @ 0.5 in/sec (1.27 cm/min)

[Instrumented Impact Total Energy] = 0.125 in (3.2 mm) specimen @ 150 in/sec (381 cm/sec) impact rate

SUPPLY FORM

K-Resin® is supplied in pellet form and should be kept in its original containers in cool, dry place. Avoid direct exposure to sunlight. K-Resin® can be stored in silos at temperatures well below 45 °C.

PRODUCT SAFETY

During processing of K-Resin® small quantities of styrene monomer may be released into the atmosphere. At styrene vapor concentrations below 20 ppm no negative effects on health are expected. In our experience, the concentration of styrene does not exceed 1 ppm in well

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ventilated workplaces - that is where five to eight air changes per hour are made. For safety information please refer to our Material Safety Data Sheet for this product.

DISCLAIMER

The above mentioned data are accurate to the best of our knowledge. They are based upon reputable labs and industry standard testing methods. These are only typical values and actual product specification may deviate at industrial range. Therefore, no data in this technical data sheet shall constitute a warranty or representation regarding product features, fitness of the product for a specific purpose or application or its processability. INEOS Styrolution disclaims all liability in connection therewith. The customer himself is required to verify whether or not the product is suitable for the further processing or application intended and whether or not the product complies with the relevant statutory requirements. Unless explicitly and individually otherwise agreed in writing, INEOS Styrolution's sole and exclusive liability with respect to its products is set forth in INEOS Styrolution's General Terms and Conditions for Sale.