



# K-Resin® KR01

## INEOS Styrolution - Styrene Butadiene Block Copolymer

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### General Information

#### Product Description

K-Resin® KR01 process very well in injection molding, providing good cycle times and design flexibility. Applications range from containers and packaging with living hinges to medical applications, toys, displays, overcaps and hangers. INEOS Styrolution has several grades of K-Resin® SBC tailored for your injection molded needs.

#### FEATURES

- Excellent Clarity
- Good Stiffness
- Good Toughness
- High Surface Gloss
- Warpage Resistance

#### APPLICATIONS

- Molded Boxes with Integral Hinges
- Medical Devices
- Displays
- Toys

#### General

Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Block Copolymer • Good Processability • Good Stiffness	• Good Toughness • High Clarity • High Gloss	• Warp Resistant
Uses	• Containers • Displays	• Medical Devices • Medical/Healthcare Applications	• Packaging • Toys
Appearance	• Clear/Transparent		
Processing Method	• Injection Molding		

### ASTM & ISO Properties <sup>1</sup>

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity			
--	1.01	1.01	ASTM D792
--	1.02 g/cm <sup>3</sup>	1.02 g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	8.0 g/10 min	8.0 g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (200°C/5.0 kg)	8.00 cm <sup>3</sup> /10min	8.00 cm <sup>3</sup> /10min	ISO 1133
Mechanical	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Modulus	232000 psi	1600 MPa	ISO 527-2
Tensile Strength			
Yield, 73°F (23°C)	4850 psi	33.4 MPa	ASTM D638
Yield, 73°F (23°C)	4790 psi	33.0 MPa	ISO 527-2

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Mechanical	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Strain			
Yield, 73°F (23°C)	2.8 %	2.8 %	ISO 527-2
Break, 73°F (23°C)	30 %	30 %	ASTM D638
Break, 73°F (23°C)	15 %	15 %	ISO 527-2
Flexural Modulus			
73°F (23°C)	261000 psi	1800 MPa	ASTM D790
73°F (23°C)	218000 psi	1500 MPa	ISO 178
Flexural Strength			
73°F (23°C)	7830 psi	54.0 MPa	ASTM D790
73°F (23°C)	6240 psi	43.0 MPa	ISO 178
Impact	Typical Value (English)	Typical Value (SI)	Test Method
Charpy Notched Impact Strength (73°F (23°C))	0.95 ft-lb/in <sup>2</sup>	2.0 kJ/m <sup>2</sup>	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
73°F (23°C)	13 ft-lb/in <sup>2</sup>	27 kJ/m <sup>2</sup>	
Instrumented Dart Impact (Total Energy)	19.0 in-lb	2.15 J	ASTM D3763
Hardness	Typical Value (English)	Typical Value (SI)	Test Method
Durometer Hardness			
Shore D	69	69	ASTM D2240
Shore D	70	70	ISO 868
Thermal	Typical Value (English)	Typical Value (SI)	Test Method
Heat Deflection Temperature			
66 psi (0.45 MPa), Unannealed	172 °F	78.0 °C	ISO 75-2/B
264 psi (1.8 MPa), Annealed	148 °F	64.4 °C	ASTM D648
264 psi (1.8 MPa), Annealed	149 °F	65.0 °C	ISO 75-2/A
Vicat Softening Temperature			
--	194 °F	90.0 °C	ASTM D1525 <sup>2</sup>
--	149 °F	65.0 °C	ISO 306/B50
--	196 °F	91.0 °C	ISO 306/A50
CLTE - Flow	3.3E-5 to 5.0E-5 in/in/°F	6.0E-5 to 9.0E-5 cm/cm/°C	ISO 11359-2
Optical	Typical Value (English)	Typical Value (SI)	Test Method
Gloss <sup>3</sup>	164	164	ASTM D2457
Refractive Index <sup>4</sup>	1.570	1.570	ISO 489
Transmittance (550 nm)	92.0 %	92.0 %	ASTM D1003
Haze	1.00 %	1.00 %	ASTM D1003

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> Rate B (120°C/h), Loading 1 (10 N)

<sup>3</sup> (mold temperature 100°F)

<sup>4</sup> Sodium D Line

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