K-Resin® KR03NW

INEOS Styrolution - Styrene Butadiene Block Copolymer

Tuesday, November 5, 2019

General Information

Product Description

K-Resin® KR03 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 Formability
- Good Toughness
- High Surface Gloss
- KR03NW is the no-wax (NW) form of KR03 to facilitate printing

APPLICATIONS

- Bottles
- Molded Boxes and Containers
- Medical Devices
- Portion Packages
- Blister Packaging

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

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.01		ASTM D792
Density	1.01	g/cm³	ISO 1183
Melt Mass-Flow Rate (200°C/5.0 kg)	7.5	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (200°C/5.0 kg)	7.50	cm³/10min	ISO 1133
Molding Shrinkage	0.30 to 1.0	%	ISO 294-4
Water Absorption (Saturation, 73°F)	0.070	%	ISO 62
Water Absorption (Equilibrium)	0.090	%	ASTM D570
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (73°F)	218000	psi	ISO 527-2
Tensile Strength (Yield, 73°F)	3800	psi	ASTM D638
Tensile Stress (Yield, 73°F)	3630	psi	ISO 527-2

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Mechanical	Nominal Value	Unit	Test Method
Tensile Strain (Yield, 73°F)	2.2	%	ISO 527-2
Tensile Elongation (Break, 73°F)	230	%	ASTM D638
Tensile Strain (Break, 73°F)	170	%	ISO 527-2
Flexural Modulus (73°F)	260000	psi	ASTM D790
Flexural Modulus (73°F)	218000	psi	ISO 178
Flexural Strength (73°F)	5400	psi	ASTM D790
Flexural Stress (73°F)	4350	psi	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (73°F)	0.95	ft·lb/in²	ISO 179/1eA
Instrumented Dart Impact (Total Energy)	354	in·lb	ASTM D3763
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore D)	63		ASTM D2240
Shore Hardness (Shore D)	63		ISO 868
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature (66 psi, Unannealed)	169	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Annealed)	144	°F	ASTM D648
Heat Deflection Temperature (264 psi, Annealed)	142	°F	ISO 75-2/A
Vicat Softening Temperature	185	°F	ASTM D1525 [2]
Vicat Softening Temperature			
--	185	°F	ISO 306/A50
--	127	°F	ISO 306/B50
CLTE - Flow	3.3E-5 to 5.0E-5	in/in/°F	ISO 11359-2
Optical	**Nominal Value**	**Unit**	**Test Method**
Gloss	162		ASTM D2457
Refractive Index [3]	1.570		ISO 489
Transmittance (550 nm)	92.0	%	ASTM D1003
Haze	< 2.00	%	ASTM D1003

Notes

[1] Typical properties: these are not to be construed as specifications.

[2] Rate B (120°C/h), Loading 1 (10 N)

[3] Sodium D Line