

K-RESIN®

PORTFOLIO

Styrene Butadiene Copolymers



INEOS
STYROLUTION

Driving Success. Together.

K-RESIN® PORTFOLIO

Resin Type	KR01	KR03*	BK10	KR20	KR05	KR38	KR40	XK44
Suggested Processes	Injection Molding			Impact Modifier	Extrusion			
Suggested Applications	Molded containers (integral hinge), medical devices, toys, displays, compounds.			Impact modification of styrenic polymers and styrenic polymer blends.	Cups and Lids, Portion Packages, Blister Packaging, Medical Trays, Profiles, Blow Molded Products.			
Key Properties	Excellent Clarity, Good Stiffness, Good Toughness, High Surface Gloss			Improved toughness for styrenic polymers and styrenic polymer blends.	Excellent Clarity, Good Stiffness, Good Formability, Good Toughness, High Surface Gloss.			
Nominal Physical Properties Density, g/cc Melt Flow Rate, 200°C/5.0kg, g/10 min	1.01 8	1.01 7.5	1.01 15	0.99 6	1.01 7.5	1.00 9.0	1.02 10.0	1.01 6
Injection Molded Properties Tensile Yield Strength psi MPa	4,845 33.4	3,800 26	3,817 26	1,500 10.3	3,800 26	2,350 16.2	2,240 15.4	3,130 21.6
Tensile Elongation @ Break, %	30	230	248	>500	230	260	339	350
Flexural Modulus psi MPa	260,874 1,800	260,350 1,795	242,000 1,668	92,670 640	260,350 1,795	198,000 1,365	122,800 847	162,690 1,122
Flexural Yield Strength psi MPa	7,827 54	5,400 37	5,160 35.6	2,300 16	5,400 37	3,600 25	3,535 24.4	5,000 34.5
Deflection Temperature Under Load (DTUL) °F °C	148 64	144 62	140 60	122 50	144 62	134 57	117 47	127 53
Instrumented Impact, Total Energy in lbs J	19 2.1	354 40	364 41	292 33	354 40	340 38.4	380 43	420 47.5
Hardness, Shore D	69	63	62	46	63	56	60	65
Vicat Softening Point °F °C	194 90	185 85	180 82	140 60	185 85	166 74.4	145 63	168 75.6
Light Transmission, %	93	92	90	91	92	92	90	93

* KR03NW is available as a wax-free option

Resin Type	DK11	KR52	KR53
Suggested Processes	Blown and Cast Film		
Suggested Applications	Shrink Sleeve Labels, Multi-layer Films, Tamper Evident Bands, ROSO Label Films, Decorated Films, Twist Wrap, Medical Packaging, Produce Packaging, Lidstock Film, Skin Packaging.		
Key Properties	Excellent Optical Properties, Good Stiffness, High Surface Gloss, Good Toughness, Good Heat Sealability. KR52 and KR53 have enhanced printing characteristics.		
Nominal Physical Properties Density, g/cc Melt Flow Rate, 200°C/5.0kg, g/10 min	1.01 7.5	1.01 9	1.02 10
Film Properties Tensile Yield Strength MD psi (MPa) TD psi (MPa)	Blown Film ⁽¹⁾ 5,000 (35) 3,050 (20)	Cast / Tenter ⁽²⁾ 4,400 (30) 6,500 (45)	Blown Film ⁽¹⁾ 3,300 (25) 2,900 (20)
Tensile Elongation @ Break, % MD TD	110 200	260 80	175 180
Puncture in lbs J	8 0.9	27 3	10 1.1
Elmendorf Tear, g MD TD	7 15	95 75	20 25
Secant Modulus, 1% MD psi (MPa) TD psi (MPa)	205,000 (1,400) 140,000 (970)	160,000 (1,100) 232,000 (1,600)	109,000 (750) 85,000 (590)
Vicat Softening Point ⁽³⁾ °F °C	185 85	142 60	145 63
Haze, % Gloss, %	0.7 140	4 145	0.2 140

⁽¹⁾ Blown film properties: 1 mil (0.025 mm) film (2.5:1 BUR) 35 mil (0.90 mm) die gap.

⁽²⁾ Cast film properties with 2% impact polystyrene, 2 mil (0.05 mm) (10 mil cast film oriented/tentered 5:2 in the Transverse Direction).

⁽³⁾ Injection Molded Specimen

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