

Acetal Copolymer KEPITAL®

KOREA ENGINEERING PLASTICS CO.,LTD.

TX-31

A low viscosity grade for general injection molding. It is suitable for use requiring reduced wear noise, and a good friction & wear resistance without sacrificing mechanical properties.

Property	Test Method	Units	Value
Physical			
Specific Gravity	ASTM D792	—	1.39
Water Absorption 23 °C, 60%RH	ASTM D570	%	0.22
Thermal			
Melt Index 190 °C, 2.16 kg	ASTM D1238	g/10min	27
Melting Point 10 °C/min	ASTM D3418	°C	165
Heat Deflection Temperature 4.6kg _f /cm ² (0.5MPa)	ASTM D648	°C	158
18.6kg _f /cm ² (1.8MPa)			110
Coeff. of Linear Thermal Expansion 20 ~ 80 °C	ASTM D696	x 10 ⁻⁵ cm/cm/°C	13
Flammability t 0.8mm	UL94	—	HB
Mechanical			
Tensile Strength 23 °C	ASTM D638	kg _f /cm ² (MPa)	560 (55)
Tensile Elongation 23 °C	ASTM D638	%	55
Flexural Strength 23 °C	ASTM D790	kg _f /cm ² (MPa)	820 (80)
Flexural Modulus 23 °C	ASTM D790	x 10 ⁴ kg _f /cm ² (MPa)	2.55 (2,500)
Shear Strength t 2mm	ASTM D732	kg _f /cm ² (MPa)	
Notched Izod Impact Strength t 3.2mm	ASTM D256	kg _f · cm/cm (J/m)	7.0 (69)
Rockwell Hardness M scale	ASTM D785	—	M80
Electrical			
Dielectric Constant 10 ⁶ Hz	ASTM D150	—	
Dielectric Dissipation Factor 10 ⁶ Hz	ASTM D150	—	
Surface Resistivity	ASTM D257	Ω	1 x 10 ¹⁶
Volume Resistivity	ASTM D257	Ω · cm	1 x 10 ¹⁴
Dielectric Strength	ASTM D149	kV/mm	
Molding Shrinkage (//Direction) t 3mm, Φ 100mm		%	2.0
Friction & Wear			
Specific Wear Resin vs. Resin		mm ³ / kg _f · km	0.10
Resin vs. Metal		mm ³ / kg _f · km	0.03
Dynamic Friction Coefficient Resin vs. Resin		—	0.16
(μ) Resin vs. Metal		—	0.21

Properties are subject to change with a new knowledge and development.

Although the information and recommendations set forth herein are presented in good faith and believed to be correct, we recommend that persons receiving information must make their own determination as to its suitability to their purposes prior to use. These are based on natural colored products only through relevant test methods and conditions. The KOREA ENGINEERING PLASTICS CO., LTD. assumes no warranty or liability of, express or implied, as to the accuracy or completeness thereof, or any other nature regarding designs, products, or information may be used without infringing the intellectual property rights of others. Further, the data furnished by KEP are not intent to replace any testing required to determine a suitability of any application and set a specification limit for design.

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Property	Test Method	Units	Value
Physical			
Specific Gravity	ASTM D792	—	1.39
Water Absorption 23 °C (73°F), 60%RH	ASTM D570	%	0.22
Thermal			
Melt Index 190 °C, 2.16 kg	ASTM D1238	g/10min	27
Melting Point 10 °C/min	ASTM D3418	°C (°F)	165 (329)
Heat Deflection Temperature 4.6kg _f /cm ² (64psi)	ASTM D648	°C (°F)	158 (316)
18.6kg _f /cm ² (264psi)			110 (230)
Coeff. of Linear Thermal Expansion 20 ~ 80 °C	ASTM D696	x 10 ⁻⁵ cm/cm/°C	13
Flammability t 0.8mm(t 0.03in)	UL94	—	HB
Mechanical			
Tensile Strength 23 °C (73°F)	ASTM D638	kg _f /cm ² (psi)	560 (8,000)
Tensile Elongation 23 °C (73°F)	ASTM D638	%	55
Flexural Strength 23 °C (73°F)	ASTM D790	kg _f /cm ² (x 10 ³ psi)	820 (11.7)
Flexural Modulus 23 °C (73°F)	ASTM D790	x 10 ⁴ kg _f /cm ² (x 10 ⁴ psi)	2.55 (36.3)
Shear Strength t 2mm (t 0.08in)	ASTM D732	kg _f /cm ² (psi)	7.0 (1.3)
Notched Izod Impact Strength t 3.2mm (t 0.126in)	ASTM D256	kg _f · cm/cm(ft · lb/in)	7.0 (1.3)
Rockwell Hardness M scale	ASTM D785	—	M80
Electrical			
Dielectric Strength 10 ⁶ Hz	ASTM D150	—	
Dielectric Dissipation Factor 10 ⁶ Hz	ASTM D150	—	
Surface Resistivity	ASTM D257	Ω	1 x 10 ¹⁶
Volume Resistivity	ASTM D257	Ω · cm	1 x 10 ¹⁴
Dielectric Strength	ASTM D149	kV/mm	
Molding Shrinkage (//Direction) t 3mm, Φ 100mm		%	2.0
Friction & Wear			
Specific Wear Resin vs. Resin		mm ² / kg _f · km	0.10
Resin vs. Metal		mm ² / kg _f · km	0.03
Dynamic Friction Coefficient Resin vs. Resin		—	0.16
(μ) Resin vs. Metal		—	0.21

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