



# KOROLATH OF NEW ENGLAND, INC.

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## Korolath's HIPS Polymer

<u>MECHANICAL PROPERTY</u>	<u>UNITS</u>	<u>ASTM TEST</u>	<u>HIPS POLYMER</u>
Specific gravity	--	D792	1.05
Tensile strength, 73 <sup>0</sup>	PSI	D638	8,000-10,000
Tensile modulus of elasticity, 73 <sup>0</sup>	PSI	D638	240,000
Tensile modulus of elongation, 73 <sup>0</sup>	%	D638	3
Flexural strength, 73 <sup>0</sup>	PSI	D790	10,000-15,000
Flexural modulus of elasticity, 73 <sup>0</sup>	PSI	D790	--
Shear strength	PSI	D732	7,500-8,000
Compressive strength	PSI	D695	--
Compressive modulus of elasticity, 73 <sup>0</sup>	PSI	D695	--
Coefficient of friction	--	--	--
(Dry vs. Steel) dynamic	--	--	--
Hardness, Rockwell, 73 <sup>0</sup>	--	D785	R110-120
Hardness, durometer, 73 <sup>0</sup>	--	D676	D80-85
Tensile impact 73 <sup>0</sup>	Ft.lb.in.2	D1822	--

<u>THERMAL PROPERTY</u>			
Coefficient of linear thermal expansion	in./in./ <sup>0</sup> F	D696	5.0x10(-5)
Deformation under load (122 <sup>0</sup> F 2,000 PSI)	%	D621	1.0
Deflection temperature: 264 PSI	<sup>0</sup> F	D648	200-225
66 PSI	<sup>0</sup> F	D648	--
Melting point	<sup>0</sup> F	D789	187
Continuous service temp in air (maximum)	<sup>0</sup> F	--	215

<u>ELECTRICAL PROPERTY</u>			
Dielectric strength short time	volts/mil	D149	700-1,200
Volume resistivity	OHM-CM	D257	10
Dielectric constant: 60 HZ	--	D150	2.55
10/cubed HZ	--	D150	2.55
10/sixth HZ	--	D150	2.55

<u>CHEMICAL PROPERTY</u>			
Water absorption immersion: 24 hours	%	D570	0.02-0.03
Acids: Weak 73 <sup>0</sup>			A
Strong 73 <sup>0</sup>			A
Alkalies: Weak 73 <sup>0</sup>		A	
Strong 73 <sup>0</sup>			A
Hydrocarbons Aromatic 73 <sup>0</sup>			U
Hydrocarbons Aliphatic 73 <sup>0</sup>			U
Ketones 73 <sup>0</sup>			L
Ethers 73 <sup>0</sup>			L
Esters 73 <sup>0</sup>			L
Alcohols			L
Inorganic Salt Solutions 73 <sup>0</sup>			L
Continuous Sunlight 73 <sup>0</sup>			L

**KEY**

A = ACCEPTABLE SERVICE

L = LIMITED SERVICE

U = UNACCEPTABLE SERVICE