



UNICAR[®] Polycarbonate

UNICAR Polycarbonate is a transparent thermoplastic that exhibits extraordinary impact resistance and excellent electrical properties. In addition, its low moisture absorption rate and good chemical resistance make it an extremely versatile engineering material and allows for its use in a multitude of industrial applications. Unfilled UNICAR Polycarbonate is a mechanical grade material with light transmittance of approximately 88%. For applications requiring additional stiffness, glass fiber filled UNICAR Rg is available with fiber filler levels ranging from 10% to 40%. Nytef Plastics stocks UNICAR and UNICAR Rg Polycarbonate products in a full range of heavy gauge rod, plate and tubular bar sizes.

PRODUCT ATTRIBUTES

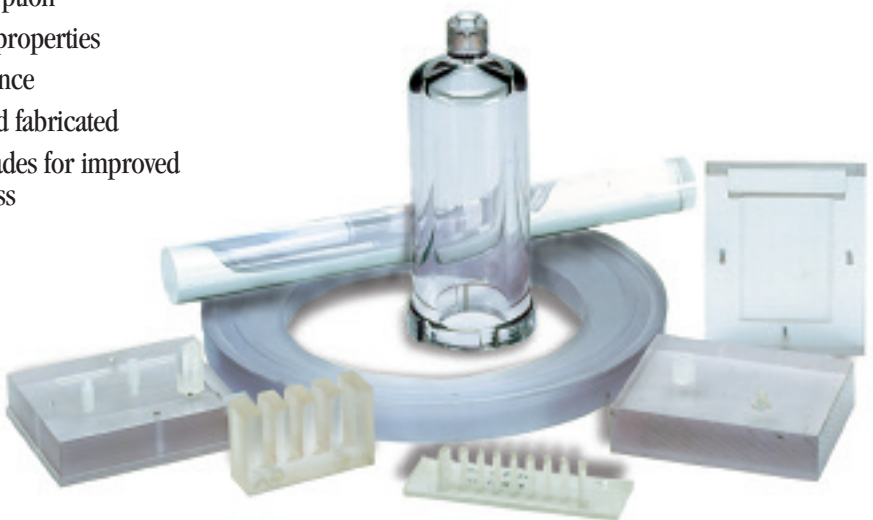
- 265°F continuous use temperature
- Transparent
- Excellent toughness
- Low moisture absorption
- Superior electrical properties
- Excellent UV resistance
- Easily machined and fabricated
- Glass fiber filled grades for improved strength and stiffness

INDUSTRIES

- Aircraft and aerospace
- Fluid handling
- Electrical and electronics products
- Automotive
- Business machines

APPLICATIONS

- Electrical component housings
- Electrical insulators
- Aircraft instrumentation
- Sight glasses
- Manifolds



Nytef Plastics, Ltd. is dedicated to supplying our customers with the highest quality thermoplastic stock shapes for machining. We manufacture and stock a full line of thermoplastic materials in a wide variety of rod, plate and tubular bar sizes. In addition, we offer over 35 years of experience in the custom extrusion of application-specific and proprietary resins to meet even the most demanding performance requirements. Nytef Plastics offers full technical support for all products.



UNICAR® POLYCARBONATE

Property	Test Method	Units	UNICAR	UNICAR Rg-20
			Unfilled Polycarbonate	20% Glass Fiber Reinforced PC
Mechanical				
Specific Gravity	ASTM-D792	---	1.20	1.35
Tensile Strength	ASTM-D638	psi	9,500	16,000
Tensile Elongation	ASTM-D638	%	110	5
Tensile Modulus of Elasticity	ASTM-D638	psi	330,000	860,000
Flexural Strength	ASTM-D790	psi	13,500	19,000
Flexural Modulus of Elasticity	ASTM-D790	psi	340,000	800,000
Compressive Strength	ASTM-D695	psi	12,500	16,000
Izod Impact (notched)	ASTM-D256	ft.-lbs./in.	1.7	2.0
Rockwell Hardness	ASTM-D785	M/R scale	M70/R118	M91/R122
Thermal				
Coef. of Linear Thermal Expansion	ASTM-D696	in./in./°F	3.8 x 10 ⁻⁵	1.49 x 10 ⁻⁵
Continuous Use Temp.	UL 746	°F	265	265
Heat Deflection Temp. @ 264 psi	ASTM-D648	°F	270	295
Electrical				
Dielectric Strength-Short Term	ASTM-D149	volts/mil	380	490
Dielectric Constant @ 60 Hz	ASTM-D150		3.17	3.17
Dielectric Constant @ 10 ⁶ Hz	ASTM-D150		2.96	3.13
Dissipation Factor @ 60 Hz	ASTM-D150		0.0009	0.0009
Volume Resistivity	ASTM-D257	ohm-cm	>10 ¹⁷	>10 ¹⁷
Miscellaneous				
Water Absorption/24 hrs.	ASTM-D570	% weight	0.15	.016
Water Absorption @ Saturation	ASTM-D570	% weight	0.35	0.29
Flammability	UL-94		HB	HB
Color	—	—	Transparent	Black

Nytec Plastics, Ltd. believes that all physical property data and other technical information and specifications contained in this document are the best available on the product or material at the time of publication. However, this information is intended merely as a guideline to performance. Persons intending to use this information or specifications should first satisfy themselves that the products and their features/properties are suitable for their intended uses and applications and meet all appropriate safety, health or other applicable standards. Nytec Plastics, Ltd. does not guarantee the effectiveness or safety of any possible or suggested design for articles of manufacture as illustrated herein by any photograph, technical drawing or the like. It is the end user's sole responsibility to performance test the finished part in the actual or intended application. Nytec Plastics, Ltd. makes no guarantee as to this information's accuracy or completeness and will not assume any obligation or liability whatsoever for use of this information, specification or data. Nothing herein waives any of the seller's terms and conditions of sale. References to products not manufactured by Nytec Plastics, Ltd. are not intended as an endorsement of those products nor to suggest an unsuitability of other similar products. Statements containing possible suggested uses of the materials described herein are not to be construed as a license to operate under, or intended to suggest infringement of any existing patent.



NYTEF PLASTICS

800-646-9833

www.nytefplastics.com

sales@nytef.com

Philadelphia • West Palm Beach • Chicago • Los Angeles • Fachbach, Germany