

HYDEL[®] PC-7

Polycarbonate

Hydel[®]PC-7 ESD Polycarbonate is a static dissipative thermoplastic product containing graphic Fibril[™] nanotubes. Unlike

conventional carbon fibers, this technology allows for good dimensional stability after machining, outstanding toughness, consistent

electrical properties, excellent surface quality, and minimal sloughing. Hydel[®]PC-7 is available in rod, slab, tubular bar, and profiles.

- **75% less total carbon content than standard carbon filled ESD materials**
- **Lower carbon loading means minimal sloughing or crayoning issues; fewer particulates**
- **Zero residual charge**
- **Nano fibers do not degrade physical properties**
- **Lower warpage than other carbon filled materials**
- **Superior machined surface finish**

HYDEL[®]PC-7 ESD is especially suited to applications in the defense industry, specifically in the manufacture of ammunition where it is vital that static charges be suppressed. It can also be used in select applications in the aerospace and electronics industry.

TYPICAL PROPERTY VALUES

	PROPERTIES	ASTM Test Method	Units	HYDEL [®] PC-7
PHYSICAL	Specific Gravity	D792		1.22
	Water Absorption, @24 hours, 73°F	D792	%	0.15
MECHANICAL	Rockwell Hardness, 73°F	D785	M Scale	120 R
	Ultimate Tensile Strength	D638	psi	9,000
	Tensile Elongation @ Break	D638	%	8
	Tensile Modulus	D638	psi	333,000
	Compressive Strength	D695	psi	12,300
	Flexural Strength	D790	psi	10,800
	Flexural Modulus	D790	psi	340,000
	Notched Izod Impact Strength	D256	ft-lbs/in	1.2
THERMAL	Deflection Temperature @264 psi	D648	°F	280
	Maximum Continuous Use Temperature	-	°F	260
	Coefficient of Linear Thermal Expansion (-65°F to 250°F)	E831	in/in/°F	3.7 x 10 ⁻⁴
ELECTRICAL	Surface Resistance @10V	EOS/ESD S11.11	ohms	10 ⁷ to 10 ¹⁰
	Surface Resistance @100V	EOS/ESD S11.11	ohms	10 ⁷ to 10 ⁹
	Volume Resistance @10V	ESD-STM 11.12	ohms	10 ⁷ to 10 ¹⁰
	Volume Resistance @100V	ESD-STM 11.12	ohms	10 ⁷ to 10 ⁹
	Static Decay	FTMS-101C Method 4046	sec.	0.02
	Residual Voltage	-	V	0.00

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MATERIAL AVAILABILITY

Rods: Diameters:

Plates:

Primary Specification (Resin) (Typical)

Shapes Specification (Typical)

Profiles, tubes, and special sizes are custom-produced on request.



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