



Polycarbonate Machine Grade - ESD

WESTLAKE
PLASTICS COMPANY

Static Control Zelux® (static control polycarbonate)

ZELUX® SD-P (Static-dissipative Polycarbonate) Carbon-powder-filled material with resistivity levels in the $10^7 - 10^{11}$ range with high flexural strength and good thermal stability to 270° F. UL94 V-0 rated at .030", this material is thermoformable in .010" - .060" gauges, and has low outgassing properties.

ZELUX® CN-P and CN-SS (Conductive Polycarbonate) The CN-P material is carbon-powder-filled, while the CN-SS is filled with small non-sloughing stainless steel fibers. Both have high flexural strength and good thermal stability to 275° F. The CN-SS material has excellent impact strength, while the CN-P is UL94 V-0 rated at .030" and is thermoformable in thinner gauges (.010"-.060").

The following physical property information is based on typical values of the resin.

Manufacturing Capabilities:

Rod(SD-P & CN-P only): 1 /8" to 4" diameter

Sheet(SD-P & CN-P): .030" to 4" thick

Sheet(CN-SS): 3 /8" to 4" thick

Film(SD-P & CN-Ponly): .010" to .029" thick

Colors/Grades:

SD-P—Black

CN-P—Black

CN-SS—Dark Gray

Advantages of Zelux

SD-P, CN-P and CN-SS:

- Consistent resistivity values
- Low outgassing
- UL 94 V-0 flame rating
- High strength
- Easily machined
- Durable

Applications Include:

- Semiconductor/electronic components
- Cassette housings
- Telecommunications hardware
- Explosives handling equipment

In addition to our standard capabilities, Westlake also has the ability to process custom resins in various sizes and colors with some exceptions.

	Units	ASTM Test	Zelux SD-P	Zelux CN-P	Zelux CN-SS
Mechanical					
Tensile strength @yield	psi	D638	9,500	9,400	7,500
Tensile elongation @break	%	D638	5.0	5.0	15.0
Flexural strength	psi	D790	15,500	15,500	12,000
Flexural modulus	psi	D790	450,000	460,000	350,000
Izod impact strength					
Notched	ft•lbs/in	D256	1.5	1.4	1.8
Un-Notched	ft•lbs/in	D256	15.0	10.0	30.0
Hardness—Shore D		D2240	78	62	—
Thermal					
Heat deflection temperature @264 psi	°F	D648	270	270	285
Flammability rating—UL94			V-0 @0.020"	V-0 @0.028"	V-0 @0.065"
Coefficient of thermal expansion	in/in/°F	D696	3.5x10 ⁻⁵	—	—
Thermal conductivity	(BTU•in)/(hr•ft ² •°F)	—	1.6	—	—
Electrical					
Surface resistivity dry	ohm/sq	D257	10 ⁷ - 10 ¹¹	10 ³ - 10 ⁶	10 ² - 10 ⁶
Volume resistivity dry	ohm/cm	D257	10 ⁷ - 10 ¹¹	10 ³ - 10 ⁶	10 ² - 10 ⁶
Static decay	seconds	Mil-B-81705-B	<0.1	<0.1	<0.1
Other					
Specific gravity		D792	1.33	1.32	1.29
Water absorption @24 hours	%	D570	0.18	0.16	0.13

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Los Angeles 800-800-0039	San Diego 858-552-0801	San Jose 800-800-2478	Seattle 800-488-7678	Portland 800-676-7678	Phoenix 800-395-7378	Denver 888-371-7678	Dallas/FtWorth 800-834-9391
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