

## TPU MATERIAL POLYSIM

POLYSIM IS AN ELASTOMERIC POLYMER BLEND OF A PATENTED INHERENTLY DISSIPATIVE POLYMER (IDP) WITH THERMOPLASTIC POLYURETHANE (TPU). THE PRODUCT COMBINES THE TOUGHNESS AND FLEXIBILITY OF A TPU WITH AN INHERENTLY STATIC DISSIPATIVE POLYMER NETWORK. THIS NETWORK REMAINS INTACT THROUGH INJECTION MOLDING OR EXTRUDING, WHILE MAINTAINING THE PHYSICAL PROPERTIES OF A TPU. POLYSIM 509 ALLOYS ARE FORMULATED FOR PERMANENT AND CONSISTENT ESD PROTECTION WITHOUT COMPROMISING CLEANLINESS.

TYPICAL PHYSICAL PROPERTIES	TEST RESULTS	ASTM
HOST POLYMER	POLYETHER TPU	
FILLER	IDP ALLOY	
COLOR	TRANSPARENT	
	BLACK OPAQUE	
	WHITE OPAQUE	
SHORE HARDNESS	90A/47D	(D-2240) (SHORE A)
SPECIFIC GRAVITY	1.16	(D-792)

MECHANICAL PROPERTIES	TEST RESULTS	ASTM
ULTIMATE TENSILE STRENGTH	3800 (26)	(D-412) (PSI)
ULTIMATE ELONGATION	450%	(D-412)
100% MODULUS ELONGATION	1200 (8)	(D-412) (PSI)
300% MODULUS ELONGATION	2200 (15)	(D-412) (PSI)

ELECTRICAL PROPERTIES	TEST RESULTS	ASTM
SURFACE RESISTIVITY	5X10 <sup>9</sup>	(D-257) (OHMS/SQUARE)
VOLUME RESISTIVITY	5X10 <sup>9</sup>	(D-257) (OHMS-CM)
STATIC DECAY TIME BY CHARGE PLATE MONITOR	50% R.H.	0.1 SECONDS

### FLAME SPREAD & SMOKE DENSITY

ASTM E84-00A "STANDARD METHOD OF TEST FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS":

FLAME SPREAD = 10

SMOKE DENSITY = 195

NFPA-701-2004 TEST METHOD 2 — FLAME PROPOGATION OF FILM "POLYSIM 509"

RESULTS = PASS

FEATURES	APPLICATIONS
<ul style="list-style-type: none"> <li>• PERMANENTLY STATIC DISSIPATIVE</li> <li>• DOES NOT REQUIRE HUMIDITY</li> <li>• ULTRA-CLEAN: LOW OFF-GASSING, LOW IONICS</li> <li>• SEE-THROUGH CLARITY</li> <li>• NO PARTICULATES</li> </ul>	<ul style="list-style-type: none"> <li>• CLEANROOM SOFTWALLS</li> <li>• WINDOWS</li> <li>• DOORS</li> </ul>

### IMPORTANT:

COMPLETE TEST RESULTS FOR OUTGASSING, ANTI-STATIC AND FLAME SPREAD AVAILABLE UPON REQUEST.

WE BELIEVE THESE TESTS TO BE RELIABLE AND ACCURATE TO THE BEST OF OUR KNOWLEDGE BUT CANNOT WARRANTY FOR PROCESSES AND APPLICATIONS BEYOND OUR CONTROL.