

Elastollan® 1174D50

Technical Bulletin

Polyether Type

Elastollan® 1174D50 is a polyether-based thermoplastic polyurethane (TPU). It exhibits excellent abrasion resistance, toughness, transparency, low temperature properties, hydrolytic stability and fungus resistance. Elastollan® 1174D50 is also conforming to the FDA food contact section, book 21, section 177.2600. As with all TPU products, Elastollan® 1174D50 must be dried before processing. The drying step is required to maintain a low moisture content until the product enters the processing equipment. The water content must be less than 0.03% before and during processing. The typical drying conditions should be 2-4 hours @ 195°-220° F (90°-105° C). Elastollan® 1174D50 can be stored for up to 1 year in its original container. Containers should be stored in a cool and dry area.

Properties		Test Method	Typical Value	
			English	SI
Physical				
Specific Gravity	gr./cm ³	ASTM D-792	1.19	1.19
Hardness	Shore D	ASTM D-2240	73D	73D
Mechanical				
Tensile Strength (Ultimate)	psi / MPa	ASTM D-412	6500 psi	45 MPa
Tensile Stress	@100% Elong.	ASTM D-412	4600 psi	32 MPa
Tensile Stress	@300% Elong.	ASTM D-412	5500 psi	32 MPa
Elongation at Break	%	ASTM D-412	350%	350%
Tensile Set at Break	%	ASTM D-412	80%	80%
Compression Set, %	22 hrs @ 23°C	ASTM D-395 (B)	40%	40%
Compression Set, %	22 hrs @ 70°C	ASTM D-395 (B)	60%	60%
E-Modulus	psi / MPa	ASTM D-412	50000 psi	344.8 MPa
Flexural Modulus	psi / MPa	ASTM D-790	70000 psi	482.8 MPa
Tear Strength	lb./in. N/mm	ASTM D-624, Die C	1450 lb./in.	225 N/mm
Taber Abrasion Resistance / mg loss	1000 gr./H-18	ASTM D-1044	75 mg	75 mg
Thermal				
Vicat Softening Point	°F/°C	ASTM D-1525	320°F	160°C
Processing Conditions, Inj. Molding	°F/°C		410 - 440°F	210 - 225°C

The above values are shown as typical values and should not be used as specifications.
Molded plaques 0.080" thick were cured 20 hours at 100 °C before testing

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