Elastollan® 1175A10W

Technical Bulletin

Polyether Type

Elastollan® 1175A10W is a polyether-based thermoplastic polyurethane (TPU) containing a plasticizer. It contains a non-halogenated flame retardant and has a "VO" rating in accordance with the UL-94 vertical flame test (at thickness of 0.9 mm and less). It exhibits excellent abrasion resistance, toughness, transparency, low temperature properties, hydrolytic stability and fungus resistance. As with all TPU products, Elastollan® 1175A10W 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 @ 160º-180º F (70º-85º C). Elastollan® 1175A10W 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	1.14	1.14
Hardness	Shore A	ASTM D-2240	75A	75A
Flame Rating		UL-94	V0 – .036", V2 -.060"	V0–0.9mm, V2 -
LOI	%	ASTM D-2863	23%	23%
Mechanical				
Tensile Strength (Ultimate)	psi / MPa	ASTM D-412	6000 psi	41 MPa
Tensile Stress	@100% Elong.	ASTM D-412	700 psi	4.8 MPa
Tensile Stress	@300% Elong.	ASTM D-412	1550 psi	11 MPa
Elongation at Break	%	ASTM D-412	685%	685%
Tensile Set	%	ASTM D-412	51%	51%
Compression Set, %	22 hrs @ 23ºC	ASTM D-395 (B)	20%	20%
Compression Set, %	22 hrs @ 70ºC	ASTM D-395 (B)	45%	45%
Flexural Modulus	psi / MPa	ASTM D-790	3600 psi	25 MPa
Tear Strength	lb./in. N/mm	ASTM D-624, Die	325 lb./in.	57 N/mm
Taber Abrasion Resistance / mg loss	1000 gr./H-18	ASTM D-1044	20 mg	20 mg
Thermal				
Vicat Softening Point	°F/°C	ASTM D-1525	196 °F	91 °C
Glass Transition Temperature	°F/°C	DSC	-53 °F	-47 °C
Processing Conditions, Extrusion	°F/°C		320 - 360 °F	160 - 180 °C
Processing Conditions, Inj. Molding	°F/°C		320 - 380 °F	160 - 190 °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 ºC before testing

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