Elastollan® C59D53

Technical Bulletin

Polyester Type

Elastollan® C59D53 is a polyester-based thermoplastic polyurethane (TPU). It exhibits excellent abrasion resistance and toughness, good hydrolytic stability, good heat, oil, fuel, and solvent resistance. As with all TPU products, Elastollan® C59D53 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 @ 195º-220ºF (90º-105ºC). Elastollan® C59D53 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	1.23	1.23
Hardness	Shore D	ASTM D-2240	56D	56D
Mechanical				
Tensile Strength (Ultimate)	psi/MPa	ASTM D-412	7600 psi	52 MPa
Tensile Stress	@100%	ASTM D-412	2400 psi	17 MPa
Tensile Stress	@300%	ASTM D-412	3700 psi	26 MPa
Elongation at Break	%	ASTM D-412	480%	480%
Tensile Set at Break	%	ASTM D-412	90%	90%
Compression Set, %	22 hrs @	ASTM D395 (B)	30%	30%
Compression Set, %	22 hrs @	ASTM D395 (B)	50%	50%
Tear Strength	lb./in. N/mm	ASTM D-624, Die C	1100 lb./in.	190 N/mm
Taber Abrasion Resistance / mg loss	1000 gr./H-18	ASTM D-1044	45 mg	45 mg
Processing Conditions, Extrusion	°F/°C		410 - 435°F	205 - 225°C
Processing Conditions, Inj. Molding	°F/°C		410 - 435°F	205 - 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 ºC before testing

Caution: Contact with product dusts from regrinding operations may cause temporary irritation of the eyes and the respiratory tract. Use with local exhaust. Under hot melt processing conditions (170-230°C), wear personal protective equipment to prevent thermal burns.
First aid: *Eyes*-Flush eyes with flowing water at least 15 minutes. If irritation develops, consult a physician. *Skin*-Skin contact with hot melt may cause thermal burns. Call a physician immediately. *Inhalation*-If vapors generated from the hot melt process are inhaled, move to fresh air. Aid in breathing. If breathing difficulties develop, see a physician immediately.
In case of fire: Use water fog, foam, CO_2, or dry chemical extinguishing media. Firefighters should be equipped with self-contained breathing apparatus and turnout gear.
Disposal: Waste material, unused contents and empty containers must be disposed of in accordance with applicable local, state or federal regulations. Refer to our Material Safety Data Sheet for specific disposal instructions.
In case of chemical emergency: Call CHEMTREC day or night for assistance and information concerning spilled material, fire, exposure and other chemical accidents.
Attention: This product is sold solely for use by industrial institutions. Refer to our Material Safety Data Sheet regarding safety, usage, applications, hazards, procedures and disposal of this product. Consult your supervisor for additional information.