

# Elastollan® 1154D53

## Technical Bulletin

## Polyether Type

### Product Description

Elastollan® 1154D53 is a polyether-based thermoplastic polyurethane (TPU). It exhibits excellent abrasion resistance, toughness, transparency, low temperature properties, hydrolytic stability and fungus resistance. Elastollan® 1154D53 is also conforming to the FDA food contact section, book 21, section 177.2600.

### Processing/Handling

As with all TPU products, Elastollan® 1154D53 must be dried before processing. The drying step is required to both dry the granules and also maintain a low moisture content until the product enters the processing equipment. The water content must be less than 0.03% before processing. The typical drying conditions should be 2-4 hours @ 195°-220° F (90°-105° C).

Elastollan® 1154D53 can be stored for up to 1 year in its original container. Containers should be stored in a cool and dry area.

Physical Properties	Units	ASTM Method	Typical Value
Specific Gravity	gr/cc	D-792	1.16
Hardness	Shore D	D-2240	53±2
Tensile Strength	MPa psi	D-412	40 5800
Tensile Stress @ 100%Elongation	MPa psi	D-412	20 2900
@ 300% Elongation	MPa psi		30 4300
Elongation @ Break	%	D-412	460
Tensile Set @ Break	%	D-412	70
Tear Strength	kN/m pli	D-624 DIE C	180 1025
Abrasion Resistance	mg (Loss)	D-1044 (Taber)	75

Suggested Starting Molding Temperatures	
Feed	400° F (205° C)
Compression	415° F (210° C)
Metering	430° F (220° C)
Nozzle	435° F (225° C)
Melt	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 @ 100° C before testing.

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**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<sub>2</sub>, or dry chemical extinguishing media. Fire-fighters 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. 800-424-9300

**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.

**Important:** While the descriptions, designs, data and information contained herein are presented in good faith and for believed to be accurate, it is provided your guidance only. Because many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use.

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