

Elastollan® 1164D50

Technical Bulletin

Polyether Type

Elastollan® 1164D50 is a polyether-based thermoplastic polyurethane (TPU). It exhibits excellent abrasion resistance, toughness, transparency, low temperature properties, hydrolytic stability and fungus resistance. Elastollan® 1164D50 is also conforming to the FDA food contact section, book 21, section 177.2600. As with all TPU products, Elastollan® 1164D50 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® 1164D50 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 | 1.18 |
| Hardness | Shore D | ASTM D-2240 | 64D |
| Mechanical | | | |
| Tensile Strength (Ultimate) | psi / MPa | ASTM D-412 | 6000 psi 41 MPa |
| Tensile Stress | @100% Elong. | ASTM D-412 | 3600 psi 25 MPa |
| Tensile Stress | @300% Elong. | ASTM D-412 | 4800 psi 33 MPa |
| Elongation at Break | % | ASTM D-412 | 425% 425% |
| Tensile Set at Break | % | ASTM D-412 | 90% 90% |
| Compression Set, % | 22 hrs @ 23°C | ASTM D-395 (B) | 40% 40% |
| Compression Set, % | 22 hrs @ 70°C | ASTM D-395 (B) | 50% 50% |
| E-Modulus | psi / MPa | ASTM D-412 | 28000 psi 193 MPa |
| Flexural Modulus | psi / MPa | ASTM D-790 | 36000 psi 248.3 MPa |
| Tear Strength | lb./in. N/mm | ASTM D-624, Die | 1250 lb./in. 220 N/mm |
| Taber Abrasion Resistance / mg loss | 1000 gr./H-18 | ASTM D-1044 | 55 mg 55 mg |
| 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

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, CO₂, 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 CHEMTRAC 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.

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