

Elastollan® 600 Series

Technical Bulletin

Polyester Type

The Elastollan® 600 Series of products listed below are products that are part of a new series of film grade polyester-based thermoplastic polyurethanes (TPU). These products are formulated for high transparency, low gel, relative ease of processing, and low yellowness index. As such, the Elastollan® 600 Series is specifically targeted for film and sheet applications, extruded profiles, blow molded parts, or other high end applications in extrusion. All grades exhibit excellent abrasion resistance, toughness and transparency. With respect to processing, they are generally easy to process and have a very wide processing window; in some cases as high as 25 to 30°F.

Along with these attributes, Elastollan® 688A10N and 695A15N conform to FDA food contact as described in book 21, section 177.2600 and 177.1680, for both wet and dry food contact applications respectively.

As with all TPU products, 600 Series grades must be dried before processing. The water content must be less than 0.03% before and during processing. The drying step is required to maintain a low moisture content until the product enters the processing equipment. The typical drying conditions should be 2-4 hours @ 175°-195°F (80°-90°C). These products can be stored for up to 1 year in the original container. Containers should be stored in a cool and dry area.

| Physical Properties | Units | ASTM Method | 688A10N | 695A15N |
|-------------------------------------|---------------------|-------------------|--------------|--------------|
| Specific Gravity | gr./cm ³ | D-792 | 1.21 | 1.23 |
| Hardness | Shore A | D-2240 | 87±1 | 93±2 |
| Tensile Strength | MPa psi | D-412 | 31.5 4568 | 37.5 5435 |
| Tensile stress @ 100% Elongation | MPa psi | D-412 | 8.6 1250 | 11.8 1715 |
| @ 300% Elongation | MPa psi | D-412 | 18.3 2660 | 24.4 3535 |
| Elongation @ Break | % | D-412 | 600 | 510 |
| Tear Strength | N/mm lb./in. | D-624 DIE C | 123 235 | 135 795 |
| Abrasion Resistance | mg (Loss) | D-1044 (Taber) | 25 | 25 |

- 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.

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 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.

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