Elastollan® 688A10N

Technical Bulletin

Polyester Type

Elastollan® 688A10N is 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, Elastollan® 688A10N is specifically targeted for film and sheet applications, extruded profiles, blow molded parts, or other high end applications in extrusion. It exhibits excellent abrasion resistance, toughness and transparency. With respect to processing it is generally easy to process and has a very wide processing window; in some cases as high as 25 to 30°F. Along with these attributes, it also conforms 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, Elastollan® 688A10N must be dried before processing. The water content must be less than 0.03% before and during processing. The typical drying conditions should be 2-4 hours @ 175º-195ºF (80º-90ºC). Elastollan® 688A10N 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	1.21	1.21
Hardness	Shore A/D	ASTM D-2240	88A	88A
MFI	190ºC/21,6 kg	ASTM D-1238	30	30
Mechanical				
Tensile Strength (Ultimate)	psi / MPa	ASTM D-412	4535 psi	31 MPa
Tensile Stress	@100% Elong.	ASTM D-412	1165psi	6.3 MPa
Tensile Stress	@300% Elong.	ASTM D-412	2800 psi	12.8 MPa
Elongation at Break	%	ASTM D-412	600%	650%
Compression Set, %	22 hrs @ 23ºC	ASTM D-395 (B)	25%	25%
Compression Set, %	22 hrs @ 70ºC	ASTM D-395 (B)	45%	45%
E-Modulus	psi / MPa	ASTM D-412	2650 psi	16 MPa
Tear Strength	lb./in. N/mm	ASTM D-624, Die C	610b./in.	90 N/mm
Taber Abrasion Resistance / mg loss	1000 gr./H-18	ASTM D-1044	25	25
Thermal				
Vicat Softening Point	°F/°C	ASTM D-1525	177 °F	80 °C
Processing Conditions, Extrusion	°F/°C		350 - 385 °F	175 – 195 °C
Processing Conditions, Inj. Molding	°F/°C		350 - 430 °F	175 – 220 °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.

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