

# Elastollan® S90A55N

## Technical Bulletin

## Polyester Type

Elastollan® S90A55N is a polyester-based thermoplastic polyurethane (TPU). It exhibits excellent abrasion resistance and toughness, good heat, oil, fuel, and solvent resistance. As with all TPU products, Elastollan® S90A55N 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 and during processing. The typical drying conditions should be 2-4 hours @ 175°-195°F (80°-90°C). Elastollan® S90A55N 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 <sup>3</sup>	ASTM D-792	1.23	1.23
Hardness	Shore A	ASTM D-2240	92A	92A
Mechanical				
Tensile Strength (Ultimate)	psi / MPa	ASTM D-412	5600 psi	38.6 MPa
Tensile Stress	@100%	ASTM D-412	1550 psi	10.7 MPa
Tensile Stress	@300%	ASTM D-412	2900 psi	20.0 Mpa
Elongation at Break	%	ASTM D-412	540%	540%
Compression Set, %	22 hrs@ 23°C	ASTM D-395 (B)	25%	25%
Compression Set, %	22 hrs@ 70°C	ASTM D-395 (B)	45%	45%
E-Modulus	psi / MPa	ASTM D-412	7100 psi	49.0 MPa
Flexural Modulus	psi / MPa	ASTM D-790	7800 psi	53.8 MPa
Tear Strength	lb./in. N/mm	ASTM D-624, Die C	730 lb./in.	128.5 N/mm
Taber Abrasion Resistance / mg loss	1000 gr./H-18	ASTM D-1044	25 mg	25 mg
Thermal				
Vicat Softening Point	°F/°C	ASTM D-1525	270 °F	130 °C
Glass Transition Temperature	°F/°C	DSC	15 °F	-10 °C
Processing Conditions, Extrusion	°F/°C		370 - 410 °F	190 - 210 °C
Processing Conditions, Inj. Molding	°F/°C		380 - 420 °F	190 - 215 °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

# BASF

