

Technical section

Thermoplastic elastometer TPV

Thermoplastic Elastometer TPV

Used on: Sealing products

A polypropylene based elastomer designed primarily for demanding automotive applications. This material exhibits excellent compression set, flex fatigue and high and low temperature performance.



Properties	Test Method	Value	Unit
General			
Density	ISO 1183	0.96	g/cm ³
Hardness shore A (5 sec)	ISO 868	56	-
Brittleness temperature	ISO 812	-62	°C
Flammability	UL94	HB	-
Stress/strain properties	ISO 37 (II)	-	-
Flow Direction			
Tensile strength	-	3.8	MPa
Modulus 100%	-	2.7	MPa
Elongation at break cross direction	-	280	%
Tensile strength	-	5.1	MPa
Modulus 100%	-	1.9	MPa
Elongation at break	-	470	%
Tear Strength (cross direction)			
Trouser	ISO 34 A	7	kN/m
Un-nicked angle	ISO 34 B (a)	22	kN/m
Compression set	ISO 815	-	-
72h/23°C	-	22	%
72h/70°C	-	26	%
72h/100°C	-	34	%
Hot Air Ageing			
1000h/125°C - Change in hardness	-	2	pts
Retention tensile strength	-	90	%
Retention - elongation at break	-	96	%
336h/150°C - Change in hardness	-	0	pts
Retention tensile strength	-	90	%
Retention elongation at break	-	87	%
Volume Swell			
72h/100°C water	-	+3	%
168h/100°C ASTM oil 1	-	+43	%
168h/100°C ref fuel B	-	+91	%

NOTE: Tests are conducted on injection moulded plaques. All tests undertaken at 23°C where applicable

Chemical resistance

TPV fittings are resistant to: Water, acids, ethanol, glycerol, methanol and propanol, hydraulic brake fluid and antifreeze. Large volume swell (>60%) is experienced with certain oils and fuels.

Approvals

Individual parts are approved to different standards including NFR 13-903. Others are manufacturer specific or are new developments and may not be approved to certain standards. Please contact the technical office for specific enquiries.