

Dow Pellethane® 2102-90AR Polyurethane Elastomer, Polyester Polycaprolactone Based (discontinued **)

Category : Polymer , Thermoplastic , Elastomer, TPE , Polyurethane, TP , Thermoplastic Polyurethane, Elastomer, Polyester Grade

Material Notes:

PELLETHANE® 2102-90AR elastomer is a polyester polycaprolactone based polyurethane elastomer which combines excellent resistance to fuels and oils with enhanced mold release, low compression set, and good hydrolytic stability compared to other polyester based TPUs. Its typical applications include seals, gaskets, belting, animal ID tags, and other fabricated products. Data provided by Dow Chemical. Lubrizol acquired the Pellethane product line from Dow in 2009.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Dow-Pellethane-2102-90AR-Polyurethane-Elastomer-Polyester-Polycaprolactone-Based-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in ³	
Linear Mold Shrinkage	0.0050 - 0.0080 cm/cm @Thickness 1.59 mm	0.0050 - 0.0080 in/in @Thickness 0.0625 in	plaque
Linear Mold Shrinkage, Transverse	0.0070 cm/cm @Thickness 1.59 mm	0.0070 in/in @Thickness 0.0625 in	plaque
Melt Flow	15 g/10 min @Load 1.20 kg, Temperature 224 °C	15 g/10 min @Load 2.65 lb, Temperature 435 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	90 - 98	90 - 98	ASTM D2240
Tensile Strength at Break	48.9 MPa	7090 psi	Tensile stress at break.
Elongation at Break	440 %	440 %	
50% Modulus	0.00841 GPa	1.22 ksi	
100% Modulus	0.0110 GPa	1.60 ksi	
300% Modulus	0.0276 GPa	4.00 ksi	
Flexural Modulus	0.0827 GPa	12.0 ksi	
Tear Strength	142 kN/m	810 pli	
Taber Abrasion, mg/1000 Cycles	10	10	H22 Wheel
Compression Set	20 %	20 %	23°C.

Mechanical Properties	Metric	English	Comments
	@Temperature 70.0 °C	@Temperature 158 °F	
Tensile Set	30 %	30 %	Elongation set after break

Thermal Properties	Metric	English	Comments
CTE, linear	149 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	82.8 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Vicat Softening Point	125 °C	257 °F	
Glass Transition Temp, Tg	-20.0 °C	-4.00 °F	
Clash Berg Stiffness Temperature	-39.0 °C	-38.2 °F	

Processing Properties	Metric	English	Comments
Melt Temperature	204 - 221 °C	399 - 430 °F	

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