HUNTSMAN IROGRAN® Series

A portfolio of high performance thermoplastic materials with a range of shore hardnesses and capabilities for applications including Automotive, Agricultural, Consumer, Furniture & Engineering.

The Irogran high performance injection molding portfolio is particularly suitable for thick walled parts as the manufacturing process produces high performance TPU with improved melt stability and rapid demould time. There are grades available to suit almost every application, particularly the manufacture of demanding technical parts where mechanical strength, wide temperature stability, exceptional wear characteristics and high production rates are a necessity. The Irogran Ester series is offered in connection with the Caprolactone based material range. Key performance characteristics and advantages of the Irogran series are:

- ✓ High wear & tear resistance
- ✓ High dimensional stability
- ✓ Excellent oil resistance
- ✓ Low compression set
- ✓ Dynamic load performance
- ✓ High elasticity & flexibility
- ✓ Wide temperature performance

Grade	UoM	A 60 E 4612	A 70 H 4673	A 78 E 4723	A 85 E 4607	A 92 E 4246	A 98 E 4066
Hardness (Shore A)		65	71	80	85	92	97
100% Modulus	MPa	2.7	3.5	4.1	5.0	7.2	14.0
300% Modulus	MPa	5.0	7.0	10.0	14.0	15.0	25.0
Tensile Strength	MPa	31	35	45	45	50	50
Elongation at Break	%	900	880	650	650	610	530
Abrasion Loss	mm^3	55	35	25	25	25	30

Definition of Terms	
100% Modulus	The force needed to stretch a material to twice its original length
300% Modulus	The force needed to stretch a material to four times its original length
Tensile Strength	The force needed to stretch a material until it breaks
Elongation at Break	How much a material can stretch before it breaks, as a % of its original dimensions
Compression Set	How much the material will take on permanent deformation when under compression. The lower the % the less deformation.
Resilience	The ability of a material to absorb energy when it is deformed elastically and release that energy upon unloading. Its ability to bounce as a % of the height it was dropped from. The higher the % the higher the bounce.
DIN Abrasion	A materials ability to resist abrasion. Lower figures indicate a higher resistance to wear.
Hardness	The resistance of a material to indentation.