

**Product Data Sheet****IROGRAN® A 95 H 4678**

Polyester-based Thermoplastic Polyurethane

PRODUCT DESCRIPTION

IROGRAN® A 95 H 4678 is a polyester-based Thermoplastic Polyurethane (TPU) for injection molding applications. Key features are excellent wear performance, resistance to dynamic stress, high elasticity and short cycle times.

APPLICATIONS

Thick wall technical parts and thin wall technical parts.

TYPICAL PHYSICAL PROPERTIES

Properties	Key	NORM	Value	Unit
Hardness (after 3 sec.)	M	ASTM D 2240	95	Shore A
Hardness (after 3 sec.)	M	ASTM D 2240	45	Shore D
Density	M	ASTM D 792	1.23	g/cm ³
Tensile strength	M	ASTM D 412	5800	psi
Elongation @ break	M	ASTM D 412	690	%
Tensile stress @ 100% elongation	M	ASTM D 412	1720	psi
Tensile stress @ 300% elongation	M	ASTM D 412	2810	psi
Tear strength	M	ASTM D 624	860	pli
Abrasion	M	ISO 4649	30	mm ³
Bayshore rebound resilience	M	ASTM D 2632	30	%
Compression set at 70h @ 23°C	M	ASTM D 395	24	%
Compression set at 24h @ 70°C	M	ASTM D 395	43	%
Mold shrinkage	M	ASTM D 955	0.7	%
Softening range low	E	Huntsman TMA	180	°C
Softening range high	E	Huntsman TMA	190	°C

M = Injection moulded parts to meet DIN & ASTM requirements. Parts tempered for 20 hrs @ 100 °C prior to testing

E = Extruded film cut to ASTM requirements. Parts at room temperature aged prior to testing.



HEALTH & SAFETY ADVICE

Before undertaking any trials with this product it is essential that all personnel are aware of the necessary precautions that must be taken. These are detailed in the relevant Material Safety Data Sheet (MSDS), which will be provided by Huntsman.

SUPPLY & STORAGE

IROGRAN® A 95 H 4678 is supplied in bags, drums or octabins. Please contact your customer service to confirm this.

IROGRAN® A 95 H 4678 has a minimum expected shelf life of 12 months after shipment date. The product should be stored in a dry and cool place in the manufacturer's original packaging.

MATERIAL PREPARATION

IROGRAN® A 95 H 4678 is supplied pre-dried, however to ensure trouble-free processing it is preferable to dry before use. The recommended drying conditions are:

- 3 hours at 100-110°C in circulating air
- 3 hours at 80-90°C in dehumidified air
- Dew point: -30°C

PHYSICAL FORM

Type: Transparent pellets

PROCESSING PARAMETERS

Melt Volume Rate 210°C / 10kg ASTM 1238 = 65 cm³/10min

Processing Parameter: Injection Molding

Temperature Profile °C

Feed Zone: 25 - 40

Barrel: 190 - 210

Nozzle: 200 - 215

Mold: 20 - 50

For further information, please contact your nearest sales office: http://www.huntsman.com/PU_customer_service

While the information and recommendations in this publication are, to the best of our knowledge, information and belief, accurate at the date of publication, nothing herein is to be construed as a warranty, express or otherwise. In all cases, it is the responsibility of the user to determine the applicability of such information and recommendations and the suitability of any product for its own particular purpose. Nothing in this publication is to be construed as recommending the infringement of any patent or other intellectual property right, and no liability from an such infringement is assumed. Nothing in this publication is to be viewed as a license under any intellectual property right. Except where explicitly agreed otherwise, the sale of products referred to in this publication is subject to the general terms and conditions of Huntsman International LLC or of its affiliated companies. Huntsman Polyurethanes is an international business unit of Huntsman International LLC. Huntsman Polyurethanes trades through Huntsman affiliated companies in different countries such as Huntsman International LLC in the USA and Huntsman Holland BV in Western Europe.