

## Product Data Sheet

# IROGRAN® A 89 E 4372

Polyester-based Thermoplastic Polyurethane

## PRODUCT DESCRIPTION

IROGRAN® A 89 E 4372 is a polyester-based Thermoplastic Polyurethane (TPU) for extrusion and injection molding applications. Key features are good oil & solvent resistance, abrasion resistance, excellent wear performance, good low temperature performance, resistance to dynamic stress, short cycle times and high melt stability.

## APPLICATIONS

Thick wall technical parts, seals and gaskets and thick wall extrusion profiles.

## TYPICAL PHYSICAL PROPERTIES

Properties	Key	NORM	Value	Unit
Hardness (after 3 sec.)	M	ISO 7619	87	Shore A
Hardness (after 3 sec.)	M	ISO 7619	38	Shore D
Density	M	ISO 1183-1	1,20	g/cm <sup>3</sup>
Tensile strength	M	DIN 53504	50	MPa
Elongation @ break	M	DIN 53504	600	%
Tensile stress @ 100% elongation	M	DIN 53504	6,0	MPa
Tensile stress @ 300% elongation	M	DIN 53504	11,5	MPa
Tear strength	M	ISO 34-1	70	N/mm
Abrasion	M	ISO 4649	30	mm <sup>3</sup>
Bayshore rebound resilience	M	ASTM D 2632	40	%
Compression set at 70h @ 23°C	M	ISO 815	17	%
Compression set at 24h @ 70°C	M	ISO 815	38	%
Mold shrinkage	M	ISO 294-4	1,1	%
Softening range low	E	Huntsman TMA	180	°C
Softening range high	E	Huntsman TMA	195	°C

M = Injection molded 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 89 E 4372 is supplied in bags, drums or octabins. Please contact your customer service to confirm this.

IROGRAN® A 89 E 4372 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 89 E 4372 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: Opaque rough cut granules

## PROCESSING PARAMETERS

Melt Volume Rate 190°C / 21.6 kg ISO 1133-1 = 4 cm<sup>3</sup>/10 min

Processing Parameter:	Extrusion	Injection Molding
Temperature Profile	°C	°C
Feed:	25 - 40	25 - 40
Barrel:	195 - 205	195 - 205
Adapter/Nozzle:	200 - 210	200 - 210
Die/Mold:	195 - 210	20 - 70

For further information, please contact your nearest sales office: [http://www.huntsman.com/PU\\_customer\\_service](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.