



**IROGRAN PS443-201**

Thermoplastic Polyurethane

**INTRODUCTION**

IROGRAN PS443-201 is high performance polyester based thermoplastic polyurethane intended for extrusion applications.

IROGRAN PS443-201 is part of the HUNTSMAN film and sheet product range and offers a specially designed, flexible material with a broad processing window particularly suitable for film and sheet, laminating, and coating.

**PERFORMANCE FEATURES**

- Excellent wear performance
- Good clarity
- Good low temperature flexibility
- Enhanced UV stability

**APPLICATIONS**

- Coating
- Lamination

**Table 1: Typical Physical Properties**

Property	Key	DIN	Unit	Value	ASTM	Unit	Value
Hardness	M	53505	Shore A	No results available	D-2240	Shore A	No results available
Hardness	M	53505	Shore D	50	D-2240	Shore D	50
Tensile Strength	E	53504	MPa	55	D-412	psi	7600
Elongation @ break	E	53504	%	500	D-412	%	500
100% Modulus	E	53504	MPa	10	D-412	psi	1400
300% Modulus	E	53504	MPa	24	D-412	psi	3400
Tear Resistance	E	53515	N/mm	124	D-624	pli	500
Abrasion	M	53516	mm <sup>3</sup>	60			
Compression Set 22hrs @ 23°C	M	53517	%	40	D-395	%	40
Compression Set 22hrs @ 70°C	M	53517	%	90	D-395	%	90
Bayshore Rebound			%	35	D-2632	%	35
Mold Shrinkage	M		cm/cm		D-955	in/in	
Specific Gravity	M	53478	g/cm <sup>3</sup>	1.21	D-792		1.21
TMA Low	E	Huntsman	°C	150	Huntsman	°F	302
TMA High	E	Huntsman	°C	170	Huntsman	°F	338

E= 0.025" extruded film cut to ASTM requirements  
M = Injection moulded parts to meet DIN & ASTM requirements.  
ASTM measurements were made at 20 in./min.  
DIN measurements were made at 500 mm./min.





PRODUCT DATA

IROGRAN PS443-201

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POLYMER SELECTION

Before selecting this product it is necessary that the user ensures the product performance will meet all operational and end use requirements. Having satisfied these requirements, should changes be contemplated in method of application, materials, service conditions or any other change that could affect the ultimate performance of the end product, then further tests and trials should be carried out. For assistance with particular problems and applications, please contact the IROGRAN TPU Technical Service Department listed below.

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, which will be provided by HUNTSMAN.

SUPPLY & STORAGE

IROGRAN PS443-201 is supplied in the form of pellets in fiber drums and octabins.

IROGRAN PS443-201 has a minimum expected shelf life of 12 months from the date of shipment when stored in a cool and dry place in the manufacturer's original packaging.

PHYSICAL FORM

Type: Pellet
Bulk Density: 673 kg/m³ [42 lb/ft³]

The address of your nearest technical centre is:

USA
Huntsman
52 Kendall Pond Road
Derry, NH 03038 USA
Tel: +1 603 421 3500
Fax: +1 603 421 3510

EUROPE
Huntsman
Hafenringstrasse 1
49090 Osnabrück Germany
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MATERIAL PREPARATION

To ensure trouble free processing it is necessary to dry IROGRAN TPU. The recommended drying conditions are:

- 3 hours at 75-80°C in circulating air
- 3 hours at 70-75°C in dehumidified air
- Dew point: -22°F / -30°C

For further advice on the use of additives during the processing please contact the IROGRAN TPU Technical Service Department.

PROCESSING PARAMETERS

Table 2: Typical Processing Parameters
Processable by: Extrusion, Injection Moulding
Melt Index [200°C/8.7 kg] 35 g/10 min
Extrusion Temperature Profile: Feed Zone, Barrel, Adapter, Die Head with °C and °F values.
Injection Moulding Temperature Profile: Heating Zone, Nozzle, Melt Temperature, Mould Temperature with °C and °F values.