

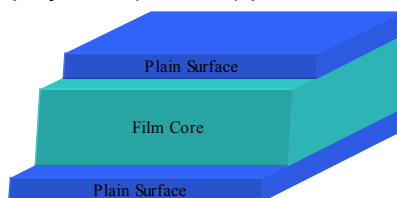
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Data Sheet (December 2005)

## Product description

Nuroll P is a bi-axially oriented polyester (BOPET) plain film.



### Main application:

Transfer printing, panels extrusion

## Technical details

Nuroll P is usually supplied with following characteristics:

- **Core diameter:** 6 inches (152.76 mm)
- **Film width:** min 330 mm, max 2400mm
- **Film length:** According with film thickness, max external reel diameter (640mm) , max reel weight (1000 kg)

Substrate Thickness (microns)	9	12	15	19	23	36	50
Max Reel lenght (m)	24000	24000	18000	15000	12000	8000	6000

- **Packing presentation:** suspended reel; wooden endboards, lid and pallet; stretchable PE film

### Different characteristics than the above on request

## Storage conditions

Nuroll P need to be stocked in close warehouse and preserved from the light and from the humidity.

Reels must be not stacked

Nuroll will not accept any responsibility for material older than 1 year from the delivering

## Compliance with regulations

**Polyester Film produced by Nuroll SpA, complies with EEC, Italian and FDA requirements on packaging for direct contact with foodstuffs**

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## Typical Properties

Properties		Unit	Test Method	Typical values						
Thickness		Microns	ASTM E 252	9	12	15	19	23	36	50
Density		g/cm <sup>3</sup>	ASTM D1505	1,395	1,395	1,395	1,395	1,395	1,395	1,395
Area Yield		m <sup>2</sup> /kg	ASTM E 252	79,65	59,2	46,8	37,3	31,2	19,9	14,5
Tensile strength	MD	N/mm <sup>2</sup>	ASTM D 882	210	220	220	230	230	230	230
	TD			240	250	250	240	240	240	240
Elongation at Break	MD	%	ASTM D 882	120	130	130	130	130	140	140
	TD			110	110	110	120	120	130	130
Thermal Shrinkage 150°C-30'	MD	%	ASTM 1204	1,3	1,3	1,3	1,3	1,3	1,4	1,4
	TD			0,8	0,8	0,8	0,6	0,6	0,8	0,8
C.O.F		Film/Film	ASTM D1894	0,4	0,4	0,4	0,4	0,4	0,4	0,4
Haze		%	ASTM D1003	2,5	3	3	3,5	3,5	4,5	5
MVTR (38°C, 90%RH)		g/m <sup>2</sup> *day	ASTM E398	60	50	40	30	25	15	10
OTR (20°C, 0%RH)		cc/m <sup>2</sup> *day	ASTM D3985	130	110	90	70	55	35	25
Surface tension		Dynes/cm <sup>2</sup>	ASTM D2578	42	42	42	42	42	42	42

1. This information is the best currently available on product and it is subject to revision as additional knowledge and experience is gained.
2. The results obtained and the above properties refer to average value of laboratory tests. Therefore, such results have only to be considered as an indicative general guide to material properties and not as an implied guarantee that the product actually has said properties and/or a warranty of fitness for a particular purposes and/or suggestion for infringement of any existing patents.
3. Due to many factors which may affect customer production process, including but not limited by different equipments and techniques used, P film must be qualified before being used in any application.