

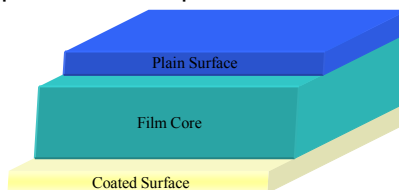
Barrier Transparent

PSE

Data Sheet (December 2005)

Product description

Nuroll PSE is a bi-axially oriented barrier polyester (BOPET) film with one side coated using a chlorine-free formulation. It is specially designed for printing and laminating in packaging applications. Nuroll PSE is commercially available with 14 microns thicknesses, other thicknesses are possible on request



Particular Characteristics

Chlorine free

Very high barrier to oxygen and other gases and aroma

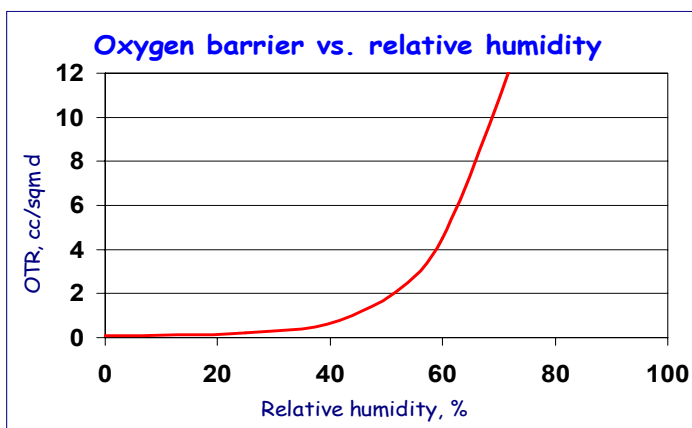
High transparency

High thermal stability

Printing and laminating on the coated surface by solvent and solventless systems

Barrier properties

The barrier properties are not kept at high moisture and room temperature



Main Applications

Nuroll PSE is particularly suited for transparent, high barrier laminates for packaging of fresh food and products with cold storage condition (i.e. pasta, cheeses, meat, cooked food, etc)

Recommendations

- Water based primers, inks and adhesives are not suitable. Please contact us for every new and different application because must be first qualified.
- PSE film is sensitive to the water we suggest to keep reels protected by PE extensible film as supplied by Nuroll

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Technical details

Nuroll PSE is usually supplied with following characteristics:

- **Core diameter:** 6 inches (152.76 mm)
- **Film width:** min 400 mm, max 1600mm
- **Film length:** 12000 m
- **Packing presentation:** suspended reel; wooden endboards, lid and pallet; stretchable PE film

Different characteristics than the above on request

Storage conditions

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

Reels must be not stacked

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	14
Coating grammar	g/m ²	ASTM E 252	2
Area Yield	m ² /kg	ASTM E 252	52,6
Tensile strength	MD	N/mm ²	230
	TD		240
Elongation at Break	MD	%	130
	TD		120
Thermal Shrinkage 150°C -30'	MD	%	1,5
	TD		0,5
Haze	%	ASTM D1003	4
MVTR (38°C, 90%RH)	g/m ² *day	ASTM E398	40
OTR (20°C, 0%RH)	cc/m ² *day	ASTM D3985	0,1

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, PSE film must be qualified before being used in any application.