

HIGHLIGHTS

TYPICAL APPLICATION

▪ **Food packaging**

It can be used as layer on a wide range of laminates for packaging where high oxygen barrier protection is required and can be the substitute of PET and OPA to create mono-material structures.

To be used laminated.

PROPERTIES

- Good Aroma & oxygen barrier
- Good transparency
- Good thermal resistance
- Excellent printability on coated side
- Absence of Chlorine
- Not suitable for retorting & pasteurisation

Machine Direction Oriented (MDO) coated PE with high oxygen barrier properties

TECHNICAL DATA

PROPERTIES	TEST CONDITIONS	UNITS	TYPICAL VALUES
Thickness *	Internal method	µm	20
Thickness Range	Internal method	%	± 8
Density	Internal method	g/cm ³	0.944
Tensile Strength	MD	ASTM D882	N/mm ²
	TD		
Elongation at break	MD	ASTM D882	%
	TD		
COF dynamic - film/film (not coated side)	ASTM D1894	-	0.30 – 0.40
Surface tension (coated side)	ASTM D2578	dynes/cm	> 42
Oxygen Permeability	ASTM D3985 (23°C & 0%rh)	cc/m ² x24h	< 1.5
Water Vapour Permeability	ASTM F1249 (38°C & 90%rh)	g/m ² x24h	< 6
Haze	ASTM D1003	%	< 7
Unit weight	Internal method	g/m ²	19.58
Yield	Internal method	m ² /kg	51.07

* For supply conditions and additional thicknesses availability contact our sales department

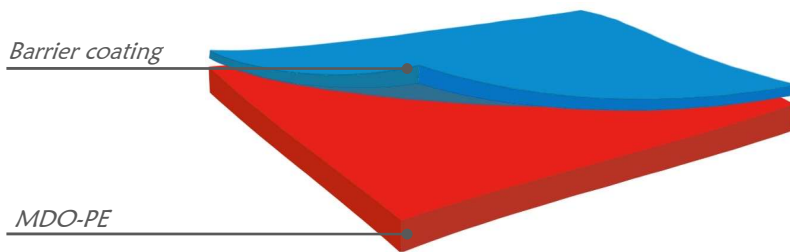
REELS CONFORMATION AVAILABILITY

Maximum width	1700mm
Maximum external diameter	800mm
Internal diameter	152mm or 76mm
Coated side position	INSIDE (if requested, outside also available)
Packaging	Horizontal - Suspended

STORAGE – TERM OF USE

ETN09-MDO is delivered with a specific packaging (overwrapped metallised plastic film) intended to protect the film against ambience influence. For all the period before its use, the material must be stored in a close warehouse and kept packed in its original packaging. In case of partial use, the not used rest reel must be packed again using the overwrapped metallised plastic film provided.

SAES coated films will not accept any responsibility for material processed after 4 months from delivery date.



The SAES Group manufacturing companies are ISO9001 certified. Full information about our certifications for each company of the Group are available on our website at: www.saesgroup.com

PRINTING GUIDELINES

- Water based primers and/or inks are not suitable.
- Barrier coating can be easily printed with a wide range of inks available in the market. Good adhesion results can be reached using:
 - Flexo printing -> Nitrocellulose/PU based inks
 - Roto printing -> Vinylic based inks
- Do not re-treat barrier coating
- Good drying is necessary for low solvent retention

LAMINATION GUIDELINES

Due to high content of -OH reactive groups of the barrier coating of ETN09-MDO film, to its hygroscopicity and its surface tension, special care is to be taken while choosing the proper adhesive system:

- Are to be avoided those adhesive systems lacking in stretching elasticity after the cross-linking reaction, leading to a reduction in the bond value. For that reason are to be preferred -OH ended solvent based adhesives and -NCO ended solvent less adhesives having the characteristic to be considered "soft".
- In order to help final stretching elasticity of the adhesive system, it is possible to decrease of about 10-20% the quantity of isocyanic cross-linker usually adopted to crosslink the solvent based -OH terminated adhesives, or increasing of about 5-10% the quantity of the hydroxyl component (second component) in the solvent-less systems.
- Lamination process must be carried out at controlled humidity (as lower as possible).
- Water based adhesives are not suitable.
- Do not re-treat coated side.
- Adhesive to be applied on coated side (printed or not).
- Rewinding/Unwinding tensions must be well controlled to avoid curling or tubing of the laminated structure.
- Nip-roller pressure and temperature must be well adjusted.

Selection of adhesives series

The following selection, based on our updated experience, must be intended only as a suggestion:

Novachem Industriale	Solvent based Solvent less	Adoxene AD 737 / AD 31 R Adoxene AD 183 / AD 78 C
Dow	Solvent based Solvent less	Adcote 775 A/C; Adcote 675 A/C; Adcote 563A / Cat F Mor Free 698A / C79
Henkel	Solvent based Solvent less	UK 2615 / UK 5015; UR 3966-21 / LA 6064-21; UR 3740 / UR 6029-21 UR 7738 / UR6087; LA 7785 / LA 6025-23; UR 7782 / UR 6083

CRITICAL APPLICATIONS

- For modified atmosphere packaging (MAP) application with CO₂ > 60% and room temperature conditions, please contact our technical department for specific advice.
- For any new application is intended to be used, ETN09-MDO must be sampled. It is required to provide to our technical dpt all the necessary information regarding packaging final use & shelf life conditions.

Whilst SAES coated films aims to ensure the accuracy and relevance of the information given on the use and application of its products, it cannot guarantee the data, some of which on outside sources, or its completeness. Provided data refer to our film as it is. Customers must remain responsible for their own product testing, evaluation and for their own safety procedures.

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