



# Thermo Scientific ASI 28 film

## Ethylene vinyl acetate coextruded film

Thermo Scientific™ BioProcess Containers (BPCs) are built to meet your single-use upstream and downstream bioprocessing needs. Our films are engineered to meet the most demanding requirements for your bioproduction processes.

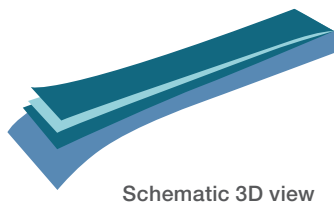
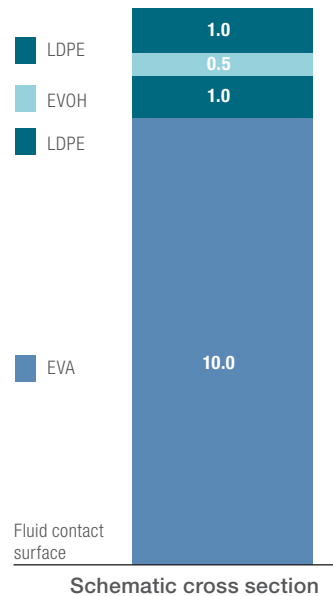
Thermo Scientific™ ASI™ 28 ethylene vinyl acetate (EVA) film has excellent oxygen- and moisture-barrier properties.

### Key benefits

- Good physical and biocompatibility characteristics for puncture resistance and contact integrity.
- Coextruded structure to minimize delamination potential
- Low leachable/extractable profiles
- Good moisture- and oxygen-barrier properties for content stability
- Validation summaries available upon request
- 2D pillow-style configurations with seam ports from 100 mL to 50 L available

## Film specifications

Thermo Scientific™ ASI™ 28 EVA film is a four-layer, 12.5 mil, coextruded film that provides an excellent moisture and oxygen barrier and high durability.



Property	Test protocol	Average values	
<b>Physical data (post-gamma irradiation, 25–40 kGy)</b>			
Tensile strength	ASTM D882	2118 psi	14.6 MPa
Elongation	ASTM D882	639%	
Yield strength	ASTM D882	828 psi	5.7 MPa
2% Secant modulus	ASTM D882	11574 psi	79.8 MPa
Tensile toughness	ASTM D882	215 lbf-in	2.4 kN-cm
Puncture resistance	ASTM F1306	11 lbf-in	0.12 kN-cm
Seam strength	ASTM F88	20 lbf/in	35.0 N/cm
O <sub>2</sub> transmission rate	ASTM D3985, 0% relative humidity (RH) outside, 90% RH inside, 23°C	0.28 cc/100 in <sup>2</sup> /day	4.34 cc/m <sup>2</sup> /day
CO <sub>2</sub> transmission rate	Mocon method, 0% RH outside, 100% RH inside, 23°C	0.58 cc/100 in <sup>2</sup> /day	8.99 cc/m <sup>2</sup> /day
Water vapor transmission rate	ASTM F1249, 0% RH outside, 100% RH inside, 23°C	0.11 g/100 in <sup>2</sup> /day	1.70 g/m <sup>2</sup> /day
Haze	ASTM D1003 (outside dry/inside dry)	87%	
Glass transition temperature	ASTM E1640	-19°F	-28°C
Film gauge		12.5 mil	0.318 mm
Film contact material		Ethylene vinyl acetate	
10 <sup>-6</sup> Sterility assurance level	ANSI/AAMI/ISO 11137:2006	2.75–4.5 Mrad	27.5–45 kGy
<b>Biocompatibility data (post-gamma irradiation, &gt;45 kGy)</b>			
USP Class VI	USP <88>	Pass	
Bacterial endotoxin	USP <85>	≤0.5 EU/mL	
Heavy metals	USP <661>	<1 ppm	
Buffering capacity	USP <661>	Pass	
Non-volatile residue	USP <661>	<1 mg	
Residue on ignition	USP <661>	Pass	
Hemolysis	ISO 10993-4	Nonhemolytic	
Cytotoxicity	ISO 10993-5	Pass	
Appearance	EP <3.1.7>	Pass	
Acidity and alkalinity	EP <3.1.7>	Pass	
Absorbance	EP <3.1.7>	Pass	
Reducing substances	EP <3.1.7>	Pass	
Transparency	EP <3.1.7>	Pass	

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