Product Information

DuPont Teijin Films™

Melinex®

Polyester Films

Melinex® FR320/FR321 - Clear, Flame Retardant Polyester Films

Product Description

Melinex® FR320 and Melinex® FR321 are novel halogen-free, low haze VTM-0 PET polyester films from DuPont Teijin Films. Melinex® FR320/FR321 has achieved ANSI/UL 94 Certified VTM-0 flame rating for "Tests for Flammability of Plastic Materials for Parts in Devices and Appliances". Melinex® FR320/FR321 rolls are knurled and are available in thicknesses of 75-175 microns (300-700 gauge).

Melinex® FR321 is pretreated on one side to promote adhesion.

Typical Applications

Melinex® FR320/FR321 are suitable for many applications requiring a flame retardant film, including laminate structures for construction and transportation, battery labels, insulating materials for wire and cable, electronic office products, lighting and flexible printed circuitry.

General Information

As per Article 3(3) of the REACH regulation (EC) No 1907/2006 Melinex® FR320/FR321 is classified as an article. There are no substances intended to be released from the above film under normal, reasonably foreseeable conditions of use, as defined by Article 7(1).

Food Contact Advice

Melinex® FR320/FR321 have not been assessed against Food Contact Legislation.

Film Properties

Property	Unit	Typical Values				Test Method
General		**75**	**100**	**125**	**175**	
Thickness	micron	75	100	125	175	DTF Method
Relative Density	g/cm³	1.37	1.37	1.37	1.37	
Area Yield	m²/kg	9.50	7.30	5.84	4.17	DTF Method
UL94 Flammability		VTM-0	VTM-0	VTM-0	VTM-0	ANSI/UL94
Mechanical		**75**	**100**	**125**	**175**	
Ultimate Tensile Strength - MD	kgf/mm² kpsi	16 22.5	16 22.5	18 25	18 25	ASTM D882 (23°C at 50% RH, strain rate min 50%)
Ultimate Tensile Strength - TD	kgf/mm² kpsi	20 27.5	20 27.5	20 27.5	20 27.5	ASTM D882 (23°C at 50% RH, strain rate min 50%)
F5 - MD	kg/mm² kpsi	8.5 12.1	8.5 12.1	8.5 12.1	8.5 12.1	
F5 - TD	kg/mm² kpsi	9 12.5	9 12.5	9 12.5	9 12.5	
Elongation to Break - MD	%	190	190	190	190	ASTM D882 (23°C at 50% RH, strain rate min 50%)
Elongation to Break - TD	%	160	160	160	160	ASTM D882 (23°C at 50% RH, strain rate min 50%)
Optical		**75**	**100**	**125**	**175**	
Haze	% Target	0.6	0.6	0.8	1	ASTM D1003
Total Luminous Transmission	Target	88	88	88	88	ASTM D1003
Yellowness index		0.8	0.8	0.9	1	D65-10 ASTM E313
Thermal		**75**	**100**	**125**	**175**	
Heat Shrinkage MD	%	2	2	2	2	after 30 min at 150ºC
Heat Shrinkage TD	%	0.8	0.8	0.8	0.8	after 30 min at 150ºC

Fitness for Use

This evaluation has been performed on a typical product sample produced under standard production conditions as per our manufacturing standards. Specific conversion conditions at our customers may change the behaviour of the product and lead to different results on the final material. Such changes are beyond our knowledge. Therefore, customers using the above product for further processing, must ascertain, through the appropriate tests, that these articles comply with the appropriate conditions of use & regulations in their specific application.

Disposal Advice

Disposal of Melinex® FR320/FR321 should comply with appropriate local and country regulations.

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