

## Technical Information and Typical Properties

### Sigma Stretch Film Vortex™ 0.70 mil One Sided Cling Blown Machine Film



#### Product Description

Sigma Vortex is a 3 layer blown film with one sided cling properties. Toughness, containment, and puncture resistance ensures problem free wrapping with clarity similar to most cast films.

#### General

Applications	• Bagged Product	• Ringer Applications	• Brick and Block
	• High Containment	• Inboard Loads	• Bottled Water
Revision Date	• 3/12/15		

Film Properties	Typical Value (English)	Tolerance	Typical Value (SI)	Tolerance	Test Method
Tensile Strength at Yield MD	2000	± 15%	13.8 mPa	--	ASTM D882
Tensile Strength at Yield TD	1500	± 15%	10.3 mPa	± 15%	ASTM D882
Tensile Strength at Break MD	5200 psi	± 15%	35.9 mPa	± 15%	ASTM D882
Tensile Strength at Break TD	5100 psi	± 15%	35.2 mPa	± 15%	ASTM D882
Elongation at Break MD	450%	± 15%	450%	± 15%	ASTM D882
Elongation at Break TD	600%	± 15%	600%	± 15%	ASTM D882
Protrusion Puncture	7.0 lbs	± 15%	3.2 kg	± 15%	ASTM D5748
Protrusion Puncture Energy	24.4 in-lb	± 15%	2.7 n-m	± 15%	ASTM D5748
Elmendorf Tear Strength MD	180 g/mil	± 15%	7.1 g/micron	± 15%	ASTM D1922
Elmendorf Tear Strength TD	1100 g/mil	± 15%	43.3 g/micron	± 15%	ASTM D1922
Cling - Outside to Inside @ 225%	min 150 g/in	± 15%	min 59 g/cm	± 15%	ASTM D5458

Dimensions	Value (English)	Tolerance	Value (SI)	Tolerance
Core ID	3.05 inches	± 0.05 in	76.2 mm	± 1.3 mm
Film Thickness	0.7 mil		17.8 micron	

Manufactured with pride in the USA by

#### Sigma Stretch Film

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