

## Technical Information and Typical Properties

### Sigma Stretch Film Vortex™ 1.20 mil One Sided Cling Blown 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	• 8/27/15		

Film Properties	Typical Value	Tolerance	Typical Value	Tolerance	Test Method
	(English)		(SI)		
Tensile Strength at Yield MD	2000 psi	± 15%	13.8 mPa	--	ASTM D882
Tensile Strength at Yield TD	1600 psi	± 15%	11.0 mPa	± 15%	ASTM D882
Tensile Strength at Break MD	5200 psi	± 15%	35.9 mPa	± 15%	ASTM D882
Tensile Strength at Break TD	5600 psi	± 15%	38.6 mPa	± 15%	ASTM D882
Elongation at Break MD	500%	± 15%	500%	± 15%	ASTM D882
Elongation at Break TD	600%	± 15%	600%	± 15%	ASTM D882
Protrusion Puncture	12.5 lbs	± 15%	5.7 kg	± 15%	ASTM D5748
Protrusion Puncture Energy	33.4 in-lb	± 15%	3.8 n-m	± 15%	ASTM D5748
Elmendorf Tear Strength MD	320 g/mil	± 15%	12.6 g/micron	± 15%	ASTM D1922
Elmendorf Tear Strength TD	660 g/mil	± 15%	26.0 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	1.2 mil		38.1 micron	

Manufactured with pride in the USA by

#### **Sigma Stretch Film**

Page & Schuyler Aves. Bldg #8

Phone: 800-672-9727 • 201-507-9100

Email: [stretch.info@sigmaplastics.com](mailto:stretch.info@sigmaplastics.com)

Visit our website at [www.sigmastretchfilm.com](http://www.sigmastretchfilm.com)

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