

IMPACT™ Shrink Film

Impact

Strength

When

You

Need

It Most



IMPACT™ Multi-Pu

Total performance matters most when it comes to your packaging operation efficiency and product presentation. New Cryovac® *IMPACT™* shrink film delivers total performance better than any film on the market, and at a greater value.

Muscle Without Bulk

- **Revolutionary Engineering.** High-tech materials and processing enable *IMPACT™* shrink film to deliver stronger instrumented impact strength than heavier competitive films. Ultimate product performance can be achieved while reducing your total packaging costs. Longer roll lengths mean fewer changeovers and less downtime, which equals more efficient and more cost-effective production.
- **Beauty and Durability.** *IMPACT™* shrink film has unsurpassed optics that promise your product will shine brightly on store shelves and its toughness ensures products will hold up under extreme conditions in production, packing, shipping, retail stocking and consumer handling.
- **Easy to Use.** *IMPACT™* shrink film has wide operating parameters making it extremely easy to use on a wide assortment of applications and equipment systems.
- **Applications.** *IMPACT™* shrink film works for a wide variety of applications including kitchen and bath items, hardware, lawn and garden products and multi-packs. It's ideal for irregularly shaped items especially those with sharp corners, and premium add-ons or "pack-ons."

Film Highlights

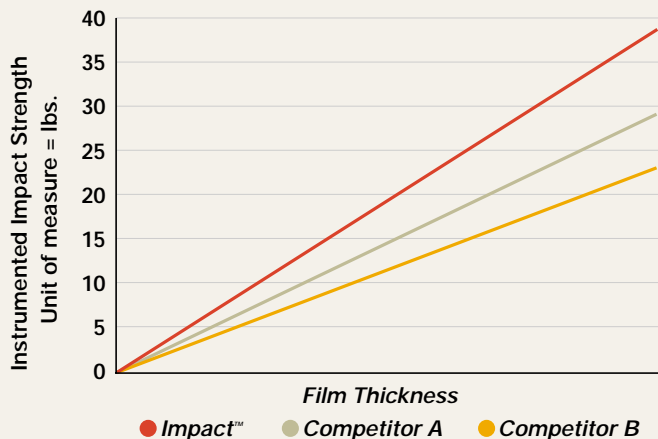
- **Material.** Extremely tough, multi-layer, cross-linked polyolefin.
- **Impact Strength.** Abuse and puncture resistant. Strong seals. Less material, same package integrity.
- **Appearance.** Unmatched clarity, gloss and sheen. Package will stay taut and wrinkle-free and won't crack when temperature abused, insuring utmost appeal at the point of sale.
- **Machinability.** Can be run on a variety of equipment – centerfold, reverse fold and form-fill-seal machines.
- **Sealing Techniques.** Hot wire, constant hot knife, electrostatic.
- **Performance Grades.** Performance grades are based on the film's instrumented impact strength measured in pounds force. *IMPACT™* shrink film is available in instrumented impact strengths of 19 lb., 24 lb., 27lb., 34 lb. and 38 lb. test to match your specific package requirements.



urpose Shrink Film

Instrumented Impact Strength

ASTM #D3763



Instrumented impact strength is the index of the film's dynamic strength which approximates what will occur when the package is dropped and is useful in predicting resistance of film to breakage from dropping or other quick blows.



IMPACT™ Properties

ASTM Test Method

Typical Values

Grade/Instrumented Impact Strength (lb.)	D 3763-95a	19	24	27	34	38
Haze (%)	D 1003-95	2.5	3.0	3.2	3.5	3.7
Gloss (%)	D 2457-90	93	93	93	93	91
Clarity (%)	D 1746-92	85.8	84	84	82.6	82.6
Coefficient of Friction (film-to-film, kinetic)	D 1894-95	0.22	0.22	0.23	0.23	0.23
Water Vapor Transmission Rate (gms/100sq. in./24hrs.)	F 1249-90	1.65	1.38	1.21	0.95	0.74
Oxygen Transmission Rate (cc/m ² /24hrs. @ 73°F, 1atm)	D 3985-95	9,860	8,550	7,220	5,700	4,460
Tear Propagation (gms)	LD* TD** D 1938	5.2	6.5	7.5	9.6	15.0
		4.3	5.7	6.5	8.1	12.7
Yield (sq. in. per pound)		57,660	48,360	42,230	33,320	26,100
Minimum Use Temperature		-60°F				
Maximum Storage Temperature		90°F				
		LD*			TD**	
Tensile Strength (psi)	D 882-95	20,000			21,000	
Elongation at Break (%)	D 882-95	120			130	
Modulus of Elasticity (psi @ 73°F)	D 882-95	58,000			63,500	
Free Shrink (%)	D 2732-83					
@200°F		13			16	
@220°F		21			28	
@240°F		51			56	
@260°F		79			77	
Shrink Tension (psi)	D 2838-95					
@200°F		350			490	
@220°F		450			590	
@240°F		510			575	
@260°F		530			550	
@280°F		530			520	

Note: These are typical values for Cryovac films. They are not intended for use as limiting specifications. *Longitudinal Direction **Transverse Direction

This information represents our best judgement based on the work done, but the Company assumes no liability whatsoever in connection with the use of information or findings contained herein.

IMPACT™ shrink film complies with the requirements of the Federal Food, Drug and Cosmetics Act, as amended for the packaging of all foods, with the exception of high alcoholic, at temperatures of 65° C and below.

Our Products Protect Your Products®

MPD High Speed Films

- Designed to run at speeds up to 200 ppm
- Unparalleled clarity
- Provides the strongest lap seal available



D-940 Soft Shrink Film

- Perfect for softer items like printed paper goods
- Super low shrink force prevents distortion
- Runs on a wide variety of equipment



LD-935 Multi-Purpose Film

- Great for uniform-sized, lightweight products
- Longer rolls mean fewer changeovers, less downtime
- Superior optics for unsurpassed shelf appeal

CorTuff™ High-Abuse Film

- Strongest impact strength available – ideal for heavy, odd-shaped products
- Can replace bulkier packaging materials
- Can be used as primary shipping media

Consultative Services

- Package concept development
- Film selection assistance
- Packaging line audits and economic analysis



Equipment Systems Support

- Feasibility studies of proposed equipment
- Custom-built shrink packaging systems
- Equipment installation, training and ongoing technical support



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