



# **Strength and Abuse-Resistance For Your Product's Protection**



**Designed For The Toughest Environments**

# Built Tuff

## Unprecedented Impact Strength



Shrink packaging technology has developed a material with the toughness and versatility to go head-to-head with bulky, traditional packaging media like corrugate, heavy-gauge polyethylene, skin packaging, and clamshells.

CorTuff® High Abuse Shrink Film gives you a cost-effective packaging alternative with unprecedented strength that can be used as a primary shipping media and still look great to retail shoppers. Because it's also a shrink film, you can automate your packaging process, increase production rates and reduce packaging costs.

## Designed For Tough Environments



### Abuse and Tamper Resistance

**CorTuff® is the strongest shrink film available in the market today.**

Outstanding strength ensures your product's protection throughout the most abusive distribution channels, resulting in a more secure package, fewer failures and returns for damage.

### Space Efficiency

**Minimizing floor space needed for storage, one roll of CorTuff® protects as many different sized products as more than 600 corrugated boxes.<sup>1</sup>**

Achieve tremendous savings to your bottom line from using less warehouse space.

<sup>1</sup> Stated calculation is based on comparing one, 24 inch roll of CorTuff® High-Abuse Shrink Film, to 662 corrugated boxes with dimensions 12" x 12" x 7".



### Production Flexibility

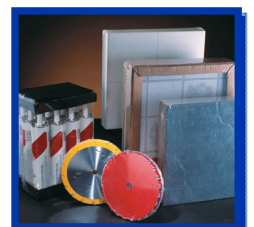
**CorTuff® lends itself to automation of your production line** - Requiring less labor, CorTuff® increases production rates and throughputs, and reduces your packaging and labor costs.

**CorTuff® completely shrinks while in the heat tunnel** - Versus polyethylene, CorTuff® shrinks up to 75 percent and at lower temperatures dramatically reducing your utility costs by using less energy to perform.

### Packaging Versatility

**CorTuff® wraps a wide range of product shapes, weights, and sizes, from large consumer goods, to odd-shaped, and smaller "pick and pack" parcels; all wrapped on site, on demand.**

With CorTuff®, there's no need for multiple SKU's of different sized packaging materials, and that means fewer changeovers. And with potential package weight reduction, you may gain substantial saving in postage and shipping.



# Properties

CorTuff® Properties	ASTM Test Method	Typical Values		Typical Values	
Gauge		200		300	
Instrumented Impact Strength (lbs)	D 3763-95a	44		63	
Haze (%)		4.5		6.5	
Yield (sq. in per pound)		15,000		10,000	
Water Vapor Transmission Rate (gms/100sq. In/24hrs.); 100% RH, 100° F	F 1249-90	0.5		0.3	
Oxygen Transmission Rate (cc/m2/24hrs. @ 73° F, 1atm)	D 3985-95	2847		1400	
Tear Propagation (gms) $\frac{LD}{TD^{**}}$	D 1938	$\frac{34}{29}$		$\frac{80}{75}$	
Elongation at Break (%) $\frac{LD}{TD^{**}}$	D 882-95	$\frac{160}{150}$		$\frac{180}{190}$	
Minimum Use Temperature		-60° F		-60° F	
Maximum Storage Temperature		90° F		90° F	
		LD*	TD**	LD*	TD**
Tensile Strength (psi)	D 882-95	14,500	16,500	12,000	14,000
Modulus of Elasticity (psi @ 73° F)	D 882-95	43,400	49,500	35,000	37,000
Free Shrink (%)	D 2732-83				
	@ 200° F	11	17	10	17
	@ 220° F	21	30	17	28
	@ 240° F	54	59	42	52
	@ 260° F	74	74	65	66
	@ 280° F	76	74	70	70
Shrink Tension (psi)	D 2838-95				
	@ 200° F	246	408	217	316
	@ 220° F	315	476	283	360
	@ 240° F	374	487	307	367
	@ 260° F	355	462	307	365
	@ 280° F	360	433	309	376

Note: These are typical values and 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. CorTuff® 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.

# Creating World Class Packaging Solutions

Sealed Air is a leading global manufacturer of a wide range of fresh food, protective and specialty packaging products. Reaching nearly 80 percent of the world's population, many Sealed Air brands are among the most respected names in their markets.

Our products protect and preserve our customers' products from the plant or warehouse through the rigors of the distribution chain. A number of Sealed Air products also provide an appealing merchandising presence for retail display.

Sealed Air's industry-leading investment in research and development and constant focus on World Class Manufacturing principles allow us to continue to deliver innovative packaging solutions that add measurable value to our customers' businesses around the world.



**Bubble Wrap® & AirCap®**  
Air Cellular Cushioning



**Cryovac®**  
Case Ready Packaging Systems



**Instapak®**  
Foam Packaging



**Fill Air™**  
Inflatable Packaging and Systems



**Jiffy Mailer®**  
Products



**SpeedyPacker®**  
Foam Packaging System



**Cryovac®**  
Flexible Pouch Systems



**CelluPlank®**  
Polyolefin Foam  
**Stratocell®**  
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