



The **Cryovac® CT-303E** is a revolutionary **micro-layered** shrink film. This polyolefin shrink film creates value for our customers in addition to an optimised total resource efficiency and minimal environmental impact.

Increased customer value and benefits

- Up to 50% reduction in number of roll changeovers resulting in increased up-time
- Higher productivity
- Reduced storage place for packaging supplies
- Energy savings by lowering shrink tunnel temperatures
- Excellent optics, highest clarity and lowest haze for improved retail appeal

The sustainable choice

- Up to 50% packaging weight reduction
- Significant source reduction results in lower tunnel temperatures
- Reduced number of cores, cartons and pallets

Properties:

Film Data	Unit	Typical Values		Test Method
Thickness	μ	11		ASTM D6988
Yield	(m ² /kg)	92		
Length Single Wound Centre Folded	m m	3480 1740		
Width Single Wound (10 mm increment) Centre Folded (50 mm increment)	mm mm	From 100 to 1610 From 155 to 905		
Core diameter	mm	76		
Mechanical		LD*	TD**	
Tensile Strength	kg/cm ²	1250	1350	ASTM D882-95
Elongation at Break	%	90	110	ASTM D882-95
Modulus of Elasticity	kg/cm ²	5400	5600	ASTM D882-95
Tear Propagation	g	3.3	5.0	ASTM D1938
Coefficient of Friction	(film-to-film, kinetic)	0.14		ASTM D1894
Puncture Resistance	g	2100		COV-E-236
Shrink & Barrier				
Free Shrink @120°C	%	65	65	ASTM D2732
Max. Shrink Tension	kg/cm ²	29	35	COV-E-302
Moisture Vapour Transmission Rate	g/m ² /24hrs @ 38°C	37		ASTM F1249
Oxygen Transmission Rate	cm ³ /m ² /24hrs @23°C, 1 atm	13000		D3985-95
CO ₂ Transmission Rate	cm ³ /m ² /24hrs @23°C, 1 atm	50700		ASTM D1434
Optical				
Haze	%	3.0		ASTM D1003
Gloss	gloss units (i = 60°)	133		ASTM D2457
STORAGE CONDITIONS	Recommended conditions for long-term storage, below 32°C, max. 80% R.H., up to one year			
FOOD LAW APPROVAL	Complies with EU regulations on food contact materials. See "Product Regulatory Compliance Statement" for details.			
QUALITY	All Cryovac manufacturing operations in Europe have received or are applying for ISO 9001:2008 Quality Certification or its local equivalent			

* LD = Longitudinal Direction **TD = Transverse Direction

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