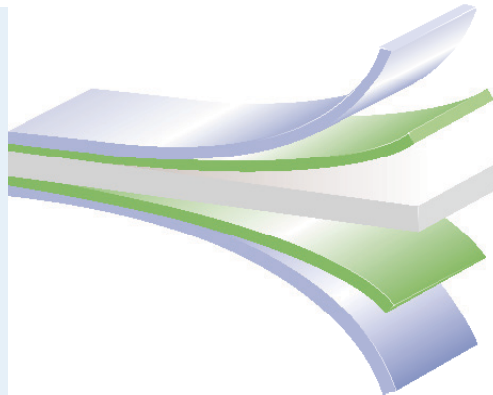


# RayoWrap™ ETF

## Technical Data Sheet

**ETF** - Transparent, high gloss, coextruded OPP film



- Treated high gloss layer
- OPP layer
- OPP core
- OPP layer
- Treated high gloss layer

### Features

- No label look
- Higher stiffness, gloss and transparency vs. 3-layer films
- Label expands and contracts with PET
- High surface energy
- Good de-stacking properties
- Excellent die cutting

### Application

- Monoweb cut & stack wrap-around labels
- Graphics Sheets
- Printable by all sheet and roll-fed processes
- Bottled water, beer, sports drinks, soft drinks and juices



### Technical Properties (Typical Values)

Property	Test Method	Test Conditions	Units	ETF	
Thickness	Innovia test method		micron	57	
			gauge	230	
Yield	ASTM D 4321		in <sup>2</sup> /lb	13,600	
			m <sup>2</sup> /kg	19.3	
Basis Weight	ASTM D 4321		g/m <sup>2</sup>	51.9	
			lbs/ream	31.9	
Gloss	Innovia test method		[20°]	100	
Haze	ASTM D 1003			2.5	
Surface tension	ASTM D 2578	Back Print	mN/m (dyne)	36-39	
Tensile strength			kpsi	MD	17.40
				TD	30.45
Coefficient of Friction	ASTM D 1894			0.3	
Elongation at break	Innovia test method		%	MD	180
				TD	30

MD Machine Direction TD Transverse Direction  
 All properties are tested under standard laboratory conditions: 73 ± 4F, 50 ± 5% RH (23 ± 2°C, 50 ± 5% RH) unless otherwise stated. Where relevant, tests are based on international standards.  
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## Technical Data Sheet

### Conversion

Treatment and Winding	Surface Printing
Two surfaces treated	Ink recommendations for all print processes are available
Refer to roll tag for specific treatment on roll	Printing and anti-static properties guaranteed for 6 months only
	Excellent web flatness permits higher speed printing
	Run appropriate trials prior to production
	Consult your ink supplier

#### Conversion Note -

This film is suitable for UV and conventional lithographic ink systems. Web temperatures should not exceed a web temperature of 105°F (40°C).

Where static electricity may be generated, use of static eliminators and maintaining a relative humidity >50% is recommended. In some cases an in-line treatment is recommended

### Nominal Reel Diameters

Film	Length (metres)			
ETF 57	1,350	4,050	8,100	12,150

Film	Length (feet)			
ETF 230	4,429	13,287	26,575	39,862

Outside Diameter	1x	3x	6x	9x
For 3in / 77mm core	13.1" (in) 334mm	-	-	-
For 6in / 153mm core	-	22.9" (in) 582mm	31.7" (in) 805mm	38.5" (in) 978mm

Widths under 14.5" (368mm) – Maximum 3x OD

All rolls are wound to length. Actual OD may vary with thickness and winding density variations.

### Film Storage and Handling

The films should be placed in the processing area 24 hours prior to processing, to acclimatise. The films are largely unaffected by climatic conditions but should not be stored at temperatures above 104°F (40°C). Under suitable storage conditions, the film can be stored for a period of 6 months without any risk of deterioration.

### Food Contact

RayoWrap™ ETF is FDA approved for food contact. Please contact Technical Services for other Food Contact statements.

### Health & Safety Guidelines

MSDS sheets, as well as other product safety documents, are available for our films upon request.

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