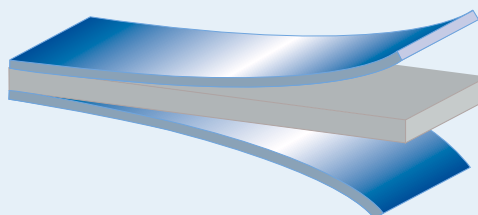


### CSL - Low Heat-Seal Threshold Film.

Biaxially oriented polypropylene (BOPP) film co-extruded on both sides with polyolefinic copolymers.



- Corona Treated Sealable Layer
- Oriented Polypropylene
- Low Seal Threshold Layer

### Features

- Heat-sealable on both sides, one side having a low heat-seal threshold
- Excellent water vapour barrier, enhances product protection
- Treated one side for laminating
- Puncture and impact-resistance maintained at low temperatures
- Unaffected by variations in climatic conditions
- Excellent clarity for better product presentation

### Applications

**CSL15(60) 20(80)** are suitable for use as a single film in plain or printed laminate structures. Film is ideally suited for board lamination.

### Markets

Sandwiches and wraps

### Technical Properties (Typical Values)

Property	Test Method	Test Conditions	Units	CSL	
Thickness	Innovia Films test		micron	15	20
			gauge	60	80
Yield	Innovia Films test		m <sup>2</sup> /kg	73.3	54.9
			in <sup>2</sup> /lb	51650	38600
			g/m <sup>2</sup>	13.6	18.2
Permeability to: Water vapour	ASTM F 1249	38°C 90% RH 100°F 90% RH	g/m <sup>2</sup> .24 hrs	10.0	8.0
			g/100in <sup>2</sup> . 24 hrs	0.65	0.52
Oxygen	ASTM F 1927	23°C 0% RH 73°F 0% RH	cc/m <sup>2</sup> .24 hrs	3200	2500
			cc/100in <sup>2</sup> . 24 hrs	206	160
Optical: Gloss	ASTM D 2457	45°	units	90	
Haze (wide angle)	ASTM D 1003	2.5°	%	2.0	
Coefficient of friction (film to film)	ASTM D 1894	Static/ Dynamic		0.55	
				0.50	
Anti-mist test	ICI	4°C		C	
Corona treatment	Innovia Films test		dynes/cm	38	
Tensile strength	ASTM D 882	Strain rate 50% / min	MN/m <sup>2</sup>	MD	175
				TD	165
			lb/in <sup>2</sup>	MD	25350
				TD	23900
Elongation at break	ASTM D 882	Strain rate 50% / min	%	MD	75
				TD	90
Elasticity modulus (1% secant)	ASTM D 882	Strain rate 10% / min	MN/m <sup>2</sup>	MD	2600
				TD	2300
			lb/in <sup>2</sup>	MD	376800
				TD	333350
Sealing range	Innovia Films test	2 secs; 0.10MN/m <sup>2</sup> 2 sec; 15 psi	°C	90-145	
			°F	195-295	
				untreated to untreated	
Seal strength	Innovia Films test	109°C; 1 sec; 0.10MN/m <sup>2</sup> 230°F; 1 sec; 15 psi	g(f)/25mm/ in	>350	
				untreated to untreated	
Shrinkage	Innovia Films test	60 secs at 130°C (265°F)	%	MD	6.0
				TD	-1.0

MD Machine Direction TD Transverse Direction

All properties are tested under standard laboratory conditions: 23 ± 2°C, 50 ± 5% RH, unless otherwise stated. Where relevant, tests are based on international testing standards.

B245 – 1 of 2 – 1222

# Propafilm™ CSL

## Technical Data Sheet

### Reel Specifications

#### Nominal Reel Diameters



Film	Single Length (metres)	12x Length (metres)
CSL15	2500	30000
CSL20	1900	22800
Film	Single Length (feet)	12x Length (feet)
CSL60	8200	98400
CSL80	6233	74800

Other reel lengths are available subject to negotiation.

Outside Diameter	1x	2x	4x	6x	8x	12x
For 77mm / 3in core	240mm 9½in	330mm 13in	450mm 18in	-	-	-
For 153mm / 6in core	-	-	475mm 18¾in	570mm 22½in	650mm 25½in	785mm 31in

### Corona Discharge Treatment

Propafilm™ CSL is corona discharge treated on one side only, the reverse side exhibiting a low heat-seal threshold. The treated surface can be wound as either the inner or outer surface of Propafilm™ CSL. The treated surface is indicated by a symbol on a label attached to each reel.

Treated Surface	Ordering Code	Label Symbol
Inside	I	
Outside	O	

### Film Storage

No special conditions are required for the storage of Propafilm™ CSL but it is recommended that dry conditions at temperature below 30°C (86°F) are employed to minimise any deterioration of surface discharge treatment level. Propafilm™ CSL is suitable for use for 6 months from the date of delivery and stocks should be used in rotation. Films should be allowed to reach operating room temperatures for 24 hours before use.

### Food Contact

Propafilm™ CSL complies with the applicable EU and US legislation for most applications involving direct contact with foods. Full details are given on the Declaration of Compliance. Customers intending to use Propafilm™ CSL in a food contact application should request a copy of this document from Innovia Films. Details of compliance with food contact legislation in non-EU countries are also available upon request.

### Health & Safety Guidelines

For Health & Safety information, please refer to literature reference B190.

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B245 – 2 of 2 – 1222

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