

Technical Data Sheet

**CirculenRenew C14 LD3020F**



Low Density Polyethylene

**Product Description**

*CirculenRenew* C14 LD3020 F is part of the *Circulen@* product family of circular and sustainable solutions. *CirculenRenew* C14 polymer reduces the carbon footprint as it replaces fossil feedstock through using renewable raw materials made from bio-based waste and residue oils. The renewable content of *CirculenRenew* C14 is measured by an accredited third party laboratory and stated as a parameter on the Certificate of Analysis (CoA).

*CirculenRenew* C14 LD3020 F is a drop-in solution and therefore doesn't require any adaptation of the existing processing equipment.

*CirculenRenew* C14 LD3020 F is a non-additivated, low density polyethylene. It is characterized by a good melt strength leading to a good bubble stability during blown film extrusion. LyondellBasell customers report that films made from *CirculenRenew* C14 LD3020 F exhibit a good shrinkage performance.

*CirculenRenew* C14 LD3020 F provides the option to produce films with good optical and mechanical properties. It is delivered in pellet form.

This product is not intended for use in medical and pharmaceutical applications.

<b>Application</b>	Bags & Pouches; Food Packaging Film; Lamination Film; Shrink Film; Surface Protection Film
<b>Market</b>	Flexible Packaging
<b>Processing Method</b>	Blown Film
<b>Attribute</b>	Good Heat Seal; Good Processability; Superior Optical Properties

Typical Properties	Nominal Value	Units	Test Method
<b>Physical</b>			
Melt Flow Rate, (190 °C/2.16 kg)	0.9	g/10 min	ISO 1133-1
Density	0.927	g/cm <sup>3</sup>	ISO 1183-1
<b>Mechanical</b>			
Tensile Modulus	300	MPa	ISO 527-1, -2
Tensile Stress at Yield	12	MPa	ISO 527-1, -2
<b>Film</b>			
Dart Drop Impact Strength, F50	120	g	ASTM D1709
Tensile Strength			
MD	27	MPa	ISO 527-1, -3
TD	22	MPa	ISO 527-1, -3
Tensile Strain at Break			
MD	300	%	ISO 527-1, -3
TD	600	%	ISO 527-1, -3
Coefficient of Friction	>0.8		ISO 8295

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**Impact**

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Failure Energy	4 J/mm	DIN 53373
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**Thermal**

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Vicat Softening Temperature, (A/50)	100 °C	ISO 306
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Peak Melting Point	114 °C	ISO 11357-3
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**Optical**

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Haze, (50 µm)	<7 %	ASTM D1003
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Gloss

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(20°)	>50	ASTM D2457
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(60°)	>100	ASTM D2457
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**Additional Information**

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Test Specimen	Film
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Film properties tested using 50 µm thickness blown film extruded at a melt temperature of 180°C and a blow-up ratio of 2.5:1.

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**Processing Parameters**

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Extrusion Temperature	170-220 °C
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