# TOTAL Polyethylene Lotrène® Q1018 N

## Linear Low Density Polyethylene

### **TOTAL Refining & Chemicals**

#### Message:

Lotrène ® Q1018 N is an ethylene-butene copolymer produced in a gas phase reactor. It is designed for delivering competitive performance in most blown film applications.

Lotrène ® Q1018 N can be processed at high output rates with moderate extrusion pressure, good bubble stability and gauge control on blown film machine designed for LLDPE.

Lotrène ® Q1018 N can advantageously be blended with LDPE or other PE resins used in blown film mono extrusion or coextrusion to improve film properties.

Lotrène 
Q1018 N is suited for many applications in the field of consumer, industrial, food or hygiene packaging such as collation shrink, liners, Form-Fill-Seal, heavy-duty sacks, refuse sacks or other bags and non-packaging applications like agricultural films e.g. tunnel and mulching films.

General Information				
Additive	Antioxidation			
Features	Butene comonomer			
	Antioxidation			
Uses	Packaging			
	Films			
	Lining			
	Bags			
	Industrial application			
	Agricultural application			
	Food packaging			
	Shrinkable film			
	Heavy packing bag			
Processing Method	Film extrusion			
	Blow film			
	Co-extrusion molding			
Physical	Nominal Value	Unit	Test Method	
Specific Gravity	0.918	g/cm³	ASTM D792	
Melt Mass-Flow Rate (MFR) (190°C/2.16				
kg)	1.0	g/10 min	ASTM D1238	
Films	Nominal Value	Unit	Test Method	
Film Thickness - Tested	40	μm		
Tensile Modulus			ISO 178	
1% secant, MD: 40 $\mu\text{m}$ , blown film	215	MPa	ISO 178	
1% secant, TD: 40 $\mu m$ , blown film	245	MPa	ISO 178	
Tensile Stress			ISO 527-3	
MD: Yield, 40 µm, blown film	11.0	MPa	ISO 527-3	

TD: Yield, 40 µm, blown film	11.0	MPa	ISO 527-3
MD: Broken, 40 µm, blown film	38.0	MPa	ISO 527-3
TD: Broken, 40 µm, blown film	33.0	MPa	ISO 527-3
Tensile Elongation			ISO 527-3
MD: Broken, 40 µm, blown film	800	%	ISO 527-3
TD: Broken, 40 µm, blown film	850	%	ISO 527-3
Dart Drop Impact $^1$ (40 $\mu$ m, Blown Film)	150	g	ISO 7765-1
Elmendorf Tear Strength			ISO 6383-2
MD : 40.0 µm	70.0	kN/m	ISO 6383-2
TD : 40.0 μm	120.0	kN/m	ISO 6383-2
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature <sup>2</sup>	100	°C	ASTM D1525
Melting Temperature	122	°C	Internal method
Optical	Nominal Value	Unit	Test Method
Gloss (45°, 40.0 µm, Blown Film)	60		ASTM D2457
Haze (40.0 µm, Blown Film)	11	%	ISO 14782
Extrusion	Nominal Value	Unit	
Melt Temperature	180 - 220	°C	
Extrusion instructions			

BUR: 2:1 to 3:1Die gap: > 1.8 mmFilm figures are obtained using laboratory test specimens produced with the following extrusion conditions: 45 mm screw, L/D = 30, die = 120 mm, die gap = 2.2 mm, BUR = 2.5:1, temperature = 210°C.

NOTE	
1.	F50
2.	A120

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