# CERTENE™ LLBF-322F

### Linear Low Density Polyethylene

#### Muehlstein

#### Message:

LLBF-322F is a certified prime grade butane linear low density, designed to blown film and cast film used in general purpose packaging. LLBF-322F features excellent improved stiffness. It could be used alone or as a component in packaging and industrial film, with higher level of antiblock (7,500 ppm) and slip (1.500 ppm) additives. LLBF-322F complies with FDA regulation 21CFR 177.1520(c3).1a / 3.2a, and most international regulations for use in contact with food.

General Information					
Additive	Anti-caking agent (7500 ppm)				
	Sliding agent (1500 ppm)				
Features	Butene comonomer				
	Rigid, good				
	High smoothness				
	High caking resistance				
	Compliance of Food Exposure				
Uses	Packaging				
	Films				
	Food packaging				
Agency Ratings	FDA 21 CFR 177.1520(c) 3.1a				
	FDA 21 CFR 177.1520(c) 3.2a				
Forms	Particle				
Processing Method	Blow film				
	cast film				
Physical	Nominal Value	Unit	Test Method		
Density	0.925	g/cm³	ASTM D1505		
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	3.7	g/10 min	ASTM D1238		
Mechanical	Nominal Value	Unit	Test Method		
Tensile Elongation (Break)	150	%	ASTM D638		
Films	Nominal Value	Unit	Test Method		
Film Thickness - Tested	25	μm			
Film Puncture Energy (25 µm)	0.450	J	Internal method		
secant modulus			ASTM D882		
1% secant, MD: 25 μm	155	MPa	ASTM D882		

1% secant, TD: 25 µm	154	MPa	ASTM D882
Tensile Strength			ASTM D882
MD: Yield, 25 µm	8.30	MPa	ASTM D882
TD: Yield, 25 µm	8.10	MPa	ASTM D882
MD: Break, 25 µm	39.0	MPa	ASTM D882
TD: Break, 25 µm	19.0	MPa	ASTM D882
Tensile Elongation			ASTM D882
MD: Break, 25 µm	520	%	ASTM D882
TD: Break, 25 µm	680	%	ASTM D882
Dart Drop Impact (25 µm)	62	g	ASTM D1709A
Elmendorf Tear Strength			ASTM D1922
MD : 25 µm	37	g	ASTM D1922
TD : 25 μm	260	g	ASTM D1922
Thermal	Nominal Value	Unit	Test Method
Melting Temperature	124	°C	DSC
Optical	Nominal Value	Unit	Test Method
Gloss (45°, 25.0 μm)	81		ASTM D2457
Haze (25.0 µm)	5.4	%	ASTM D1003
Additional Information			

Film Specimen: 1.0 mils (25 µm) film, melt temperature 395-430°F (200-220°C), blow-up-ratio 2.5 :1.

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#### Recommended distributors for this material

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