

# CERTENE™ LDF-221D

Low Density Polyethylene  
Muehlstein

Message:

LDF-221D is a certified prime resin developed for EXTRUSION Blown Film for industrial packaging, liners, blend with LLDPE. LDF-221D features easy processability, and optimal balance of film strength, stiffness, good openability and excellent sealability. Maximum recommended film drawdown is 1.0 mil. LDF-221D contains medium slip and high antiblock. LDF-221D complies with FDA regulation 21CFR 177.1520 (c) 2.1 + 2.2 and most international regulations concerning the use of Polyethylene in contact with food articles.

General Information			
Additive	High caking resistance		
	Moderate smoothness		
Features	Low density		
	Rigid, good		
	High caking resistance		
	Workability, good		
	Good strength		
	Compliance of Food Exposure		
	Moderate smoothness		
Uses	Packaging		
	Films		
	Lining		
	Mixing		
Agency Ratings	FDA 21 CFR 177.1520(c) 2.1		
	FDA 21 CFR 177.1520(c) 2.2		
Forms	Particle		
Processing Method	Blow film		
Physical	Nominal Value	Unit	Test Method
Density	0.920	g/cm <sup>3</sup>	ASTM D1505
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	2.0	g/10 min	ASTM D1238
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	38	µm	ASTM D882
secant modulus			
1% secant, MD: 38 µm	175	MPa	ASTM D882
1% secant, TD: 38 µm	205	MPa	ASTM D882
Tensile Strength			ASTM D882

MD: Yield, 38 μm	10.0	MPa	ASTM D882
TD: Yield, 38 μm	10.0	MPa	ASTM D882
MD: Fracture, 38 μm	25.0	MPa	ASTM D882
TD: Fracture, 38 μm	19.0	MPa	ASTM D882
Tensile Elongation			ASTM D882
MD: Fracture, 38 μm	300	%	ASTM D882
TD: Fracture, 38 μm	600	%	ASTM D882
Dart Drop Impact (38 μm)	150	g	ASTM D1709A
Elmendorf Tear Strength			ASTM D1922
MD : 38 μm	180	g	ASTM D1922
TD : 38 μm	130	g	ASTM D1922
Thermal	Nominal Value	Unit	Test Method
Peak Melting Temperature	111	°C	ASTM D3418
Optical	Nominal Value	Unit	Test Method
Gloss (45°, 38.0 μm)	50		ASTM D2457
Haze (38.0 μm)	11	%	ASTM D1003

#### Additional Information

Film Specimen: 1.5 mils (38 μm) film, melt temperature 338-374°F (170-190°C), blow-up-ratio 2.5:1.

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#### Recommended distributors for this material

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