# CERTENE™ LLMF-116A

## Metallocene Linear Low Density Polyethylene

#### Muehlstein

#### Message:

LLMF-116A is a certified prime resin designed for production of Blown films needing excellent optics, superior film strength and excellent heat seal performance. LLMF-116A applications include heavy duty packaging, ice bags and sealant layer in coextrusions. LLMF-116A contains no slip, no antiblock and does contain process aid. LLMF-116A complies with FDA regulation 21CFR 177.1520(c)3.2a, conditions of use B-H.

General Information					
Additive	Processing aid				
Features	Optical				
	Good strength				
	Good heat sealability				
	Compliance of Food Exposure				
Uses	Packaging				
	Films				
	Bags				
	Optical applications				
Agency Ratings	FDA 21 CFR 177.1520(c) 3.2a 1				
Forms	Particle				
Processing Method	Blow film				
	Co-extrusion molding				
Physical	Nominal Value	Unit	Test Method		
Density	0.916	g/cm³	ASTM D1505		
Melt Mass-Flow Rate (MFR) (190°C/2.16					
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	1.4	g/10 min	ASTM D1238		
	1.4 Nominal Value	g/10 min Unit	ASTM D1238 Test Method		
kg)					
kg) Films	Nominal Value	Unit			
kg) Films Film Thickness - Tested	Nominal Value	Unit	Test Method		
kg)  Films  Film Thickness - Tested secant modulus	Nominal Value 25	Unit µm	Test Method  ASTM D882		
kg) Films Film Thickness - Tested secant modulus 1% secant, MD: 25 µm	Nominal Value 25 165	Unit µm MPa	Test Method  ASTM D882  ASTM D882		
kg) Films Film Thickness - Tested secant modulus 1% secant, MD: 25 µm 1% secant, TD: 25 µm	Nominal Value 25 165	Unit µm MPa	ASTM D882 ASTM D882 ASTM D882		
kg)  Films  Film Thickness - Tested  secant modulus  1% secant, MD: 25 µm  1% secant, TD: 25 µm  Tensile Strength	Nominal Value  25  165 179	Unit  µm  MPa  MPa	ASTM D882 ASTM D882 ASTM D882 ASTM D882 ASTM D882		
kg)  Films  Film Thickness - Tested  secant modulus  1% secant, MD: 25 µm  1% secant, TD: 25 µm  Tensile Strength  MD: Yield, 25 µm	Nominal Value 25 165 179	Unit  µm  MPa  MPa  MPa	ASTM D882 ASTM D882 ASTM D882 ASTM D882 ASTM D882 ASTM D882		
kg)  Films  Film Thickness - Tested  secant modulus  1% secant, MD: 25 µm  1% secant, TD: 25 µm  Tensile Strength  MD: Yield, 25 µm  TD: Yield, 25 µm	Nominal Value 25  165 179  13.6 10.3	Unit  µm  MPa  MPa  MPa  MPa  MPa	ASTM D882		
kg)  Films  Film Thickness - Tested  secant modulus  1% secant, MD: 25 µm  1% secant, TD: 25 µm  Tensile Strength  MD: Yield, 25 µm  TD: Yield, 25 µm  MD: Break, 25 µm	Nominal Value  25  165  179  13.6  10.3  52.4	Unit  µm  MPa  MPa  MPa  MPa  MPa  MPa  MPa  MP	ASTM D882		

TD: Break, 25 µm	590	%	ASTM D882	
Dart Drop Impact <sup>1</sup> (25 μm)	1100	g	ASTM D1709	
Elmendorf Tear Strength			ASTM D1922	
MD : 25 μm	230	g	ASTM D1922	
TD : 25 μm	500	g	ASTM D1922	
Optical	Nominal Value	Unit	Test Method	
Gloss (60°, 25.4 µm, Blown Film)	130		ASTM D2457	
Haze (25.4 µm, Blown Film)	4.0	%	ASTM D1003	
Additional Information				
Film Specimen: 1.0 mils (25 μm) film; blow-up-ratio 2.5 :1; Melt temperature 400°F				
Extrusion	Nominal Value	Unit		
Melt Temperature	204	°C		
NOTE				
1.	F50			

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### Recommended distributors for this material

# Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533 Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

