

# CERTENE™ MDF-137

Medium Density Polyethylene  
Muehlstein

## Message:

MDF-137 is a certified prime grade Hexene copolymer MEDIUM MOLECULAR WEIGHT developed for production of thin gauged paper-like Blown films. MDF-137 features BROAD molecular weight distribution for improved processability in HMW high stalk equipment or in conventional film lines equipped with die gap = 0.75 to 1.25 = mm., excellent melt strength, easy film drawdown, and optimal overall balance of thin film mechanical properties: stiffness, tensile, Elmendorf tear, and Dart impact strength. MDF-137 applications include merchandise, produce, and trash bags, shopping bags, small shoppers, lamination films, wrapping films, and tablecloths. Minimum recommended film thickness is 12 microns (0.5 mil), and melt processing temperature 195° to 220° C. MDF-137 complies with FDA regulation 21CFR 177.1520 (c) 3.2(a) and most international regulations concerning the use of Polyethylene in contact with food articles.

General Information			
Features	Rigid, good		
	hexene comonomer		
	Workability, good		
	Wide molecular weight distribution		
	Good stripping		
	Good strength		
	Good melt strength		
	Good tear strength		
	Compliance of Food Exposure		
	Medium molecular weight		
Uses	Films		
	Laminate		
	Bags		
Agency Ratings	FDA 21 CFR 177.1520(c) 3.2a		
Forms	Particle		
Processing Method	Blow film		
Physical	Nominal Value	Unit	Test Method
Density	0.937	g/cm <sup>3</sup>	ASTM D1505
Melt Mass-Flow Rate (MFR)			ASTM D1238
190°C/2.16 kg	0.30	g/10 min	ASTM D1238
190°C/21.6 kg	20	g/10 min	ASTM D1238
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	13	µm	
Film Thickness - Recommended / Available	Minimum 12 µm (0.5 mil)		
secant modulus <sup>1</sup>			ASTM D882
1% secant, MD: 13 µm	790	MPa	ASTM D882
1% secant, TD: 13 µm	965	MPa	ASTM D882

Tensile Strength <sup>2</sup>			ASTM D882
MD: Yield, 13 µm	21.0	MPa	ASTM D882
TD: Yield, 13 µm	21.0	MPa	ASTM D882
MD: Broken, 13 µm	42.0	MPa	ASTM D882
TD: Broken, 13 µm	41.0	MPa	ASTM D882
Tensile Elongation <sup>3</sup>			ASTM D882
MD: Broken, 13 µm	500	%	ASTM D882
TD: Broken, 13 µm	600	%	ASTM D882
Dart Drop Impact <sup>4</sup> (13 µm)	110	g	ASTM D1709A
Elmendorf Tear Strength			ASTM D1922
MD : 13 µm	50	g	ASTM D1922
TD : 13 µm	500	g	ASTM D1922
Thermal	Nominal Value	Unit	Test Method
Peak Melting Temperature	125	°C	ASTM D3417
Additional Information			
Film Specimen: 0.5 mil (13 µm) film, melt temperature 410-430°F (210-220°C), blow-up-ratio 4.0:1, frost line height 8 x die ø.			
Extrusion	Nominal Value	Unit	
Melt Temperature	195 - 220	°C	
NOTE			
1.	Compression molded		
2.	Compression molded		
3.	Compression molded		
4.	F50		

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