Technical Information

ELITE™ 5400GS
Enhanced Polyethylene Resin

Overview

ELITE™ 5400GS Enhanced Polyethylene Resin is a copolymer produced via INSITE™ Technology from Dow. It offers extremely high impact resistance, combined with excellent tear, tensile and optical properties for high strength blown film applications. In addition, ELITE 5400GS Enhanced Polyethylene Resin offers a unique combination of low seal initiation, higher modulus, and low blocking tendencies for automated packaging applications.

Applications:

- For food and specially packaging films.
- Extremely high impact resistance.
- Excellent tear, tensile, and optical properties.
- Low seal initiation temperatures and high hot tack strengths for form-fill-seal applications.

Complies with:

- EU, No 10/2011
- U.S. FDA FCN 424
  - Consult the regulations for complete details.

Additive

- Antiblock: No
- Slip: No
- Processing Aid: No

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	0.916	g/cm³	0.916	g/cm³	ASTM D792
Melt Index (190°C/2.16 kg)	1.0	g/10 min	1.0	g/10 min	ASTM D1238
Films	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Film Thickness - Tested	2	mil	51	µm	
Film Puncture Energy [1] (2.0 mil (51 µm))	48.7	in·lb	5.50	J	Dow Method
Film Puncture Force [1] (2.0 mil (51 µm))	24.1	lbf	107	N	Dow Method
Secant Modulus [1]					ASTM D882
1% Secant, MD : 2.0 mil (51 µm)	24800	psi	171	MPa	
1% Secant, TD : 2.0 mil (51 µm)	28100	psi	194	MPa	
Tensile Strength [1]					ASTM D882
MD : Yield, 2.0 mil (51 µm)	1640	psi	11.3	MPa	
TD : Yield, 2.0 mil (51 µm)	1620	psi	11.2	MPa	
MD : Break, 2.0 mil (51 µm)	7830	psi	54.0	MPa	
TD : Break, 2.0 mil (51 µm)	7540	psi	52.0	MPa	
Tensile Elongation [1]					ASTM D882
MD : Break, 2.0 mil (51 µm)	640	%	640	%	
TD : Break, 2.0 mil (51 µm)	660	%	660	%	
Dart Drop Impact [1] (2.0 mil (51 µm))	> 850	g	> 850	g	ASTM D1709B
Elmendorf Tear Strength [2]					ASTM D1922
MD : 2.0 mil (51 µm)	630	g	630	g	
TD : 2.0 mil (51 µm)	770	g	770	g	
Seal Initiation Temperature [3]					Dow Method
2.0 mil (51 µm)	194	°F	90.0	°C	
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Melting Temperature	252	°F	122	°C	DSC
Optical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Gloss [1] (20°, 2.01 mil (51.0 µm))	77		77		ASTM D2457
Haze [1] (2.01 mil (51.0 µm))	9.50	%	9.50	%	ASTM D1003

Extrusion	Nominal Value	(English)	Nominal Value	(SI)
Melt Temperature	374 to 475	°F	190 to 246	°C

Extrusion Notes
Fabrication Conditions For Blown Film Extrusion: • Die Gap: 0.8-2.8 mm. • Melt Temperature: 190-246 °C. • Blow-Up Ratio: 1.5:1 to 3.5:1.

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

[1] Blown film extruded at 232-246°C, 2.5:1 BUR, 1.9 mm die gap.

[2] Type A; Blown film extruded at 232-246°C, 2.5:1 BUR, 1.9 mm die gap.

[3] Blown film extruded at 232-246°C, 2.5:1 BUR, 1.9 mm die gap.
Temperature at which 5.25 N/15 mm heat seal strength is achieved.