

ADVANCENE™ EE-1801-AAH

Linear Low Density Polyethylene

Overview:

ADVANCENE™ EE-1801-AAH is a Linear Low Density Polyethylene Resin is an ethylene-hexene copolymer, linear low density (LLDPE) resin designed for good strength and process ability. This product is recommended for general-purpose packaging applications from thick gauge, heavy-duty bags to high-speed thin gauge applications.

Main Characteristics:

- Hexene Linear Low Density Resin
- General Purpose Resin
- Excellent Strength

Physical	Typical Value (SI)	Test Method
Density	0.918 g/cm ³	ASTM D792
Melt Index (190 °C/2.16 Kg)	1 g/10 min	ASTM D1238, ISO 1133
Film Properties	Typical Value (SI)	Test Method
Film Puncture Energy 0.80 mil (20 µm) 2.0 mil (51 µm)	3.39 J 5.08 J	UNIVATION Method
Film Puncture Force 0.80 mil (20 µm) 2.0 mil (51 µm)	40.0 N 71.2 N	UNIVATION Method
Film Puncture Resistance 0.80 mil (20 µm) 2.0 mil (51 µm)	20.9 J/cm ³ 13.0 J/cm ³	UNIVATION Method
Film Toughness MD: 0.80 mil (20 µm) MD: 2.0 mil (51 µm) TD: 0.80 mil (20 µm) TD: 2.0 mil (51 µm)	295 J/cm ³ 253 J/cm ³ 341 J/cm ³ 289 J/cm ³	ASTM D882

Secant Modulus 2% Secant, MD: 0.80 mil (20 µm) 2% Secant, MD: 2.0 mil (51 µm) 2% secant, TD: 0.80 mil (20 µm) 2% secant, TD: 2.0 mil (51 µm)	204 MPa 199 MPa 233 MPa 183 MPa	ASTM D882
Tensile Strength MD: Yield, 0.80 mil (20 µm) MD: Yield, 2.0 mil (51 µm) TD: Yield, 0.80 mil (20 µm) TD: Yield, 2.0 mil (51 µm) MD: Break, 0.80 mil (20 µm) MD: Break, 2.0 mil (51 µm) TD: Break, 0.80 mil (20 µm) TD: Break, 2.0 mil (51 µm)	16.0 MPa 12.2 MPa 15.4 MPa 11.0 MPa 60.7 MPa 40.8 MPa 48.2 MPa 46.9 MPa	ASTM D882
Tensile Elongation MD: Break, 0.80 mil (20 µm) MD: Break, 2.0 mil (51 µm) TD: Break, 0.80 mil (20 µm) TD: Break, 2.0 mil (51 µm)	580 % 700 % 800 % 850 %	ASTM D882
Dart Drop Impact 0.80 mil (20 µm) 0.80 mil (20 µm) 2.0 mil (51 µm) 2.0 mil (51 µm)	94 g < 100 g 130 g 270 g	ASTM D1709A ASTM D1709B ASTM D1709A ASTM D1709B
Elmendorf Tear Strength MD: 0.80 mil (20 µm) MD: 2.0 mil (51 µm) TD: 0.80 mil (20 µm) TD: 2.0 mil (51 µm)	300 g 820 g 670 g 1200 g	ASTM D1922 ¹
Seal Initiation Temperature 0.8 mil (20 µm) 2.0 mil (51 µm)	110° C 120° C	UNIVATION Method ^{2,3}
Thermal	Typical Value (SI)	Test Method
Vicat Softening Temperature	103 °C	ASTM D1525
Melting Temperature (DSC)	124 °C	UNIVATION Method

Optical	Typical Value (SI)	Test Method
Gloss 20°, 0.8 mil (20 µm) 20°, 2.0 mil (51 µm) 45°, 0.8 mil (20 µm) 45°, 2.0 mil (51 µm)	62 90 50 61	ASTM D2457
Haze 0.8 mil (20 µm) 2.0 mil (51 µm)	12 % 18 %	ASTM D1003
Additional Information Seal Strength 302°F (150°C), 0.8 mil (20 µm) 302°F (150°C), 2.0 mil (51 µm)	1000g 2100g	UNIVATION Method ³
Extrusion Melt Temperature	231 °C	

Extrusion Notes

Fabrication Conditions for Blown Film:

- Screw Size: 2.5 in. (63.5mm); 30:1 ratio L/D
- Screw Type: DSBII
- Die Gap: 70 mil (1.8 mm)
- Melt Temperature: 448°F (231°C)
- Output: 6 lb/hr/in. of die circumference
- Die Diameter: 6 in.
- Blow-Up Ratio: 2.5 to 1
- Screw Speed: 78 rpm
- Frost Line Height: 25 in. (635mm)

Notes

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

1 Method B

2 Temperature at which 1 lb/in. (4.4 N/25.4 mm) heat seal strength is achieved.

3 Heat Seal Strengths, Topwave HT Tester 0.5 s dwell time, 40 psi bar pressure, pull speed 10in./min.

Availability:

This product is supplied in 25 kg bags in secured pallets of 60 bags (1.500 MT net).

It is also supplied in jumbo bags of 1000 kg capacity.

Storage:

The product should be stored in dry conditions at temperatures below 50°C and protected from UV-light. Improper storage can initiate degradation, which results in odour generation and colour changes and can have negative effects on the physical properties of this product.

More information on storage can be found in Safety Information Sheet for this product.

Safety:

The product is not classified as a hazardous mixture.

Dust and fines from the product carry a risk of dust explosion. All equipment should be properly earthed. Inhalation of dust should be avoided as it may cause irritation of the respiratory system. Small amounts of fumes are generated during processing of the product. Proper ventilation is therefore required.

A Safety Information Sheet is available on request. Please contact your ETHYDCO representative for more details on various aspects of safety, recovery and disposal of the product.

Recycling:

The product is suitable for recycling using modern methods of shredding and cleaning.

In-house production waste should be kept clean to facilitate direct recycling.

Related Documents:

Most datasheets and statements are available on ETHYDCO website www.ethydco-eg.com. If more information is required, please contact a ETHYDCO representative for information.

The product(s) mentioned herein are not intended to be used for medical, pharmaceutical or healthcare applications and we do not support their use for such applications.

Disclaimer

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