Technical Data Sheet

# ELITE™ AT 6112S Enhanced Polyethylene Resin

## Overview

ELITE™ AT 6112S Enhanced Polyethylene Resin is an ethylene-hexene copolymer based on ELITE™ AT technology from Dow. This resin is designed for cast stretch machine wrap films in pallet wrap application and offers an optimized balance of extensibility, impact strength, and puncture resistance.

## Main Characteristics

- Excellent extensibility
- High impact and exceptional puncture resistance
- Excellent processability with low back pressure and power consumption

## Complies with

- U.S. FDA FCN 1539

Consult the regulations for complete details.

## Additive

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

## Properties[1]

| Physical | Nominal Value | Unit | Test Method[2] |
|---|---|---|---|
| Density | 0.912 | g/cm$^3$ | ASTM D792 |
| Melt Index (190°C/2.16 kg) | 3.8 | g/10 min | ASTM D1238 |
| **Films** | **Nominal Value** | **Unit** | **Test Method** |
| Film Thickness – Tested | 1.0 | mil | |
| Film Puncture Energy (1.0 mil (25 pm)) | 56.8 | in•lb | Internal Method |
| Film Puncture Force (1.0 mil (25 pm)) | 8.30 | lbf | Internal Method |
| Film Puncture Resistance (1.0 mil (25 pm)) | 371 | ft-lb/in$^3$ | Internal Method |
| Tensile Strength | | | ASTM D882 |
| MD: Yield, 1.0 mil (25 pm) | 982 | psi | |
| TD: Yield, 1.0 mil (25 pm) | 930 | psi | |
| MD: Break, 1.0 mil (25 pm) | 7370 | psi | |
| TD Break, 1.0 mil (25 pm) | 6170 | psi | |
| Tensile Elongation | | | ASTM D882 |
| MD: Break, 1.0 mil (25 pm) | 550 | % | |
| TD: Break, 1.0 mil (25 pm) | 610 | % | |

1. Typical properties: these are not to be construed as specifications. Users should confirm the results by their own tests.
2. ASTM: American Society for Testing and Materials.

## Properties (Cont.)

| Films | Nominal Value | Unit | Test |
|---|---|---|---|
| Dart Drop Impact (1.0 mil (25 pm)) | 500 | g | ASTM D1709A |
| Elmendorf Tear Strength[3] | | | ASTM D1922 |
| MD: 1.0 mil (25 pm) | 360 | g | |
| TD: 1.0 mil (25 pm) | 520 | g | |
| Ultimate Stretch – On-Pallet Testing[4] (1.0 mil (25.4 pm)) | 380 | % | Internal Method |
| **Thermal** | **Nominal Value** | **Unit** | **Test** |
| Melting Temperature (DSC) | 228 | °F | Internal Method |
| **Optical** | **Nominal Value** | **Unit** | **Test** |
| Gloss (45°, 1.00 mil (25.4 pm)) | 93 | | ASTM D2457 |
| Haze (1.00 mil (25.4 pm)) | 1.06 | % | ASTM D1003 |

**Extrusion Notes**

Fabrication Conditions for Cast Film:

- EGAN/Davis-Standard 5 layer cast line
- Melt Temperature: 520°F (271°C)
- Chill Roll (primary/secondary) Temperature 70°F (21°C)
- Line Speed: 600 fpm (183 m/min)
- Output: 400 lb/hr
- Die Width: 36 in. (915 mm)
- Die Gap: 20 mil (0.5 mm)
- Air Gap: 3 in (7.6 mm)

3. Method B.
4. Determined by Highlight Industries, Inc.

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