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Marlex Polyethylene

SUPERIOR FLEXIBLE PACKAGING RESINS

# Marlex® D139FK-P01 Polyethylene

**METALLOCENE LINEAR LOW DENSITY POLYETHYLENE (mLLDPE)**

**This metallocene linear low density polyethylene is an ethylene-hexene copolymer tailored for blown film applications that require:**

- Superb clarity
- Excellent gloss
- Exceptional toughness
- Outstanding heat seal
- Non-PFAS process aid[3]

**Typical blown film applications include:**

- Seal layer in coextrusions
- Heavy duty packaging
- Clarity packaging

| Nominal Resin Properties | English | SI | Method |
|---|---|---|---|
| Melt Index, 190 °C/2.16 kg | --- | 1.0 g/10 min | ASTM D1238 |
| Density | --- | 0.918 g/cm$^3$ | ASTM D1505 |
| Slip | 1000 ppm | 1000 ppm | --- |
| Antiblock | 5000 ppm | 5000 ppm | --- |
| Process Aid | Yes | Yes | --- |

| Nominal Blown Film Properties @ 1 mil[1] | English | SI | Method |
|---|---|---|---|
| Haze | 9 % | 9 % | ASTM D1003 |
| Gloss, 60° | 103 | 103 | ASTM D2457 |
| COF | 0.15 | 0.15 | ASTM D1894 |
| Dart | --- | 540 g/mil | ASTM D1709 |
| Elmendorf Tear MD/TD | --- | 165/440 g/mil | ASTM D1922 |
| Tensile Strength at Yield MD/TD | 1850/1400 psi | 14/10 MPa | ASTM D882 |
| Tensile Strength at Break MD/TD | 8300/6650 psi | 59/49 MPa | ASTM D882 |
| Tensile Elongation at Break MD/TD | 450/560 % | 450/560 % | ASTM D882 |
| 1 % Secant Modulus MD/TD | 24000/27300 psi | 165/188 MPa | ASTM D882 |
| Seal Initiation Temperature[2] | 216 °F | 102 °C | ASTM F88 |

1. Produced on a LLDPE line at 2.5:1 BUR, 80 mil die gap, 8 in die, 250 lb/h, 400 °F melt temperature.
2. Temperature at which 0.3 lb/in heat seal strength is achieved. 0.5 s dwell, 30 psi pressure, 11.8 in/min separation rate.
3. PFAS as defined by OECD (2021), Reconciling Terminology of the Universe of Per- and Polyfluoroalkyl Substances: Recommendations and Practical Guidance, OECD Series on Risk Management, No. 61, OECD Publishing, Paris. A non-PFAS process aid is not structurally identified as PFAS by OECD (2021).

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