**Technical Information**

# DOWLEX™ 2342M
## Polyethylene Resin

### Overview

DOWLEX™ 2342M Polyethylene Resin is a high density ethylene/octene copolymer resin. It has a unique molecular structure with a linear polyethylene backbone and controlled octene side branches, which provides a combination of flexibility with very high toughness and stress crack resistance. A specified carbon black masterbatch is incorporated into the DOWLEX 2342M Polyethylene Resin during extrusion to arrive at a fully stabilised, homogeneous black sheet with excellent weldability. Sheeting thus produced meets the requirements of the Guidelines and Directives controlling general water barrier membranes such as the North Rhine Westfalia Guidelines or "Guideline for Plastic Membranes in Landfill sites" issued 7/92 from B.A.M. Berlin.

Processability: Typical extrusion temperature range for DOWLEX 2342M Polyethylene Resin is 190 to 230 °C. The resin contains processing stabilisers compatible with those in the Masterbatch added to guarantee short and long term processing, thermal and environmental stability including metal deactivators.

Applications:

- Heavy sheeting.
- General water barrier membranes.

### Additive

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

| Physical | Nominal Value (English) | | Nominal Value (SI) | | Test Method |
|---|---|---|---|---|---|
| Density | | | | | ISO 1183 |
| -- | 0.932 | g/cm³ | 0.932 | g/cm³ | |
| -- [1] | 0.944 | g/cm³ | 0.944 | g/cm³ | |
| Melt Index | | | | | ISO 1133 |
| 190°C/2.16 kg | 0.85 | g/10 min | 0.85 | g/10 min | |
| 190°C/5.0 kg | 2.6 | g/10 min | 2.6 | g/10 min | |
| Environmental Stress-Cracking Resistance (ESCR) | | | | | ASTM D1693A |
| 68°F (20°C), 0.0787 in (2.00 mm), 10% Antarox, Compression Molded | > 15000 | hr | > 15000 | hr | |
| **Mechanical** | **Nominal Value (English)** | | **Nominal Value (SI)** | | **Test Method** |
| Tensile Stress | | | | | |
| Yield [1] | 2610 | psi | 18.0 | MPa | ISO 527-2 |
| Yield, 0.0787 in (2.00 mm), Compression Molded [2] | 2320 | psi | 16.0 | MPa | ISO 527-2/50 |
| Break [1] | > 4350 | psi | > 30.0 | MPa | ISO 527-2 |
| Break, 0.0787 in (2.00 mm), Compression Molded [2] | > 4350 | psi | > 30.0 | MPa | ISO 527-2/50 |
| Tensile Strain | | | | | |
| Yield [1] | 12 | % | 12 | % | ISO 527-2 |
| Yield, 0.0787 in (2.00 mm), Compression Molded [2] | 14 | % | 14 | % | ISO 527-2/50 |
| Break [1] | > 800 | % | > 800 | % | ISO 527-2 |
| Break, 0.0787 in (2.00 mm), Compression Molded [2] | > 800 | % | > 800 | % | ISO 527-2/50 |
| Flexural Modulus - 2% Secant | | | | | ISO 178 |
| 0.0787 in (2.00 mm), Compression Molded | 79800 | psi | 550 | MPa | |
| Tear Resistance [1] | > 750 | N | > 750 | N | DIN 53356 |
| **Films** | **Nominal Value (English)** | | **Nominal Value (SI)** | | **Test Method** |
| Film Puncture Force [1] | > 1690 | lbf | > 7500 | N | DIN 54307 |

| Impact | Nominal Value | (English) | Nominal Value | (SI) | Test Method |
|---|---|---|---|---|---|
| Notched Izod Impact Strength [3] | | | | | ISO 180 |
| -40°F (-40°C), Compression Molded | 31 | ft·lb/in² | 65 | kJ/m² | |
| 73°F (23°C), Compression Molded | No Break | | No Break | | |
| **Hardness** | **Nominal Value** | **(English)** | **Nominal Value** | **(SI)** | **Test Method** |
| Shore Hardness | | | | | ISO 868 |
| Shore D, 0.0787 in (2.00 mm), Compression Molded | 55 | | 55 | | |
| **Thermal** | **Nominal Value** | **(English)** | **Nominal Value** | **(SI)** | **Test Method** |
| Vicat Softening Temperature | 243 | °F | 117 | °C | ISO 306/A120 |
| Oxidation Induction Time (410°F (210°C)) | > 30 | min | > 30 | min | DIN EN 728 |

### Notes

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

[1] Black 2.5 mm thick sheet extruded from DOWLEX 2342M Polyethylene resin with a specified masterbatch conforming to DIN 16776 as: "PE, EACK 35T022 or D006". Carbon black content: 2.0-2.2%.

[2] Data are valid for MD and CD direction.

[3] 2 mm thick