# ENGAGE™ 8452 EL

Polyolefin Elastomer

The Dow Chemical Company

## Message:

ENGAGE™ 8452 EL Polyolefin Elastomer is an ethylene-octene copolymer that offers excellent toughness and softness. It has excellent compatibility with other polyolefins, allowing for efficient blending and coextrusion. It provides excellent flow properties and is efficiently cross-linked by peroxide, silane, or irradiation. When cross-linked, it gives exceptional heat aging, compression set, and weather resistance properties.
Main Characteristics:
Pellet form
Good clarity, toughness, and flexibility
Excellent compatibility with polyolefins
Exceptional heat aging, compression set, and weather resistance when cured
Applications:
Wire and cable
Complies with:
EU, No 10/2011
Japan Hygienic Olefin and Styrene Plastics Association
U.S. FDA 21 CFR 177.1520(c)3.2c

| General Information | | | |
|---|---|---|---|
| Uses | Blending<br>Compounding<br>Low Voltage Insulation<br>Medium Voltage Insulation<br>Wire & Cable Applications | | |
| Agency Ratings | EU No 10/2011<br>FDA 21 CFR 177.1520(c) 3.2c<br>JHOSPA Unspecified Rating | | |
| Forms | Pellets | | |
| **Physical** | **Nominal Value** | **Unit** | **Test Method** |
| Specific Gravity | 0.875 | g/cm³ | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) | 3.0 | g/10 min | ASTM D1238 |
| Mooney Viscosity (ML 1+4, 121°C) | 11 | MU | ASTM D1646 |
| **Hardness** | **Nominal Value** | **Unit** | **Test Method** |
| Durometer Hardness | | | ASTM D2240 |
| Shore A, Compression Molded | 74 | | |
| Shore D, Compression Molded | 24 | | |
| **Mechanical** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Modulus - 100% Secant [1] (Compression Molded) | 3.00 | MPa | ASTM D638 |
| Tensile Strength [2] (Break, Compression Molded) | 11.2 | MPa | ASTM D638 |

| | | | |
|---|---|---|---|
| Tensile Elongation [3] (Break, Compression Molded) | 950 | % | ASTM D638 |
| Flexural Modulus | | | ASTM D790 |
| 1% Secant : Compression Molded | 16.5 | MPa | |
| 2% Secant : Compression Molded | 16.8 | MPa | |
| **Elastomers** | **Nominal Value** | **Unit** | **Test Method** |
| Tear Strength [4] | 45.1 | kN/m | ASTM D624 |
| **Thermal** | **Nominal Value** | **Unit** | **Test Method** |
| Glass Transition Temperature | -51.0 | °C | Internal Method |
| Vicat Softening Temperature | 48.0 | °C | ASTM D1525 |
| Melting Temperature (DSC) [5] | 66.0 | °C | Internal Method |
| Peak Crystallization Temperature (DSC) | 48.0 | °C | Internal Method |
| **NOTE** | | | |
| 1. | 510 mm/min | | |
| 2. | 510 mm/min | | |
| 3. | 510 mm/min | | |
| 4. | Die C | | |
| 5. | 10°C/min | | |



## Recommended distributors for this material

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