

Technical Data

Product Description

ENGAGE™ 8402 Polyolefin Elastomer is an ethylene-octene copolymer that offers excellent performance in durable, flexible injection molded industrial and consumer goods.

ENGAGE 8402 provides high clarity in products requiring visual inspection and allows the use of hot runner molds to enhance production efficiency. In addition, its low density can help control resin and production costs, while reducing the weight of end products.

Main Characteristics:

- Pellet form
- Excellent flow characteristics
- High clarity
- Reduced part weight

Applications:

- Injection molded industrial and consumer durable goods
- Impact modification

Complies with:

- EU, No 10/2011
- U.S. FDA 177.1520(c)3.2c
- U.S. FDA DMF

Consult the regulations for complete details.

General

|                           |  |
|---------------------------|--|
| Material Status           | • Commercial: Active   |
| Literature <sup>1</sup>   | • <a href="#">Technical Datasheet</a>  |
| Search for UL Yellow Card | • <a href="#">The Dow Chemical Company</a>                                   |
| Availability              | • Asia Pacific<br>• Europe<br>• Latin America<br>• North America             |
| Agency Ratings            | • DMF Unspecified Rating<br>• EU No 10/2011<br>• FDA 21 CFR 177.1520(c) 3.2c |
| Forms                     | • Pellets  |

| Physical                                  | Nominal Value (English) | Nominal Value (SI)      | Test Method |
|---|-------------------------|-------------------------|-------------|
| Specific Gravity                          | 0.904                   | 0.902 g/cm <sup>3</sup> | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) | 30 g/10 min             | 30 g/10 min             | ASTM D1238  |
| Mooney Viscosity (ML 1+4, 250°F (121°C))  | 2 MU                    | 2 MU                    | ASTM D1646  |

| Mechanical  | Nominal Value (English) | Nominal Value (SI) | Test Method |
|---|-------------------------|--------------------|-------------|
| Tensile Modulus - 100% Secant <sup>3</sup> (Compression Molded) | 972 psi                 | 6.70 MPa           | ASTM D638   |
| Tensile Strength <sup>3</sup> (Break, Compression Molded)       | 1640 psi                | 11.3 MPa           | ASTM D638   |
| Tensile Elongation <sup>3</sup> Break, Compression Molded       | 910 %                   | 910 %              | ASTM D638   |
| Flexural Modulus  |                         |                    | ASTM D790   |
| 1% Secant : Compression Molded                                  | 10500 psi               | 72.6 MPa           |             |
| 2% Secant : Compression Molded                                  | 10400 psi               | 72.0 MPa           |             |

| Elastomers                 | Nominal Value (English) | Nominal Value (SI) | Test Method |
|----------------------------|-------------------------|--------------------|-------------|
| Tear Strength <sup>4</sup> | 452 lbf/in              | 79.1 kN/m          | ASTM D624   |

| Hardness                           | Nominal Value (English) | Nominal Value (SI) | Test Method |
|------------------------------------|-------------------------|--------------------|-------------|
| Durometer Hardness                 |                         |                    | ASTM D2240  |
| Shore A, 1 sec, Compression Molded | 88                      | 88                 |             |
| Shore D, 1 sec, Compression Molded | 34                      | 34                 |             |

| Thermal                                | Nominal Value (English) | Nominal Value (SI) | Test Method     |
|--|-------------------------|--------------------|-----------------|
| Glass Transition Temperature (DSC)     | -32.8 °F                | -36.0 °C           | Internal Method |
| Vicat Softening Temperature            | 162 °F                  | 72.2 °C            | ASTM D1525      |
| Melting Temperature (DSC) <sup>5</sup> | 205 °F                  | 96.0 °C            | Internal Method |

| Thermal                                | Nominal Value (English) | Nominal Value (SI) | Test Method     |
|--|-------------------------|--------------------|-----------------|
| Peak Crystallization Temperature (DSC) | 177 °F                  | 80.4 °C            | Internal Method |

**Notes**

<sup>1</sup> These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

<sup>2</sup> Typical properties: these are not to be construed as specifications.

<sup>3</sup> 20 in/min (510 mm/min)

<sup>4</sup> Die C

<sup>5</sup> 10°C/min

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## Where to Buy

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### Supplier

**The Dow Chemical Company**  
Midland, MI USA  
**Telephone:** 800-441-4369  
**Web:** <http://plastics.dow.com/>

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### Distributor

#### Entec Polymers

**Telephone:** 800-375-5440  
**Web:** <http://www.entecpolymers.com/>  
**Availability:** North America

#### PolyOne Distribution

*PolyOne Distribution is a global distribution company. Contact PolyOne Distribution for availability of individual products by country.*

**Telephone:** 800-894-4266  
**Web:** <http://polyonedistribution.com/>  
**Availability:** Global

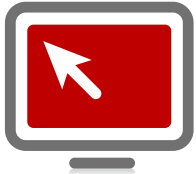
#### RESINEX Group

*RESINEX is a Pan European distribution company. Contact RESINEX for availability of individual products by country.*

**Telephone:** +32-14-672511  
**Web:** <http://www.resinex.com/>  
**Availability:** Europe



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– Birgit Elvardt Bader, Production Manager, Micotron

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