

## Dow Pellethane® 2103-90AEN Polyurethane Elastomer, Ether Based (discontinued \*\*)

Category : Polymer , Thermoplastic , Elastomer, TPE , Polyurethane, TP , Thermoplastic Polyurethane, Elastomer, Ether Grade

### Material Notes:

PELLETHANE® 2103-90AEN is a polytetramethylene glycol ether based polyurethane elastomer featuring superior resilience, low temperature properties, excellent hydrolytic stability, and resistance to attack by microorganisms. Its typical applications include film, tubing, and belting. This resin is listed by National Sanitation Foundation (NSF) (Standard 61). When used unmodified for the manufacture of food contact articles PELLETHANE 2103-90AEN complies with the US Food, Drug and Cosmetic Act and Food Additive Regulations 21 CFR 175.105, 177.2600 and 177.1680. The regulations should be consulted for complete details. Data provided by Dow Chemical. This product is no longer a part of the PELLETHANE® product line.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Dow-Pellethane-2103-90AEN-Polyurethane-Elastomer-Ether-Based-nbspdiscontinued-.php](http://www.lookpolymers.com/polymer_Dow-Pellethane-2103-90AEN-Polyurethane-Elastomer-Ether-Based-nbspdiscontinued-.php)

| Physical Properties   | Metric                               | English                              | Comments |
|-----------------------|--------------------------------------|--------------------------------------|----------|
| Density               | 1.14 g/cc                            | 0.0412 lb/in <sup>3</sup>            |          |
| Linear Mold Shrinkage | 0.012 cm/cm                          | 0.012 in/in                          |          |
| Melt Flow             | 9.0 g/10 min                         | 9.0 g/10 min                         |          |
|                       | @Load 8.70 kg,<br>Temperature 190 °C | @Load 19.2 lb,<br>Temperature 374 °F |          |

| Mechanical Properties          | Metric               | English             | Comments                   |
|--------------------------------|----------------------|---------------------|----------------------------|
| Hardness, Shore D              | 47                   | 47                  |                            |
| Tensile Strength at Break      | 48.2 MPa             | 6990 psi            | Tensile stress at break.   |
| Elongation at Break            | 560 %                | 560 %               |                            |
| 50% Modulus                    | 0.00621 GPa          | 0.901 ksi           |                            |
| 100% Modulus                   | 0.00896 GPa          | 1.30 ksi            |                            |
| 300% Modulus                   | 0.0172 GPa           | 2.49 ksi            |                            |
| Tear Strength                  | 95.2 kN/m            | 543 pli             |                            |
| Taber Abrasion, mg/1000 Cycles | 50                   | 50                  | H22 Wheel                  |
| Compression Set                | 25 %                 | 25 %                | 23°C.                      |
|                                | 40 %                 | 40 %                |                            |
|                                | @Temperature 70.0 °C | @Temperature 158 °F |                            |
| Tensile Set                    | 60 %                 | 60 %                | Elongation set after break |

| Thermal Properties               | Metric  | English  | Comments |
|----------------------------------|---|--|----------|
| CTE, linear                      | 155 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ | 86.1 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ |          |
|                                  | @Temperature 20.0 $^{\circ}\text{C}$            | @Temperature 68.0 $^{\circ}\text{F}$               |          |
| Vicat Softening Point            | 90.0 $^{\circ}\text{C}$                         | 194 $^{\circ}\text{F}$                             |          |
| Glass Transition Temp, Tg        | -34.0 $^{\circ}\text{C}$                        | -29.2 $^{\circ}\text{F}$                           |          |
| Clash Berg Stiffness Temperature | 6.11 $^{\circ}\text{C}$                         | 43.0 $^{\circ}\text{F}$                            |          |

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