

## Dow AFFINITY™ PL 1880G Polyolefin Plastomer (POP)

Category : Polymer , Film , Thermoplastic , Polyolefin

### Material Notes:

AFFINITY™ PL 1880G is an ethylene alpha-olefin resin produced via INSITE™ Technologies. It is designed for use in a variety of packaging applications, including high-speed, form-fill-seal packaging. Information provided by Dow

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Dow-AFFINITY-PL-1880G-Polyolefin-Plastomer-POP.php](http://www.lookpolymers.com/polymer_Dow-AFFINITY-PL-1880G-Polyolefin-Plastomer-POP.php)

| Physical Properties | Metric       | English                   | Comments   |
|---------------------|--------------|---------------------------|------------|
| Density             | 0.902 g/cc   | 0.0326 lb/in <sup>3</sup> | ASTM D792  |
| Thickness           | 50.8 microns | 2.00 mil                  |            |
| Melt Flow           | 1.0 g/10 min | 1.0 g/10 min              | ASTM D1238 |

| Mechanical Properties              | Metric        | English    | Comments                                                 |
|------------------------------------|---------------|------------|----------------------------------------------------------|
| Film Tensile Strength at Yield, MD | 7.24 MPa      | 1050 psi   | ASTM D882                                                |
| Film Tensile Strength at Yield, TD | 6.89 MPa      | 1000 psi   | ASTM D882                                                |
| Film Elongation at Break, MD       | 620 %         | 620 %      | ASTM D882                                                |
| Film Elongation at Break, TD       | 630 %         | 630 %      | ASTM D882                                                |
| Secant Modulus, MD                 | 0.0917 GPa    | 13.3 ksi   | 2% Secant; ASTM D882                                     |
| Secant Modulus, TD                 | 0.0924 GPa    | 13.4 ksi   | 2% Secant; ASTM D882                                     |
| Impact                             | 20.8          | 20.8       | [lb<sub>f</sub>]; Puncture Resistance Force; Dow Method  |
|                                    | 270           | 270        | [ft-lbf/in<sup>3</sup>]; Puncture Resistance; Dow Method |
| Puncture Energy                    | 8.81 J        | 6.50 ft-lb | Dow Method                                               |
| Elmendorf Tear Strength MD         | 550 g         | 550 g      | Modified rectangular test specimen; ASTM D1922           |
| Elmendorf Tear Strength TD         | 720 g         | 720 g      | Modified rectangular test specimen; ASTM D1922           |
| Elmendorf Tear Strength, MD        | 10.8 g/micron | 275 g/mil  | ASTM D1922                                               |
| Elmendorf Tear Strength, TD        | 14.2 g/micron | 360 g/mil  | ASTM D1922                                               |
| Dart Drop Test                     | >= 830 g      | >= 1.83 lb | Method B; ASTM D1709                                     |
| Film Tensile Strength at Break, MD | 58.6 MPa      | 8500 psi   | ASTM D882                                                |

| <b>Film Tensile Strength at Break, TD<br/>Mechanical Properties</b> | <b>44.7 MPa<br/>Metric</b> | <b>6480 psi<br/>English</b> | <b>ASTM D882<br/>Comments</b>                                                                        |
|---------------------------------------------------------------------|----------------------------|-----------------------------|------------------------------------------------------------------------------------------------------|
| Heat Seal Strength Initiation Temperature                           | 85.0 °C                    | 185 °F                      | 2 lb/in heat seal strength; 0.5 sec dwell, 40 psi bar pressure, pull speed 10 (in./min.); Dow Method |

| <b>Thermal Properties</b> | <b>Metric</b> | <b>English</b> | <b>Comments</b>  |
|---------------------------|---------------|----------------|------------------|
| Melting Point             | 99.0 °C       | 210 °F         | Dow Method (DSC) |
| Vicat Softening Point     | 86.0 °C       | 187 °F         | ASTM D1525       |

| <b>Optical Properties</b> | <b>Metric</b> | <b>English</b> | <b>Comments</b>     |
|---------------------------|---------------|----------------|---------------------|
| Haze                      | 1.1 %         | 1.1 %          | ASTM D1003          |
| Gloss                     | 141 %         | 141 %          | 20°; ASTM D2457     |
| Transmission, Visible     | 83 %          | 83 %           | Clarity; ASTM D1746 |

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