

**DSM EcoPaXX® Q-X07290 PA410-I**

Category : Polymer , Renewable/Recycled Polymer , Thermoplastic , Nylon

Material Notes:

Impact Modified

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_DSM-EcoPaXX-Q-X07290-PA410-I.php](http://www.lookpolymers.com/polymer_DSM-EcoPaXX-Q-X07290-PA410-I.php)

| Physical Properties               | Metric      | English                   | Comments       |
|-----------------------------------|-------------|---------------------------|----------------|
| Density                           | 1.08 g/cc   | 0.0390 lb/in <sup>3</sup> | dry; ISO 1183  |
| Moisture Absorption               | 1.80 %      | 1.80 %                    | Sim. To ISO 62 |
| Linear Mold Shrinkage, Flow       | 0.012 cm/cm | 0.012 in/in               | ISO 294-4      |
| Linear Mold Shrinkage, Transverse | 0.010 cm/cm | 0.010 in/in               | ISO 294-4      |

| Mechanical Properties      | Metric                  | English                    | Comments           |
|----------------------------|-------------------------|----------------------------|--------------------|
| Tensile Strength, Ultimate | 50.0 MPa                | 7250 psi                   | cond; ISO 527-1/-2 |
|                            | 65.0 MPa                | 9430 psi                   | dry; ISO 527-1/-2  |
| Elongation at Break        | 45 %                    | 45 %                       | dry; ISO 527-1/-2  |
|                            | >= 50 %                 | >= 50 %                    | cond; ISO 527-1/-2 |
| Tensile Modulus            | 1.30 GPa                | 189 ksi                    | cond; ISO 527-1/-2 |
|                            | 2.50 GPa                | 363 ksi                    | dry; ISO 527-1/-2  |
| Flexural Strength          | 50.0 MPa                | 7250 psi                   | cond; ISO 178      |
|                            | 95.0 MPa                | 13800 psi                  | dry; ISO 178       |
| Flexural Modulus           | 1.30 GPa                | 189 ksi                    | cond; ISO 178      |
|                            | 2.40 GPa                | 348 ksi                    | dry; ISO 178       |
| Charpy Impact Unnotched    | NB                      | NB                         | cond; ISO 179/1eU  |
|                            | @Temperature 23.0 °C    | @Temperature 73.4 °F       |                    |
|                            | NB                      | NB                         | dry; ISO 179/1eU   |
|                            | @Temperature 23.0 °C    | @Temperature 73.4 °F       |                    |
|                            | NB                      | NB                         | dry; ISO 179/1eU   |
|                            | @Temperature -30.0 °C   | @Temperature -22.0 °F      |                    |
|                            | 0.900 J/cm <sup>2</sup> | 4.28 ft-lb/in <sup>2</sup> |                    |

| Charpy Impact, Notched<br>Mechanical Properties | Metric<br>@ Temperature -30.0 °C    | English<br>@ Temperature -22.0 °F       | dry; ISO 179/1eA<br>Comments |
|-------------------------------------------------|-------------------------------------|-----------------------------------------|------------------------------|
|                                                 | 1.00 J/cm²<br>@ Temperature 23.0 °C | 4.76 ft-lb/in²<br>@ Temperature 73.4 °F | dry; ISO 179/1eA             |
|                                                 | 2.00 J/cm²<br>@ Temperature 23.0 °C | 9.52 ft-lb/in²<br>@ Temperature 73.4 °F | cond; ISO 179/1eA            |

| Thermal Properties                          | Metric  | English | Comments                 |
|---------------------------------------------|---------|---------|--------------------------|
| Melting Point                               | 250 °C  | 482 °F  | 10°C/min; ISO 11357-1/-3 |
| Deflection Temperature at 0.46 MPa (66 psi) | 165 °C  | 329 °F  | dry; ISO 75-1/-2         |
| Deflection Temperature at 1.8 MPa (264 psi) | 76.0 °C | 169 °F  | dry; ISO 75-1/-2         |

| Electrical Properties      | Metric             | English            | Comments          |
|----------------------------|--------------------|--------------------|-------------------|
| Volume Resistivity         | 1.00e+14 ohm-cm    | 1.00e+14 ohm-cm    | cond; IEC 60093   |
|                            | >= 1.00e+15 ohm-cm | >= 1.00e+15 ohm-cm | dry; IEC 60093    |
| Dielectric Strength        | 30.0 kV/mm         | 762 kV/in          | cond; IEC 60243-1 |
|                            | 34.0 kV/mm         | 864 kV/in          | dry; IEC 60243-1  |
| Comparative Tracking Index | 600 V              | 600 V              | cond; IEC 60112   |

| Descriptive Properties                  | Value | Comments  |
|-----------------------------------------|-------|-----------|
| Calculated Bio Based Carbon Content (%) | 66    | ASTM 6866 |

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