

## Huntsman IROGRAN® A 78 E 4588 Polyester-Based TPU-High Performance Grade

**Category :** Polymer , Thermoplastic , Elastomer, TPE , Polyurethane TPE , Polyurethane, TP , Thermoplastic Polyurethane, Elastomer, Polyester Grade

### Material Notes:

High Hydrolysis resistance and good crystallinity. Suggested for injection molding. Information provided by Huntsman

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Huntsman-IROGRAN-A-78-E-4588-Polyester-Based-TPU-High-Performance-Grade.php](http://www.lookpolymers.com/polymer_Huntsman-IROGRAN-A-78-E-4588-Polyester-Based-TPU-High-Performance-Grade.php)

| Physical Properties   | Metric      | English                   | Comments  |
|-----------------------|-------------|---------------------------|-----------|
| Density               | 1.20 g/cc   | 0.0434 lb/in <sup>3</sup> | ASTM D792 |
| Linear Mold Shrinkage | 0.016 cm/cm | 0.016 in/in               | ASTM D995 |

| Mechanical Properties     | Metric                                      | English                                    | Comments                     |
|---------------------------|---------------------------------------------|--------------------------------------------|------------------------------|
| Hardness, Shore A         | 80                                          | 80                                         | ASTM D2240                   |
| Hardness, Shore D         | 30                                          | 30                                         | ASTM D2240                   |
| Tensile Strength at Break | 50.0 MPa                                    | 7250 psi                                   | DIN 53504                    |
| Elongation at Break       | 730 %                                       | 730 %                                      | ASTM D412                    |
| 100% Modulus              | 0.00430 GPa                                 | 0.624 ksi                                  | DIN 53504                    |
| 300% Modulus              | 0.00810 GPa                                 | 1.17 ksi                                   | DIN 53504                    |
| Rebound                   | 48 %                                        | 48 %                                       | Bayshore; ASTM D2632         |
| Tear Strength             | 87.7 kN/m                                   | 500 pli                                    | ASTM D624                    |
| Abrasion                  | 25                                          | 25                                         | [mm <sup>3</sup> ]; ISO 4649 |
| Compression Set           | 30 %                                        | 30 %                                       | ASTM D395                    |
|                           | @Temperature 23.0<br>°C,<br>Time 252000 sec | @Temperature 73.4<br>°F,<br>Time 70.0 hour |                              |
|                           | 40 %                                        | 40 %                                       | ASTM D395                    |
|                           | @Temperature 70.0<br>°C,<br>Time 86400 sec  | @Temperature 158 °F,<br>Time 24.0 hour     |                              |

| Thermal Properties | Metric       | English      | Comments     |
|--------------------|--------------|--------------|--------------|
| Melting Point      | 160 - 175 °C | 320 - 347 °F | Huntsman/TMA |

| Optical Properties    | Metric | English | Comments                            |
|-----------------------|--------|---------|-------------------------------------|
| Transmission, Visible | 90 %   | 90 %    | transparent; thickness not reported |

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