

## Lanxess Durethan® A 30 H3.0 000000 Nylon 66

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, Heat Stabilized

### Material Notes:

PA 66, non reinforced, injection molding, heat-ageing stabilized

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Lanxess-Durethan-A-30-H30-000000-Nylon-66.php](http://www.lookpolymers.com/polymer_Lanxess-Durethan-A-30-H30-000000-Nylon-66.php)

| Physical Properties                | Metric                             | English                              | Comments  |
|------------------------------------|------------------------------------|--------------------------------------|---|
| Specific Gravity                   | 1.14 g/cc                          | 1.14 g/cc                            | ISO 1183  |
| Bulk Density                       | 0.700 g/cc                         | 0.0253 lb/in <sup>3</sup>            | ISO 60  |
| Moisture Absorption at Equilibrium | 2.8 %                              | 2.8 %                                | 50%RH; ISO 62                                       |
| Water Absorption at Saturation     | 8.5 %                              | 8.5 %                                | ISO 62  |
| Linear Mold Shrinkage, Flow        | 0.0080 cm/cm<br>@Thickness 2.00 mm | 0.0080 in/in<br>@Thickness 0.0787 in | Mold Temp 80°C; Melt Temp 280°C; 600 bar; ISO 294-4 |
| Linear Mold Shrinkage, Transverse  | 0.019 cm/cm<br>@Thickness 2.00 mm  | 0.019 in/in<br>@Thickness 0.0787 in  | Mold Temp 80°C; Melt Temp 280°C; 600 bar; ISO 294-4 |

| Mechanical Properties   | Metric                     | English                     | Comments                           |
|-------------------------|----------------------------|-----------------------------|------------------------------------|
| Tensile Strength, Yield | 55.0 MPa                   | 7980 psi                    | Conditioned; ISO 527-1,-2          |
|                         | 95.0 MPa                   | 13800 psi                   | ISO 527-1,-2                       |
| Elongation at Break     | >= 50 %                    | >= 50 %                     | Nominal, Conditioned; ISO 527-1,-2 |
| Elongation at Yield     | 4.5 %                      | 4.5 %                       | ISO 527-1,-2                       |
|                         | 20 %                       | 20 %                        | Conditioned; ISO 527-1,-2          |
| Tensile Modulus         | 1.30 GPa                   | 189 ksi                     | Conditioned; ISO 527-1,-2          |
|                         | 3.50 GPa                   | 508 ksi                     | ISO 527-1,-2                       |
| Flexural Strength       | 50.0 MPa<br>@Strain 8.00 % | 7250 psi<br>@Strain 8.00 %  | Conditioned; ISO 178               |
|                         | 130 MPa<br>@Strain 6.00 %  | 18900 psi<br>@Strain 6.00 % | ISO 178                            |
| Flexural Yield Strength | 40.0 MPa<br>@Strain 3.50 % | 5800 psi<br>@Strain 3.50 %  | Conditioned; ISO 178               |

| Mechanical Properties      | 105 MPa<br>Metric                                     | 15200 psi<br>English                                      | Comments                 |
|----------------------------|---|---|--------------------------|
|                            | @Strain 3.50 %  | @Strain 3.50 %  |                          |
| Flexural Modulus           | 1.20 GPa  | 174 ksi   | Conditioned; ISO 178     |
|                            | 3.10 GPa  | 450 ksi   | ISO 178                  |
| Izod Impact, Notched (ISO) | <= 10.0 kJ/m <sup>2</sup><br>@Temperature -30.0<br>°C | <= 4.76 ft-lb/in <sup>2</sup><br>@Temperature -22.0<br>°F | ISO 180-1A               |
|                            | <= 10.0 kJ/m <sup>2</sup><br>@Temperature -30.0<br>°C | <= 4.76 ft-lb/in <sup>2</sup><br>@Temperature -22.0<br>°F | Conditioned; ISO 180-1A  |
|                            | <= 10.0 kJ/m <sup>2</sup><br>@Temperature -40.0<br>°C | <= 4.76 ft-lb/in <sup>2</sup><br>@Temperature -40.0<br>°F | ISO 180-1A               |
|                            | <= 10.0 kJ/m <sup>2</sup><br>@Temperature -40.0<br>°C | <= 4.76 ft-lb/in <sup>2</sup><br>@Temperature -40.0<br>°F | Conditioned; ISO 180-1A  |
| Charpy Impact Unnotched    | 10.0 J/cm <sup>2</sup><br>@Temperature -30.0<br>°C    | 47.6 ft-lb/in <sup>2</sup><br>@Temperature -22.0<br>°F    | ISO 179-1eU              |
|                            | 10.0 J/cm <sup>2</sup><br>@Temperature -30.0<br>°C    | 47.6 ft-lb/in <sup>2</sup><br>@Temperature -22.0<br>°F    | Conditioned; ISO 179-1eU |
|                            | 16.0 J/cm <sup>2</sup><br>@Temperature 23.0<br>°C     | 76.1 ft-lb/in <sup>2</sup><br>@Temperature 73.4 °F        | ISO 179-1eU              |
|                            | 19.0 J/cm <sup>2</sup><br>@Temperature 23.0<br>°C     | 90.4 ft-lb/in <sup>2</sup><br>@Temperature 73.4 °F        | Conditioned; ISO 179-1eU |
| Charpy Impact, Notched     | <= 1.00 J/cm <sup>2</sup><br>@Temperature 23.0<br>°C  | <= 4.76 ft-lb/in <sup>2</sup><br>@Temperature 73.4 °F     | ISO 179-1eA              |
|                            | <= 1.00 J/cm <sup>2</sup><br>@Temperature -30.0<br>°C | <= 4.76 ft-lb/in <sup>2</sup><br>@Temperature -22.0<br>°F | ISO 179-1eA              |
|                            | <= 1.00 J/cm <sup>2</sup><br>@Temperature -30.0<br>°C | <= 4.76 ft-lb/in <sup>2</sup><br>@Temperature -22.0<br>°F | Conditioned; ISO 179-1eA |

| Mechanical Properties | Metric <sup>1</sup> J/cm <sup>2</sup> Å | English <sup>1</sup> ft-lb/in <sup>2</sup> Å | Comments                 |
|-----------------------|---|--|--------------------------|
|                       | @Temperature -40.0 Å°C                  | @Temperature -40.0 Å°F                       | ISO 179-1eA              |
|                       | <= 1.00 J/cm <sup>2</sup> Å             | <= 4.76 ft-lb/in <sup>2</sup> Å              | Conditioned; ISO 179-1eA |
|                       | @Temperature -40.0 Å°C                  | @Temperature -40.0 Å°F                       |                          |
|                       | 2.00 J/cm <sup>2</sup> Å                | 9.52 ft-lb/in <sup>2</sup> Å                 | Conditioned; ISO 179-1eA |
|                       | @Temperature 23.0 Å°C                   | @Temperature 73.4 Å°F                        |                          |

| Thermal Properties                          | Metric  | English   | Comments                          |
|---|---|---|-----------------------------------|
| CTE, linear, Parallel to Flow               | 60.0 Åµm/m-Å°C                                    | 33.3 Åµin/in-Å°F                                  | ISO 11359-1,-2                    |
| CTE, linear, Transverse to Flow             | 100 Åµm/m-Å°C                                     | 55.6 Åµin/in-Å°F                                  | ISO 11359-1,-2                    |
| Melting Point                               | 261 Å°C   | 502 Å°F   | ISO 11357-1,-3                    |
| Deflection Temperature at 0.46 MPa (66 psi) | 200 Å°C   | 392 Å°F   | ISO 75-1,-2                       |
| Deflection Temperature at 1.8 MPa (264 psi) | 70.0 Å°C  | 158 Å°F   | ISO 75-1,-2                       |
| Vicat Softening Point                       | >= 230 Å°C<br>@Load 5.10 kg                       | >= 446 Å°F<br>@Load 11.2 lb                       | ISO 306                           |
| Glow Wire Test                              | 750 Å°C<br>@Diameter 2.00 mm                      | 1380 Å°F<br>@Diameter 0.0787 in                   | IEC 60695-2-12                    |
| Shrinkage                                   | 0.20 %<br>@Temperature 120 Å°C,<br>Time 14400 sec | 0.20 %<br>@Temperature 248 Å°F,<br>Time 4.00 hour | Molding Post-shrinkage; ISO 294-4 |
|   | 0.40 %<br>@Temperature 120 Å°C,<br>Time 14400 sec | 0.40 %<br>@Temperature 248 Å°F,<br>Time 4.00 hour | Molding Post-shrinkage; ISO 294-4 |

| Electrical Properties | Metric          | English         | Comments               |
|-----------------------|-----------------|-----------------|------------------------|
| Volume Resistivity    | 1.00e+12 ohm-cm | 1.00e+12 ohm-cm | Conditioned; IEC 60093 |
|                       | 1.00e+16 ohm-cm | 1.00e+16 ohm-cm | IEC 60093              |
| Surface Resistance    | 1.00e+13 ohm    | 1.00e+13 ohm    | Conditioned; IEC 60093 |
|                       | 1.00e+16 ohm    | 1.00e+16 ohm    | IEC 60093              |
|                       | 3.4             | 3.4             |                        |

| Dielectric Constant<br>Electrical Properties | Metric<br>@Frequency 1.00e+6<br>Hz | English<br>@Frequency 1.00e+6<br>Hz | IEC 60250<br>Comments         |
|--|------------------------------------|-------------------------------------|-------------------------------|
|  | 3.8                                | 3.8                                 | IEC 60250                     |
|  | @Frequency 100 Hz                  | @Frequency 100 Hz                   |                               |
|  | 4.1                                | 4.1                                 | Conditioned; IEC 60250        |
|  | @Frequency 1.00e+6<br>Hz           | @Frequency 1.00e+6<br>Hz            |                               |
|  | 13                                 | 13                                  | Conditioned; IEC 60250        |
|  | @Frequency 100 Hz                  | @Frequency 100 Hz                   |                               |
| Dielectric Strength                          | 25.0 kV/mm                         | 635 kV/in                           | Conditioned; IEC 60243-1      |
|  | @Thickness 1.00 mm                 | @Thickness 0.0394 in                |                               |
|  | 31.0 kV/mm                         | 787 kV/in                           | IEC 60243-1                   |
|  | @Thickness 1.00 mm                 | @Thickness 0.0394 in                |                               |
| Dissipation Factor                           | 0.012                              | 0.012                               | IEC 60250                     |
|  | @Frequency 100 Hz                  | @Frequency 100 Hz                   |                               |
|  | 0.057                              | 0.057                               | IEC 60250                     |
|  | @Frequency 1.00e+6<br>Hz           | @Frequency 1.00e+6<br>Hz            |                               |
|  | 0.10                               | 0.10                                | Conditioned; IEC 60250        |
|  | @Frequency 1.00e+6<br>Hz           | @Frequency 1.00e+6<br>Hz            |                               |
|  | 0.32                               | 0.32                                | Conditioned; IEC 60250        |
|  | @Frequency 100 Hz                  | @Frequency 100 Hz                   |                               |
| Comparative Tracking Index                   | 600 V                              | 600 V                               | Solution A, Rating; IEC 60112 |

| Processing Properties | Metric         | English       | Comments  |
|-----------------------|----------------|---------------|---|
| Melt Temperature      | 280 Â°C        | 536 Â°F       | Processing conditions for test specimens; ISO 294 |
|                       | 275 - 295 Â°C  | 527 - 563 Â°F | Recommended                                       |
| Mold Temperature      | 80.0 Â°C       | 176 Â°F       | Processing conditions for test specimens; ISO 294 |
|                       | 80.0 - 100 Â°C | 176 - 212 Â°F | Recommended                                       |
| Drying Temperature    | 80.0 Â°C       | 176 Â°F       |   |
| Dry Time              | 2 - 6 hour     | 2 - 6 hour    |   |

|                       |               |                |                              |
|-----------------------|---------------|----------------|------------------------------|
| Processing Properties | Metric 0.12 % | English 0.12 % | Comments cc. To Karl Fischer |
|-----------------------|---------------|----------------|------------------------------|

| Descriptive Properties | Value | Comments |
|------------------------|-------|----------|
|------------------------|-------|----------|

|               |                           |  |
|---------------|---------------------------|--|
| ISO Shortname | ISO 1874-PA 66,GHR,14-030 |  |
|---------------|---------------------------|--|

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