

# Akulon® K224-HG8

Polyamide 6  
DSM Engineering Plastics

Message:

Akulon® K224-HG8 is a Polyamide 6 (Nylon 6) material filled with 40% glass fiber. It is available in Europe or North America for injection molding. Important attributes of Akulon® K224-HG8 are:  
Flame Rated  
Heat Stabilizer

| General Information    |                                             |               |
|------------------------|---------------------------------------------|---------------|
| UL YellowCard          | E43392-235098                               | E47960-240100 |
| Filler / Reinforcement | Glass Fiber,40% Filler by Weight            |               |
| Additive               | Heat Stabilizer                             |               |
| Features               | Heat Stabilized                             |               |
| Forms                  | Granules                                    |               |
| Processing Method      | Injection Molding                           |               |
| Multi-Point Data       | Shear Modulus vs. Temperature (ISO 11403-1) |               |
|                        | Viscosity vs. Shear Rate (ISO 11403-2)      |               |

| Physical                  | Dry  | Conditioned | Unit              | Test Method |
|---------------------------|------|-------------|-------------------|-------------|
| Density                   | 1.45 | --          | g/cm <sup>3</sup> | ISO 1183    |
| Molding Shrinkage         |      |             |                   | ISO 294-4   |
| Across Flow               | 0.83 | --          | %                 |             |
| Flow                      | 0.34 | --          | %                 |             |
| Water Absorption          |      |             |                   | ISO 62      |
| Saturation, 23°C          | 5.5  | --          | %                 |             |
| Equilibrium, 23°C, 50% RH | 1.7  | --          | %                 |             |

| Mechanical             | Dry   | Conditioned | Unit | Test Method |
|------------------------|-------|-------------|------|-------------|
| Tensile Modulus        | 13000 | 8000        | MPa  | ISO 527-2   |
| Tensile Stress (Break) | 205   | 140         | MPa  | ISO 527-2   |
| Tensile Strain (Break) | 3.0   | 6.0         | %    | ISO 527-2   |
| Flexural Modulus       | 10800 | --          | MPa  | ISO 178     |
| Flexural Stress        | 275   | --          | MPa  | ISO 178     |

| Impact                           | Dry | Conditioned | Unit              | Test Method |
|----------------------------------|-----|-------------|-------------------|-------------|
| Charpy Notched Impact Strength   |     |             |                   | ISO 179/1eA |
| -30°C                            | 13  | 13          | kJ/m <sup>2</sup> |             |
| 23°C                             | 18  | 26          | kJ/m <sup>2</sup> |             |
| Charpy Unnotched Impact Strength |     |             |                   | ISO 179/1eU |
| -30°C                            | 85  | 85          | kJ/m <sup>2</sup> |             |

| 23°C                             | 95            | 100         | kJ/m <sup>2</sup> |                      |
|----------------------------------|---------------|-------------|-------------------|----------------------|
| Thermal                          | Dry           | Conditioned | Unit              | Test Method          |
| Heat Deflection Temperature      |               |             |                   |                      |
| 0.45 MPa, Unannealed             | 220           | --          | °C                | ISO 75-2/B           |
| 1.8 MPa, Unannealed              | 200           | --          | °C                | ISO 75-2/A           |
| Melting Temperature <sup>1</sup> | 220           | --          | °C                | ISO 11357-3          |
| CLTE                             |               |             |                   | ISO 11359-2          |
| Flow                             | 2.0E-5        | --          | cm/cm/°C          |                      |
| Transverse                       | 5.0E-5        | --          | cm/cm/°C          |                      |
| Electrical                       | Dry           | Conditioned | Unit              | Test Method          |
| Surface Resistivity              | --            | 1.0E+13     | ohms              | IEC 60093            |
| Volume Resistivity               | 1.0E+14       | 1.0E+12     | ohms·cm           | IEC 60093            |
| Electric Strength                | 35            | 25          | kV/mm             | IEC 60243-1          |
| Relative Permittivity            |               |             |                   | IEC 60250            |
| 100 Hz                           | 3.50          | 14.0        |                   |                      |
| 1 MHz                            | 3.30          | 4.40        |                   |                      |
| Dissipation Factor               |               |             |                   | IEC 60250            |
| 100 Hz                           | 5.0E-3        | 0.30        |                   |                      |
| 1 MHz                            | 0.015         | 0.11        |                   |                      |
| Comparative Tracking Index       | --            | 500         | V                 | IEC 60112            |
| Flammability                     | Dry           | Conditioned | Unit              | Test Method          |
| Flammability Classification      |               |             |                   | IEC 60695-11-10, -20 |
| 0.710 mm                         | HB            | --          |                   |                      |
| 1.50 mm                          | HB            | --          |                   |                      |
| Injection                        | Dry           | Unit        |                   |                      |
| Rear Temperature                 | 255 to 265    |             | °C                |                      |
| Middle Temperature               | 265 to 275    |             | °C                |                      |
| Front Temperature                | 265 to 280    |             | °C                |                      |
| Nozzle Temperature               | 260 to 280    |             | °C                |                      |
| Processing (Melt) Temp           | 250 to 285    |             | °C                |                      |
| Mold Temperature                 | 50.0 to 80.0  |             | °C                |                      |
| Injection Rate                   | Moderate-Fast |             |                   |                      |
| Back Pressure                    | 3.00 to 10.0  |             | MPa               |                      |
| NOTE                             |               |             |                   |                      |
| 1.                               | 10°C/min      |             |                   |                      |

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