

# Akulon® Ultraflow K-FG0

Polyamide 6  
DSM Engineering Plastics

Message:

Akulon® Ultraflow K-FG0 is a Polyamide 6 (Nylon 6) material filled with 50% glass fiber. It is available in Asia Pacific or Europe.  
Important attributes of Akulon® Ultraflow K-FG0 are:  
Flame Rated  
High Flow

| General Information              |       |                                  |                   |             |
|----------------------------------|-------|----------------------------------|-------------------|-------------|
| Filler / Reinforcement           |       | Glass Fiber,50% Filler by Weight |                   |             |
| Features                         |       | High Flow                        |                   |             |
| Forms                            |       | Pellets                          |                   |             |
| Physical                         | Dry   | Conditioned                      | Unit              | Test Method |
| Density                          | 1.56  | --                               | g/cm <sup>3</sup> | ISO 1183    |
| Molding Shrinkage                |       |                                  |                   | ISO 294-4   |
| Across Flow                      | 0.88  | --                               | %                 |             |
| Flow                             | 0.38  | --                               | %                 |             |
| Water Absorption                 |       |                                  |                   | ISO 62      |
| Saturation, 23°C                 | 4.5   | --                               | %                 |             |
| Equilibrium, 23°C, 50% RH        | 1.4   | --                               | %                 |             |
| Mechanical                       | Dry   | Conditioned                      | Unit              | Test Method |
| Tensile Modulus                  | 16500 | 11000                            | MPa               | ISO 527-2   |
| Tensile Stress (Break)           | 220   | 155                              | MPa               | ISO 527-2   |
| Tensile Strain (Break)           | 2.5   | 5.0                              | %                 | ISO 527-2   |
| Flexural Modulus                 | 15500 | --                               | MPa               | ISO 178     |
| Flexural Stress                  | 335   | --                               | MPa               | ISO 178     |
| Impact                           | Dry   | Conditioned                      | Unit              | Test Method |
| Charpy Notched Impact Strength   |       |                                  |                   | ISO 179/1eA |
| -30°C                            | 12    | 12                               | kJ/m <sup>2</sup> |             |
| 23°C                             | 15    | 25                               | kJ/m <sup>2</sup> |             |
| Charpy Unnotched Impact Strength |       |                                  |                   | ISO 179/1eU |
| -30°C                            | 85    | 85                               | kJ/m <sup>2</sup> |             |
| 23°C                             | 90    | 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              | 210   | --                               | °C                | ISO 75-2/A  |

|                                       |               |             |          |                      |
|---------------------------------------|---------------|-------------|----------|----------------------|
| Melting Temperature <sup>1</sup>      | 220           | --          | °C       | ISO 11357-3          |
| CLTE                                  |               |             |          | ISO 11359-2          |
| Flow                                  | 1.0E-5        | --          | cm/cm/°C |                      |
| Transverse                            | 5.0E-5        | --          | cm/cm/°C |                      |
| Electrical                            | Dry           | Conditioned | Unit     | Test Method          |
| Surface Resistivity                   | --            | 1.0E+14     | ohms     | IEC 60093            |
| Volume Resistivity                    | 1.0E+15       | 1.0E+13     | ohms·cm  | IEC 60093            |
| Relative Permittivity                 |               |             |          | IEC 60250            |
| 100 Hz                                | 3.50          | 14.0        |          |                      |
| 1 MHz                                 | 5.20          | 4.50        |          |                      |
| Dissipation Factor                    |               |             |          | IEC 60250            |
| 100 Hz                                | 5.0E-3        | 0.30        |          |                      |
| 1 MHz                                 | 0.015         | 0.12        |          |                      |
| Comparative Tracking Index            | 600           | --          | V        | IEC 60112            |
| Flammability                          | Dry           | Conditioned | Unit     | Test Method          |
| Flammability Classification (1.60 mm) | HB            | --          |          | IEC 60695-11-10, -20 |
| Injection                             | Dry           | Unit        |          |                      |
| Drying Temperature                    | 80.0          |             | °C       |                      |
| Drying Time                           | 4.0 to 8.0    |             | hr       |                      |
| Rear Temperature                      | 230 to 250    |             | °C       |                      |
| Middle Temperature                    | 230 to 260    |             | °C       |                      |
| Front Temperature                     | 230 to 260    |             | °C       |                      |
| Nozzle Temperature                    | 250 to 280    |             | °C       |                      |
| Processing (Melt) Temp                | 245 to 270    |             | °C       |                      |
| Mold Temperature                      | 40.0 to 80.0  |             | °C       |                      |
| Injection Rate                        | Moderate-Fast |             |          |                      |
| Back Pressure                         | 3.00 to 10.0  |             | MPa      |                      |
| Screw Compression Ratio               | 2.5:1.0       |             |          |                      |
| NOTE                                  |               |             |          |                      |
| 1.                                    | 10°C/min      |             |          |                      |

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### Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China



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