

# UNITIKA Nylon 6 A1030FR

Polyamide 6  
UNITIKA Plastics Division

Message:

UNITIKA Nylon 6 A1030FR is a Polyamide 6 (Nylon 6) material. It is available in Asia Pacific or North America. Primary attribute of UNITIKA Nylon 6 A1030FR: Fast Molding Cycle.

Typical applications include:

Automotive  
Construction Applications  
Housings

| General Information         |      |                           |       |             |
|-----------------------------|------|---------------------------|-------|-------------|
| UL YellowCard               |      | E47924-100685067          |       |             |
| Features                    |      | Fast Molding Cycle        |       |             |
| Uses                        |      | Automotive Applications   |       |             |
|                             |      | Automotive Electronics    |       |             |
|                             |      | Automotive Under the Hood |       |             |
|                             |      | Construction Applications |       |             |
|                             |      | Electrical Housing        |       |             |
| Forms                       |      | Pellets                   |       |             |
| Physical                    | Dry  | Conditioned               | Unit  | Test Method |
| Density                     | 1.13 | 1.13                      | g/cm³ | ISO 1183    |
| Molding Shrinkage           |      |                           |       | ISO 294-4   |
| Across Flow : 3.20 mm       | 1.3  | 1.3                       | %     |             |
| Flow : 3.20 mm              | 1.0  | 1.0                       | %     |             |
| Water Absorption            |      |                           |       | ISO 62      |
| 23°C, 24 hr                 | 1.8  | 1.8                       | %     |             |
| Equilibrium, 23°C, 50% RH   | 2.8  | 2.8                       | %     |             |
| Hardness                    | Dry  | Conditioned               | Unit  | Test Method |
| Rockwell Hardness (R-Scale) | 112  | 90                        |       | ISO 2039-2  |
| Mechanical                  | Dry  | Conditioned               | Unit  | Test Method |
| Tensile Modulus             | 2500 | 900                       | MPa   | ISO 527-2   |
| Tensile Stress (Yield)      | 78.0 | 40.0                      | MPa   | ISO 527-2   |
| Tensile Strain              |      |                           |       | ISO 527-2   |
| Yield                       | 4.0  | 24                        | %     |             |
| Break                       | 68   | > 200                     | %     |             |
| Flexural Modulus            | 2500 | 900                       | MPa   | ISO 178     |
| Flexural Stress             | 97.0 | 33.0                      | MPa   | ISO 178     |
| Impact                      | Dry  | Conditioned               | Unit  | Test Method |

|                                  |          |             |                   |             |
|----------------------------------|----------|-------------|-------------------|-------------|
| Charpy Notched Impact Strength   | 5.0      | 43          | kJ/m <sup>2</sup> | ISO 179     |
| Charpy Unnotched Impact Strength | No Break | No Break    |                   | ISO 179     |
| Thermal                          | Dry      | Conditioned | Unit              | Test Method |
| Heat Deflection Temperature      |          |             |                   |             |
| 0.45 MPa, Unannealed             | 154      | --          | °C                | ISO 75-2/B  |
| 1.8 MPa, Unannealed              | 56.0     | --          | °C                | ISO 75-2/A  |
| CLTE - Flow                      | 9.6E-5   | 9.6E-5      | cm/cm/°C          | ISO 11359-2 |
| Electrical                       | Dry      | Conditioned | Unit              | Test Method |
| Volume Resistivity               | 3.0E+15  | 8.0E+13     | ohms·cm           | IEC 60093   |
| Electric Strength (1.00 mm)      | 37       | 33          | kV/mm             | IEC 60243-1 |
| Dielectric Constant (1 MHz)      | 3.40     | 3.70        |                   | IEC 60250   |
| Dissipation Factor (1 MHz)       | 0.020    | 0.080       |                   | IEC 60250   |
| Comparative Tracking Index       | 600      | 600         | V                 | IEC 60112   |

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