

# Generic Nylon 610 - Carbon Fiber

Polyamide 610

Generic

Message:

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This information is provided for comparative purposes only.

| General Information            |                                  |                   |             |
|--------------------------------|----------------------------------|-------------------|-------------|
| Filler / Reinforcement         | Carbon fiber reinforced material |                   |             |
| Physical                       | Nominal Value                    | Unit              | Test Method |
| Specific Gravity               | 1.12 - 1.52                      | g/cm <sup>3</sup> | ASTM D792   |
| Molding Shrinkage              |                                  |                   |             |
| Flow: 23°C                     | 0.070 - 0.40                     | %                 | ASTM D955   |
| Transverse flow: 23°C          | 0.80 - 0.90                      | %                 | ASTM D955   |
| 23°C                           | 0.11 - 0.80                      | %                 | ISO 294-4   |
| Water Absorption (23°C, 24 hr) | 0.10 - 0.25                      | %                 | ASTM D570   |
| Mechanical                     | Nominal Value                    | Unit              | Test Method |
| Tensile Modulus                |                                  |                   |             |
| 23°C                           | 8270 - 19900                     | MPa               | ASTM D638   |
| 23°C                           | 9550 - 19500                     | MPa               | ISO 527-2   |
| Tensile Strength               |                                  |                   |             |
| Yield, 23°C                    | 128 - 233                        | MPa               | ASTM D638   |
| Fracture, 23°C                 | 117 - 236                        | MPa               | ASTM D638   |
| Fracture, 23°C                 | 126 - 243                        | MPa               | ISO 527-2   |
| Tensile Elongation             |                                  |                   |             |
| Yield, 23°C                    | 1.8 - 3.5                        | %                 | ASTM D638   |
| Fracture, 23°C                 | 1.9 - 3.0                        | %                 | ASTM D638   |
| Fracture, 23°C                 | 1.6 - 2.8                        | %                 | ISO 527-2   |
| Flexural Modulus               |                                  |                   |             |
| 23°C                           | 5990 - 16800                     | MPa               | ASTM D790   |
| 23°C                           | 6720 - 15400                     | MPa               | ISO 178     |
| Flexural Strength              |                                  |                   |             |
| 23°C                           | 172 - 294                        | MPa               | ASTM D790   |
| 23°C                           | 185 - 349                        | MPa               | ISO 178     |
| Coefficient of Friction        | 0.27 - 0.47                      |                   | ASTM D1894  |
| Impact                         | Nominal Value                    | Unit              | Test Method |
| Notched Izod Impact            |                                  |                   |             |
| 23°C                           | 37 - 110                         | J/m               | ASTM D256   |
| 23°C                           | 4.4 - 15                         | kJ/m <sup>2</sup> | ISO 180     |
| Unnotched Izod Impact          |                                  |                   |             |

| 23°C                                             | 380 - 860     | J/m               | ASTM D256             |
|--------------------------------------------------|---------------|-------------------|-----------------------|
| 23°C                                             | 29 - 68       | kJ/m <sup>2</sup> | ISO 180               |
| Multi-Axial Instrumented Impact Energy<br>(23°C) | 1.24 - 9.39   | J                 | ISO 6603-2            |
| Thermal                                          | Nominal Value | Unit              | Test Method           |
| Deflection Temperature Under Load                |               |                   |                       |
| 0.45 MPa, not annealed                           | 218 - 222     | °C                | ASTM D648, ISO 75-2/B |
| 1.8 MPa, not annealed                            | 211 - 218     | °C                | ASTM D648             |
| 1.8 MPa, not annealed                            | 193 - 216     | °C                | ISO 75-2/A            |
| Injection                                        | Nominal Value | Unit              |                       |
| Drying Temperature                               | 78.8 - 82.5   | °C                |                       |
| Drying Time                                      | 4.0 - 4.1     | hr                |                       |
| Suggested Max Moisture                           | 0.16          | %                 |                       |
| Rear Temperature                                 | 254 - 255     | °C                |                       |
| Middle Temperature                               | 265 - 266     | °C                |                       |
| Front Temperature                                | 276 - 277     | °C                |                       |
| Processing (Melt) Temp                           | 256 - 274     | °C                |                       |
| Mold Temperature                                 | 86.1 - 93.3   | °C                |                       |
| Back Pressure                                    | 0.258 - 0.517 | MPa               |                       |
| Screw Speed                                      | 45 - 55       | rpm               |                       |
| Injection instructions                           |               |                   |                       |

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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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