

# HiFill FR® PA6 GF33 FR HS L

Polyamide 6  
Techmer Engineered Solutions

Message:

HiFill FR® PA6 GF33 FR HS L is a Polyamide 6 (Nylon 6) product filled with 33% glass fiber. It can be processed by injection molding and is available in North America.

Characteristics include:

- Flame Rated
- Flame Retardant
- Heat Stabilizer
- Lubricated

| General Information                 |      |                                  |                   |             |
|-------------------------------------|------|----------------------------------|-------------------|-------------|
| UL YellowCard                       |      | E253782-101773880                |                   |             |
| Filler / Reinforcement              |      | Glass Fiber,33% Filler by Weight |                   |             |
| Additive                            |      | Heat Stabilizer                  |                   |             |
|                                     |      | Lubricant                        |                   |             |
| Features                            |      | Flame Retardant                  |                   |             |
|                                     |      | Heat Stabilized                  |                   |             |
|                                     |      | Lubricated                       |                   |             |
| Appearance                          |      | Colors Available                 |                   |             |
| Forms                               |      | Pellets                          |                   |             |
| Processing Method                   |      | Injection Molding                |                   |             |
| Physical                            | Dry  | Conditioned                      | Unit              | Test Method |
| Specific Gravity                    | 1.63 | --                               | g/cm <sup>3</sup> | ASTM D792   |
| Molding Shrinkage - Flow (3.18 mm)  | 0.30 | --                               | %                 | ASTM D955   |
| Water Absorption (24 hr)            | 0.75 | --                               | %                 | ASTM D570   |
| Hardness                            | Dry  | Conditioned                      | Unit              | Test Method |
| Rockwell Hardness (R-Scale)         | 122  | --                               |                   | ASTM D785   |
| Mechanical                          | Dry  | Conditioned                      | Unit              | Test Method |
| Tensile Strength (Break)            | 152  | 125                              | MPa               | ASTM D638   |
| Tensile Elongation (Break)          | 3.5  | 4.5                              | %                 | ASTM D638   |
| Flexural Modulus                    | 8960 | 6890                             | MPa               | ASTM D790   |
| Flexural Strength                   | 200  | 179                              | MPa               | ASTM D790   |
| Impact                              | Dry  | Conditioned                      | Unit              | Test Method |
| Notched Izod Impact (23°C, 3.18 mm) | 85   | 120                              | J/m               | ASTM D256   |
| Unnotched Izod Impact               | 850  | 1000                             | J/m               | ASTM D256   |
| Thermal                             | Dry  | Conditioned                      | Unit              | Test Method |

|                                   |                |             |          |             |
|-----------------------------------|----------------|-------------|----------|-------------|
| Deflection Temperature Under Load |                |             |          | ASTM D648   |
| 0.45 MPa, Unannealed              | 218            | --          | °C       |             |
| 1.8 MPa, Unannealed               | 216            | --          | °C       |             |
| CLTE - Flow                       | 2.2E-5         | --          | cm/cm/°C | ASTM D696   |
| RTI Elec                          | 120            | --          | °C       | UL 746      |
| RTI Imp                           | 120            | --          | °C       | UL 746      |
| RTI Str                           | 115            | --          | °C       | UL 746      |
| Electrical                        | Dry            | Conditioned | Unit     | Test Method |
| Surface Resistivity               | 1.0E+13        | --          | ohms     | ASTM D257   |
| Volume Resistivity                | 1.0E+14        | --          | ohms·cm  | ASTM D257   |
| Dielectric Strength <sup>1</sup>  | 16             | --          | kV/mm    | ASTM D149   |
| Flammability                      | Dry            | Conditioned | Unit     | Test Method |
| Flame Rating (1.50 mm, ALL)       | V-0            | --          |          | UL 94       |
| Additional Information            | Dry            | Conditioned |          |             |
| TPCI #                            | 6536102        | --          |          |             |
| Injection                         | Dry            | Unit        |          |             |
| Drying Temperature                | 82.2           |             | °C       |             |
| Drying Time                       | 2.0 to 4.0     |             | hr       |             |
| Rear Temperature                  | 232 to 257     |             | °C       |             |
| Middle Temperature                | 232 to 257     |             | °C       |             |
| Front Temperature                 | 232 to 257     |             | °C       |             |
| Processing (Melt) Temp            | 238 to 266     |             | °C       |             |
| Mold Temperature                  | 65.6 to 93.3   |             | °C       |             |
| Back Pressure                     | 0.345 to 0.689 |             | MPa      |             |
| Screw Speed                       | 30 to 60       |             | rpm      |             |
| NOTE                              |                |             |          |             |

1. Method A (Short-Time)

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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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