

# Torelina® A604-X95

Polyphenylene Sulfide

Toray Resin Company

## Message:

Torelina® A604-X95 is a Polyphenylene Sulfide (PPS) product filled with 40% glass fiber. It is available in Asia Pacific, Europe, or North America.

Characteristics include:

Flame Rated

Good Toughness

| General Information                               |                                  |                   |                 |
|---------------------------------------------------|----------------------------------|-------------------|-----------------|
| Filler / Reinforcement                            | Glass Fiber,40% Filler by Weight |                   |                 |
| Features                                          | Good Toughness                   |                   |                 |
|                                                   | Minimal Flash                    |                   |                 |
| Appearance                                        | Black                            |                   |                 |
|                                                   | Natural Color                    |                   |                 |
| Part Marking Code                                 | >PPS-GF40<                       |                   |                 |
| Physical                                          | Nominal Value                    | Unit              | Test Method     |
| Density (23°C)                                    | 1.66                             | g/cm <sup>3</sup> | ISO 1183        |
| Molding Shrinkage                                 |                                  |                   | Internal Method |
| Across Flow : 3.00 mm <sup>1</sup>                | 0.80                             | %                 |                 |
| Flow : 3.00 mm <sup>2</sup>                       | 0.20                             | %                 |                 |
| Water Absorption (23°C, 24 hr)                    | 0.020                            | %                 | ISO 62          |
| Hardness                                          | Nominal Value                    | Unit              | Test Method     |
| Rockwell Hardness (R-Scale)                       | 122                              |                   | ISO 2039-2      |
| Mechanical                                        | Nominal Value                    | Unit              | Test Method     |
| Tensile Stress (23°C)                             | 190                              | MPa               | ISO 527-2       |
| Tensile Strain (Break, 23°C)                      | 1.7                              | %                 | ISO 527-2       |
| Flexural Modulus (23°C)                           | 15000                            | MPa               | ISO 178         |
| Flexural Stress (23°C)                            | 290                              | MPa               | ISO 178         |
| Shear Strength (23°C)                             | 75.0                             | MPa               | JIS K7214       |
| Coefficient of Friction <sup>3</sup>              | 0.25                             |                   |                 |
| Taber Abrasion Resistance (1000 Cycles)           | 50.0                             | mg                | ISO 9352        |
| Impact                                            | Nominal Value                    | Unit              | Test Method     |
| Charpy Notched Impact Strength (23°C)             | 11                               | kJ/m <sup>2</sup> | ISO 179         |
| Charpy Unnotched Impact Strength (23°C)           | 45                               | kJ/m <sup>2</sup> | ISO 179         |
| Thermal                                           | Nominal Value                    | Unit              | Test Method     |
| Heat Deflection Temperature (1.8 MPa, Unannealed) | 260                              | °C                | ISO 75-2/A      |
| Melting Temperature                               | 278                              | °C                | ISO 11357-3     |

| CLTE                                           |               |          | ISO 11359-2     |
|------------------------------------------------|---------------|----------|-----------------|
| Flow                                           | 2.3E-5        | cm/cm/°C |                 |
| Transverse                                     | 3.5E-5        | cm/cm/°C |                 |
| Electrical                                     | Nominal Value | Unit     | Test Method     |
| Volume Resistivity                             | 1.0E+16       | ohms·cm  | IEC 60093       |
| Electric Strength                              | 25            | kV/mm    | IEC 60243-1     |
| Dielectric Constant <sup>4</sup> (23°C, 1 MHz) | 3.60          |          | IEC 60250       |
| Dissipation Factor <sup>5</sup> (23°C, 1 MHz)  | 2.0E-3        |          | IEC 60250       |
| Flammability                                   | Nominal Value | Unit     | Test Method     |
| Flame Rating (0.200 mm)                        | V-0           |          | UL 94           |
| Additional Information                         | Nominal Value | Unit     | Test Method     |
| Bar Flow Length <sup>6</sup> (320°C, 1.00 mm)  | 165           | mm       | Internal Method |
| NOTE                                           |               |          |                 |
| 1.                                             | 80x80x3       |          |                 |
| 2.                                             | 80x80x3mm     |          |                 |
| 3.                                             | vs. Metal     |          |                 |
| 4.                                             | 60% RH        |          |                 |
| 5.                                             | 60% RH        |          |                 |
| 6.                                             | 98 MPa        |          |                 |

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