

# DSM Engineering Plastics - Property Data

## Xantar® G4F 23 R

PC-GF20

20% Glass Reinforced, Flame Retardant

| Properties                                   | Typical Data | Unit                   | Test Method     |
|----------------------------------------------|--------------|------------------------|-----------------|
| <b>RHEOLOGICAL PROPERTIES</b>                |              |                        |                 |
| Melt volume-flow rate                        | 6            | cm <sup>3</sup> /10min | ISO 1133        |
| Temperature                                  | 300          | °C                     | ISO 1133        |
| Load                                         | 1.2          | kg                     | ISO 1133        |
| Molding shrinkage (parallel)                 | 0.2          | %                      | ISO 294-4       |
| Molding shrinkage (normal)                   | 0.5          | %                      | ISO 294-4       |
| <b>MECHANICAL PROPERTIES</b>                 |              |                        |                 |
| Tensile modulus                              | 6000         | MPa                    | ISO 527-1/-2    |
| Stress at break                              | 95           | MPa                    | ISO 527-1/-2    |
| Strain at break                              | 4            | %                      | ISO 527-1/-2    |
| Flexural modulus                             | 5500         | MPa                    | ISO 178         |
| Flexural strength                            | 145          | MPa                    | ISO 178         |
| Izod notched impact strength (23°C)          | 10           | kJ/m <sup>2</sup>      | ISO 180/4A      |
| Rockwell hardness, M scale                   | 91           | -                      | ISO 2039-2      |
| <b>THERMAL PROPERTIES</b>                    |              |                        |                 |
| Temp. of deflection under load (1.80 MPa)    | 147          | °C                     | ISO 75-1/-2     |
| Vicat softening temperature (50°C/h 50N)     | 150          | °C                     | ISO 306         |
| Coeff. of linear therm. expansion (parallel) | 0.3          | E-4/°C                 | ISO 11359-1/-2  |
| Burning Behav. at 1.6 mm nom. thickn.        | V-0          | class                  | IEC 60695-11-10 |
| Thickness tested                             | 1.5          | mm                     | IEC 60695-11-10 |
| Burning Behav. at thickness h                | V-0          | class                  | IEC 60695-11-10 |
| Thickness tested                             | 1.2          | mm                     | IEC 60695-11-10 |
| Oxygen index                                 | 35           | %                      | ISO 4589-1/-2   |
| Ball pressure temperature                    | 125          | °C                     | IEC 60695-10-2  |
| Glow Wire Flammability Index GWFI            | 960          | °C                     | IEC 60695-2-12  |
| GWFI (Thickness (1) tested)                  | 1.5          | mm                     | IEC 60695-2-12  |
| Glow Wire Flammability Index GWFI            | 960          | °C                     | IEC 60695-2-12  |
| GWFI (Thickness (2) tested)                  | 3            | mm                     | IEC 60695-2-12  |
| Glow Wire Ignition Temperature GWIT          | 850          | °C                     | IEC 60695-2-13  |
| GWIT (Thickness (1) tested)                  | 1.5          | mm                     | IEC 60695-2-12  |
| Glow Wire Ignition Temperature GWIT          | 875          | °C                     | IEC 60695-2-13  |
| GWIT (Thickness (2) tested)                  | 3            | mm                     | IEC 60695-2-12  |
| Relative Temperature Index - electrical      | 130          | °C                     | UL746B          |
| RTI electrical (Thickness (1) tested)        | 1.5          | mm                     | UL746B          |
| Relative Temperature Index - electrical      | 130          | °C                     | UL746B          |
| RTI electrical (Thickness (2) tested)        | 3            | mm                     | UL746B          |
| Relative Temperature Index - with impact     | 125          | °C                     | UL746B          |
| RTI with impact (Thickness (1) tested)       | 1.5          | mm                     | UL746B          |
| Relative Temperature Index - with impact     | 130          | °C                     | UL746B          |
| RTI with impact (Thickness (2) tested)       | 3            | mm                     | UL746B          |

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|                                             |            |    |        |
|---------------------------------------------|------------|----|--------|
| Relative Temperature Index - without impact | <b>125</b> | °C | UL746B |
| RTI without impact (Thickness (1) tested)   | <b>1.5</b> | mm | UL746B |
| Relative Temperature Index - without impact | <b>130</b> | °C | UL746B |
| RTI without impact (Thickness (2) tested)   | <b>3</b>   | mm | UL746B |

### ELECTRICAL PROPERTIES

|                                  |                 |       |             |
|----------------------------------|-----------------|-------|-------------|
| Relative permittivity (100Hz)    | <b>3.25</b>     | -     | IEC 60250   |
| Relative permittivity (1 MHz)    | <b>3.2</b>      | -     | IEC 60250   |
| Dissipation factor (100 Hz)      | <b>9</b>        | E-4   | IEC 60250   |
| Dissipation factor (1 MHz)       | <b>90</b>       | E-4   | IEC 60250   |
| Volume resistivity               | <b>&gt;1E13</b> | Ohm*m | IEC 60093   |
| Surface resistivity              | <b>&gt;1E15</b> | Ohm   | IEC 60093   |
| Electric strength                | <b>29</b>       | kV/mm | IEC 60243-1 |
| Comparative tracking index       | <b>200</b>      | -     | IEC 60112   |
| Comparative tracking index (PLC) | <b>3</b>        | class | UL 746A     |

### OTHER PROPERTIES

|                  |             |       |                |
|------------------|-------------|-------|----------------|
| Water absorption | <b>0.29</b> | %     | Sim. to ISO 62 |
| Density          | <b>1350</b> | kg/m³ | ISO 1183       |

### MATERIAL SPECIFIC PROPERTIES

|                           |           |       |            |
|---------------------------|-----------|-------|------------|
| Limiting Viscosity Number | <b>48</b> | cm³/g | ISO 1628-4 |
|---------------------------|-----------|-------|------------|

### RHEOLOGICAL CALCULATION PROPERTIES

|                              |             |         |   |
|------------------------------|-------------|---------|---|
| Thermal conductivity of melt | <b>0.29</b> | W/(m K) | - |
|------------------------------|-------------|---------|---|

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