


**XANTAR® G2F 23 UR**
**PC-GF10 FR**

Mitsubishi Engineering-Plastics Corporation

**Product Texts**

10% Glass Reinforced, Flame Retardant, UV Stabilized

ISO 1043 PC-GF10 FR

[XANTAR® Polycarbonate & Blends, your global partner for innovative added value](#)

| Rheological properties                      | Value | Unit      | Test Standard   |
|---|-------|-----------|-----------------|
| <b>ISO Data</b>                             |       |           |                 |
| Melt volume-flow rate, MVR                  | 6     | cm³/10min | ISO 1133        |
| Temperature                                 | 300   | °C        | ISO 1133        |
| Load  | 1.2   | kg        | ISO 1133        |
| Molding shrinkage, parallel                 | 0.2   | %         | ISO 294-4, 2577 |
| Molding shrinkage, normal                   | 0.6   | %         | ISO 294-4, 2577 |
| <b>Mechanical properties</b>                |       |           |                 |
| <b>ISO Data</b>                             |       |           |                 |
| Tensile Modulus                             | 3500  | MPa       | ISO 527-1/-2    |
| Yield stress                                | 65    | MPa       | ISO 527-1/-2    |
| Yield strain                                | 5     | %         | ISO 527-1/-2    |
| Nominal strain at break                     | 15    | %         | ISO 527-1/-2    |
| <b>Thermal properties</b>                   |       |           |                 |
| <b>ISO Data</b>                             |       |           |                 |
| Temp. of deflection under load (1.80 MPa)   | 145   | °C        | ISO 75-1/-2     |
| Vicat softening temperature, 50°C/h 50N     | 150   | °C        | ISO 306         |
| Coeff. of linear therm. expansion, parallel | 45    | E-6/K     | ISO 11359-1/-2  |
| Burning behav. at 1.5 mm nom. thickn.       | V-0   | class     | IEC 60695-11-10 |
| Thickness tested                            | 1.5   | mm        | IEC 60695-11-10 |
| UL recognition                              | UL    | -         | -               |
| Burning behav. at thickness h               | V-0   | class     | IEC 60695-11-10 |
| Thickness tested                            | 3.0   | mm        | IEC 60695-11-10 |
| UL recognition                              | UL    | -         | -               |
| Burning behav. 5V at thickness h            | 5VA   | class     | IEC 60695-11-20 |
| Thickness tested                            | 3.0   | mm        | IEC 60695-11-20 |
| UL recognition                              | UL    | -         | -               |
| Oxygen index                                | 35    | %         | ISO 4589-1/-2   |
| <b>Electrical properties</b>                |       |           |                 |
| <b>ISO Data</b>                             |       |           |                 |
| Relative permittivity, 100Hz                | 3.1   | -         | IEC 60250       |
| Relative permittivity, 1MHz                 | 3     | -         | IEC 60250       |
| Dissipation factor, 100Hz                   | 9     | E-4       | IEC 60250       |
| Dissipation factor, 1MHz                    | 90    | E-4       | IEC 60250       |
| Volume resistivity                          | >1E13 | Ohm*m     | IEC 60093       |
| Surface resistivity                         | >1E15 | Ohm       | IEC 60093       |
| Electric strength                           | 29    | kV/mm     | IEC 60243-1     |
| Comparative tracking index                  | 200   | -         | IEC 60112       |
| <b>Other properties</b>                     |       |           |                 |
| <b>ISO Data</b>                             |       |           |                 |
| Water absorption                            | 0.31  | %         | Sim. to ISO 62  |
| Density                                     | 1270  | kg/m³     | ISO 1183        |

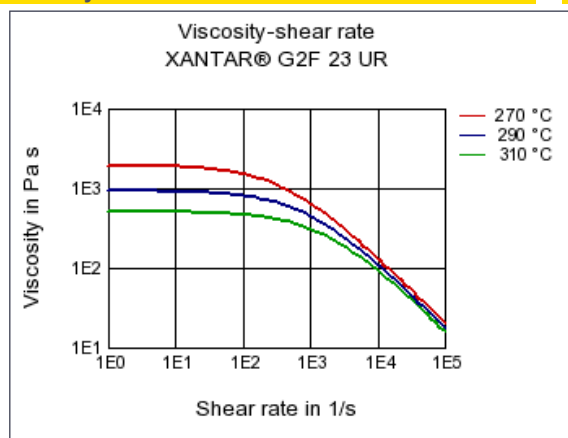
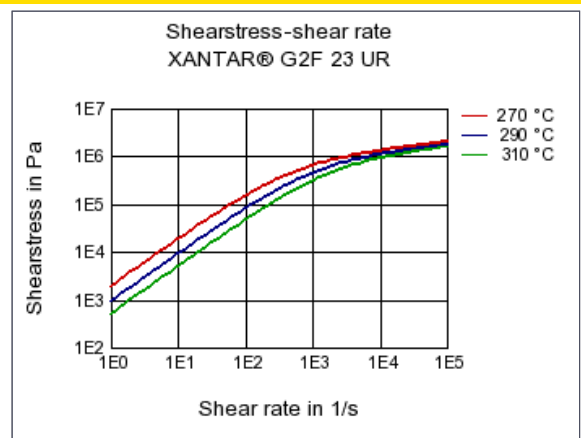
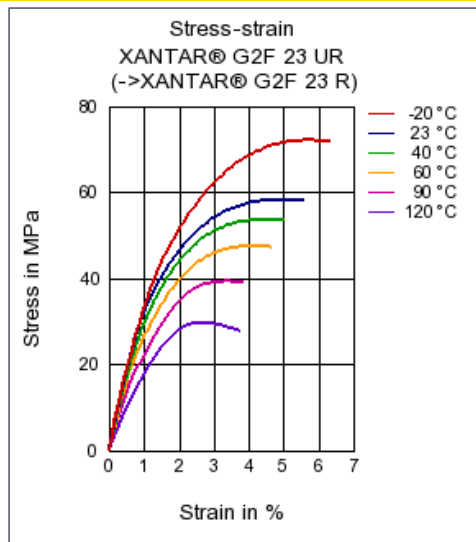
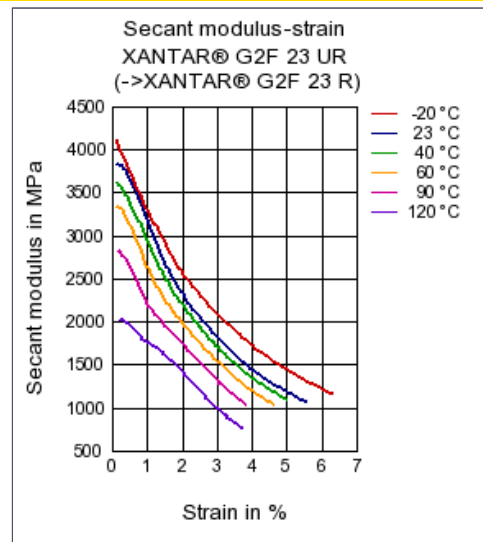
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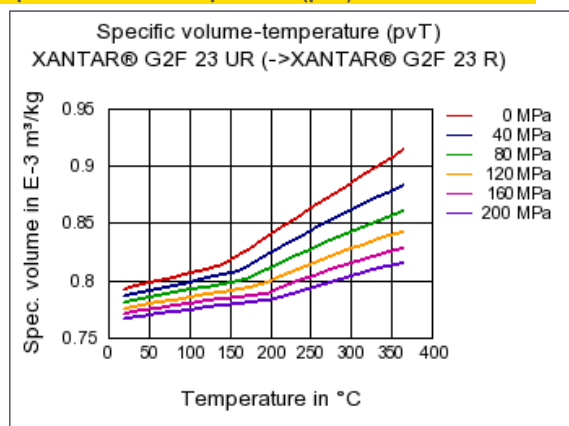
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| Rheological calculation properties | Value   | Unit              | Test Standard |
|------------------------------------|---------|-------------------|---------------|
| <b>ISO Data</b>                    |         |                   |               |
| Density of melt                    | 1090    | kg/m <sup>3</sup> | -             |
| Thermal conductivity of melt       | 0.26    | W/(m K)           | -             |
| Spec. heat capacity of melt        | 1620    | J/(kg K)          | -             |
| Eff. thermal diffusivity           | 1.48E-7 | m <sup>2</sup> /s | -             |
| Ejection temperature               | 134     | °C                | -             |

| Test specimen production            | Value | Unit | Test Standard |
|-------------------------------------|-------|------|---------------|
| <b>ISO Data</b>                     |       |      |               |
| Injection Molding, melt temperature | 300   | °C   | ISO 294       |
| Injection Molding, mold temperature | 100   | °C   | ISO 10724     |

**Diagrams****Viscosity-shear rate****Shearstress-shear rate****Stress-strain****Secant modulus-strain**

## Specific volume-temperature (pvT)



## Characteristics

## Processing

Injection Molding

## Additives

Release agent

## Delivery form

Pellets

## Special Characteristics

Flame retardant, Light stabilized or stable to light, U.V. stabilized or stable to weather, Heat stabilized or stable to heat

## Other text information

## Injection Molding

[Injection Molding Recommendations](#)

## Chemical Media Resistance

## Acids

- ☺ Acetic Acid (5% by mass) (23°C)
- ☺ Citric Acid solution (10% by mass) (23°C)
- ☺ Lactic Acid (10% by mass) (23°C)
- ☹ Hydrochloric Acid (36% by mass) (23°C)
- ☹ Nitric Acid (40% by mass) (23°C)
- ☹ Sulfuric Acid (38% by mass) (23°C)
- ☺ Sulfuric Acid (5% by mass) (23°C)
- ☺ Chromic Acid solution (40% by mass) (23°C)

## Bases

- ☹ Sodium Hydroxide solution (35% by mass) (23°C)
- ☹ Sodium Hydroxide solution (1% by mass) (23°C)
- ☹ Ammonium Hydroxide solution (10% by mass) (23°C)

## Alcohols

- ☺ Isopropyl alcohol (23°C)
- ☹ Methanol (23°C)
- ☺ Ethanol (23°C)

## Hydrocarbons

- ☺ n-Hexane (23°C)
- ☹ Toluene (23°C)
- ☺ iso-Octane (23°C)






## Ketones

- ☹ Acetone (23°C)





## Ethers

 Diethyl ether (23°C)

## Salt solutions

-  Sodium Chloride solution (10% by mass) (23°C)
-  Sodium Hypochlorite solution (10% by mass) (23°C)
-  Sodium Carbonate solution (20% by mass) (23°C)
-  Sodium Carbonate solution (2% by mass) (23°C)
-  Zinc Chloride solution (50% by mass) (23°C)

## Other

-  Ethyl Acetate (23°C)
-  Hydrogen peroxide (23°C)
-  Water (23°C)
-  Phenol solution (5% by mass) (23°C)