

| Properties                                 | Test<br><br>Method | Terms              | Units          | GF Reinforced Alloy                                 |
|--------------------------------------------|--------------------|--------------------|----------------|-----------------------------------------------------|
|                                            |                    |                    |                | 5810G30X4                                           |
|                                            |                    |                    |                | Low Warpage<br>Low Density<br>Hydrolytic Resistance |
|                                            |                    |                    |                | GF30                                                |
| Physical properties                        |                    |                    |                |                                                     |
| Density                                    | ISO 1183           | -                  | g/cm3          | 1.44                                                |
| Dimensional properties                     |                    |                    |                |                                                     |
| Moulding shrinkage<br>(2mmt)               | -                  | MD<br>TD           | %              | 0.3<br>0.5                                          |
| Rheological properties                     |                    |                    |                |                                                     |
| Melt Volume-flow Rate                      | ISO 1133           | -                  | cm³/10min<br>- | 30<br>250°C × 5kg                                   |
| Mechanical properties                      |                    |                    |                |                                                     |
| Yield stress                               | ISO 527-1,2        | -                  | MPa            | -                                                   |
| Stress at break                            | ISO 527-1,2        | -                  | MPa            | 125                                                 |
| Strain at break                            |                    | -                  | %              | 2                                                   |
| Flexural strength                          | ISO 178            | -                  | MPa            | 185                                                 |
| Flexural modulus                           |                    | -                  | MPa            | 8,800                                               |
| Charpy impact strength                     | ISO 179-1, 2       | -                  | kJ/m²          | 59                                                  |
| Charpy notched impact strength             |                    | -                  | kJ/m²          | 10                                                  |
| Thermal properties                         |                    |                    |                |                                                     |
| Melting temperature                        | ISO 11357-3        | -                  | °C             | 224                                                 |
| Temperature of deflection<br>under load    | ISO 75-1, 2        | 1.80MPa<br>0.45MPa | °C             | 190<br>>200                                         |
| Coefficient of Linear<br>thermal expansion | ISO 11359-2        | MD : -30~120°C     | 1E-5/°C        | 2.0                                                 |
|                                            |                    | MD : -30~35°C      |                | 2.0                                                 |
|                                            |                    | MD : 35~120°C      |                | 2.0                                                 |
|                                            |                    | TD : -30~120°C     |                | 10.4                                                |
|                                            |                    | TD : -30~35°C      |                | 8.3                                                 |
|                                            |                    | TD : 35~120°C      |                | 11.9                                                |
| Flammability                               | UL94               | -                  | -              | -                                                   |
| Electrical properties                      |                    |                    |                |                                                     |
| Volume resistivity                         | IEC 60093          | -                  | Ω · m          | >1E12                                               |
| Surface resistivity                        | IEC 60093          | -                  | Ω              | >1E14                                               |
| Electric strength                          | IEC 60243-1        | 1mmt               | M V /m         | 40                                                  |
|                                            |                    | 2mmt               |                | 30                                                  |
|                                            |                    | 3mmt               |                | -                                                   |
|                                            |                    |                    |                |                                                     |
| Comparative tracking index                 | UL746A             | -                  | -              | -                                                   |
| RTI(Elec)                                  | UL746B             | -                  | -              | -                                                   |
| RTI(Imp)                                   | UL746B             | -                  | -              | -                                                   |
| RTI(Str)                                   | UL746B             | -                  | -              | -                                                   |

The values described are typical values only.