

Special grade Property Table

| Properties | Test Method | condition | Units | SP130 | SP140 | SP151 | SW130 | - | - | - | - | - | - |
|--------------------------------------|-----------------------|--------------------------------|----------------------------|---------------------------------|--------------|---------------|---------------------------------|---|---|---|---|---|---|
| ISO Identification Mark | | | | >PS-ST< | >PS-ST-GF15< | >PS-ST-GF30< | >PS-ST< | | | | | | |
| Physical | | | | | | | | | | | | | |
| Density | ISO 1183 | | g/cm ³ | 1.18 | 1.31 | 1.41 | 1.21 | | | | | | |
| Glass Content | | | wt% | - | 15 | 30 | - | | | | | | |
| Water Absorption | ISO 62 | 24h 50%RH | % | 0.01 | 0.01 | 0.02 | 0.02 | | | | | | |
| Mechanical properties | | | | | | | | | | | | | |
| Tensile Strength at Break | | | MPa | 35 | 75 | 100 | Y38 | | | | | | |
| Tensile Modulus | ISO 527 | | MPa | 3,200 | 6,500 | 11,000 | 3,800 | | | | | | |
| Tensile Elongation at Break | | | % | 3.4 | 2.5 | 2.1 | 3.3 | | | | | | |
| Flexural Strength | | | MPa | 65 | 120 | 165 | 72 | | | | | | |
| Flexural Modulus | ISO 178 | | MPa | 3,000 | 6,100 | 9,800 | 3,400 | | | | | | |
| Izod Impact | ISO 180 | Notched at 23°C | kJ/m ² | 4 | 10 | 10 | 3 | | | | | | |
| | | Unnotched at 23°C | | 29 | 29 | 29 | 20 | | | | | | |
| Charpy Impact | ISO 179 | Notched at 23°C | kJ/m ² | 4 | 10 | 9 | 3 | | | | | | |
| | | Unnotched at 23°C | | 41 | 33 | 32 | 30 | | | | | | |
| Thermal properties | | | | | | | | | | | | | |
| Temperature of deflection under load | ISO 75 A | 1.8MPa | | 100 | 175 | 230 | 98 | | | | | | |
| | ISO 75 B | 0.45MPa | | 120 | 255 | 265 | 163 | | | | | | |
| Linear Thermal Expansion coefficient | TMA | Flow direction, -30~30°C | x10 ⁻⁶ mm/mm/°C | 77 | 33 | 22 | 55 | | | | | | |
| | | Cross flow direction, -30~30°C | | 83 | 71 | 49 | 76 | | | | | | |
| Mould Shrinkage | Idemitsu Method | flow direction | % | 0.4 - 1.4 | 0.2 - 0.5 | 0.1 - 0.4 | 0.4-1.3 | | | | | | |
| | | cross flow direction | | 0.4 - 1.2 | 0.3 - 0.7 | 0.3 - 0.7 | 0.5-1.5 | | | | | | |
| Flammability | | | | | | | | | | | | | |
| Flammability | UL 94 | HB minimum thickness | mm | 1.5 | 1.5 | HB equivalent | - | | | | | | |
| | | V-0 minimum thickness | | - | - | - | - | | | | | | |
| | | 5VA minimum thickness | | - | - | - | - | | | | | | |
| RTI Electrical (Elec) | | | | 50 | 50 | - | - | | | | | | |
| RTI Mechanical with impact (Imp) | UL 746B | | °C | 50 | 50 | - | - | | | | | | |
| RTI Mechanical without impact(Str) | | | | 50 | 50 | - | - | | | | | | |
| Comparative Tracking Index(CTI) | IEC 60112, Solution A | | PLC level | 0 equivalent | 0 equivalent | 0 equivalent | - | | | | | | |
| High Voltage Arc Tracking Rate(HVTR) | UL 746A | | PLC level | - | - | - | - | | | | | | |
| Hot Wire Ignition (HWI) | UL 746A | @ 3.0 mm | PLC level | - | - | - | - | | | | | | |
| | | @ 1.5 mm | | - | - | - | - | | | | | | |
| | | @ 0.75 mm | | - | - | - | - | | | | | | |
| High Ampere Arc Resistance (HAI) | UL 746A | @ 3.0 mm | PLC level | - | - | - | - | | | | | | |
| | | @ 1.5 mm | | - | - | - | - | | | | | | |
| | | @ 0.75 mm | | - | - | - | - | | | | | | |
| Arc Resistance | ASTM D495 | | PLC level | 6 equivalent | 6 equivalent | 6 equivalent | - | | | | | | |
| Electrical properties | | | | | | | | | | | | | |
| Volume Resistivity | IEC 60093 | | Ohm-cm | >1E+16 | >1E+16 | >1E+16 | - | | | | | | |
| Dielectric Strength | ASTM D149 | | kV/mm | 70 | 50 | 50 | - | | | | | | |
| Dielectric Constant | IEC 60250 | 1MHz | | 2.9 | 3.1 | 3.4 | - | | | | | | |
| Dissipation Factor | IEC 60250 | 1MHz | | < 0.001 | < 0.001 | <0.001 | - | | | | | | |
| Standard Molding Parameters | | | | | | | | | | | | | |
| Melt Temperature | | | °C | 280 - 310 | 280 - 310 | 280 - 310 | 280 - 310 | | | | | | |
| Mold Temperature | | | °C | Please contact the sales charge | 130 - 155 | 130 - 155 | Please contact the sales charge | | | | | | |
| Pre-drying | | | | 120°C、3-5hrs | 120°C、3-5hrs | 120°C、3-5hrs | 80°C、3-5hrs | | | | | | |

UL File No. : QMFZ2.E48268 (Company Name: IDEMITSU KOSAN CO LTD, Category Name: Plastics - Component)

◇Data in this Catalogue shows sample figures measured under certain specific conditions.

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◇Figures of physical characteristics of other producer's resins have been referred from their catalogues and information source thereof.

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◇Flammability rating in this Catalogue was evaluated with small-scale test method and it is not intended to reflect fire proof performance in case of actual fire.