

DSM Engineering Plastics - Property Data

Xantar® 25 U

PC-unfilled

High Viscosity, UV Stabilized

| Properties | Typical Data | Unit | Test Method |
|------------|--------------|------|-------------|
|------------|--------------|------|-------------|

RHEOLOGICAL PROPERTIES

| | | | |
|------------------------------|-----|------------------------|-----------|
| Melt volume-flow rate | 5 | cm ³ /10min | ISO 1133 |
| Temperature | 300 | °C | ISO 1133 |
| Load | 1.2 | kg | ISO 1133 |
| Molding shrinkage (parallel) | 0.6 | % | ISO 294-4 |

MECHANICAL PROPERTIES

| | | | |
|-------------------------------------|------|-------------------|--------------|
| Tensile modulus | 2300 | MPa | ISO 527-1/-2 |
| Yield stress | 60 | MPa | ISO 527-1/-2 |
| Yield strain | 6 | % | ISO 527-1/-2 |
| Nominal strain at break | >50 | % | ISO 527-1/-2 |
| Flexural modulus | 2400 | MPa | ISO 178 |
| Flexural strength | 90 | MPa | ISO 178 |
| Izod notched impact strength (23°C) | 80 | kJ/m ² | ISO 180/4A |
| Rockwell hardness, M scale | 70 | - | ISO 2039-2 |

THERMAL PROPERTIES

| | | | |
|--|------|--------|-----------------|
| Temp. of deflection under load (1.80 MPa) | 130 | °C | ISO 75-1/-2 |
| Vicat softening temperature (50°C/h 50N) | 150 | °C | ISO 306 |
| Coeff. of linear therm. expansion (parallel) | 0.65 | E-4/°C | ISO 11359-1/-2 |
| Burning Behav. at 1.6 mm nom. thickn. | V-2 | class | IEC 60695-11-10 |
| Thickness tested | 1.5 | mm | IEC 60695-11-10 |
| Burning Behav. at thickness h | V-2 | class | IEC 60695-11-10 |
| Thickness tested | 3 | mm | IEC 60695-11-10 |
| Oxygen index | 26 | % | ISO 4589-1/-2 |
| Ball pressure temperature | 125 | °C | IEC 60695-10-2 |
| Glow Wire Flammability Index GWFI | 800 | °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 | 825 | °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 | 125 | °C | UL746B |
| RTI without impact (Thickness (1) tested) | 1.5 | mm | UL746B |
| Relative Temperature Index - without impact | 130 | °C | UL746B |
| RTI without impact (Thickness (2) tested) | 3 | mm | UL746B |

ELECTRICAL PROPERTIES

| | | | |
|----------------------------------|-----------------|-------|-------------|
| Relative permittivity (100Hz) | 3 | - | IEC 60250 |
| Relative permittivity (1 MHz) | 2.9 | - | IEC 60250 |
| Dissipation factor (100 Hz) | 6.6 | E-4 | IEC 60250 |
| Dissipation factor (1 MHz) | 92 | 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 | 225 | - | IEC 60112 |
| Comparative tracking index (PLC) | 2 | class | UL 746A |

OTHER PROPERTIES

| | | | |
|---------------------|-------------|-------------------|----------------|
| Water absorption | 0.35 | % | Sim. to ISO 62 |
| Density | 1200 | kg/m ³ | ISO 1183 |
| Light transmittance | 89 | % | ASTM D1003 |

MATERIAL SPECIFIC PROPERTIES

| | | | |
|---------------------------|-----------|--------------------|------------|
| Limiting Viscosity Number | 56 | cm ³ /g | ISO 1628-4 |
|---------------------------|-----------|--------------------|------------|

RHEOLOGICAL CALCULATION PROPERTIES

| | | | |
|------------------------------|-------------|---------|---|
| Thermal conductivity of melt | 0.24 | W/(m K) | - |
|------------------------------|-------------|---------|---|

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