

Stanyl[®] TS250F6D

PA46–GF30 FR(17)

30% Glass Reinforced, Flame Retardant, Heat Stabilized, Improved resistance to blistering during reflow – soldering process

Stanyl[®] TS250F6D is an electro–friendly & flame–retarded high heat polyamide that offers excellent creep resistance, strength, stiffness and fatigue resistance especially at high temperatures in combination with cycle–time advantages and excellent flow.

| PROPERTIES | TYPICAL DATA | UNIT | TEST METHOD |
|--------------------------------|-------------------|-------------------|-------------------|
| RHEOLOGICAL PROPERTIES | | | |
| | DRY / COND | | |
| Molding shrinkage [parallel] | 0.4 / * | % | Sim. to ISO 294–4 |
| Molding shrinkage [normal] | 1.1 / * | % | Sim. to ISO 294–4 |
| MECHANICAL PROPERTIES | | | |
| | DRY / COND | | |
| Tensile modulus | 12400 / 8500 | MPa | ISO 527–1/–2 |
| Tensile modulus (120°C) | 7300 / – | MPa | ISO 527–1/–2 |
| Tensile modulus (160°C) | 5500 | MPa | ISO 527–1/–2 |
| Stress at break | 180 / 115 | MPa | ISO 527–1/–2 |
| Stress at break (120°C) | 100 / – | MPa | ISO 527–1/–2 |
| Stress at break (160°C) | 80 | MPa | ISO 527–1/–2 |
| Strain at break | 2.2 / 3 | % | ISO 527–1/–2 |
| Strain at break (120°C) | 4 / – | % | ISO 527–1/–2 |
| Strain at break (160°C) | 6 | % | ISO 527–1/–2 |
| Flexural modulus | 11300 / 7500 | MPa | ISO 178 |
| Flexural modulus (120°C) | 6500 | MPa | ISO 178 |
| Flexural modulus (160°C) | 5000 | MPa | ISO 178 |
| Flexural strength | 250 / 190 | MPa | ISO 178 |
| Flexural strength (120°C) | 170 | MPa | ISO 178 |
| Flexural strength (160°C) | 140 | MPa | ISO 178 |
| Charpy impact strength (+23°C) | 60 / 60 | kJ/m ² | ISO 179/1eU |

Property Data

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| <i>PROPERTIES</i> | <i>TYPICAL DATA</i> | <i>UNIT</i> | <i>TEST METHOD</i> |
|--|---------------------|-------------------|--------------------|
| Charpy impact strength (-30°C) | 50 / 50 | kJ/m ² | ISO 179/1eU |
| Charpy notched impact strength (+23°C) | 12 / 12 | kJ/m ² | ISO 179/1eA |
| Charpy notched impact strength (-30°C) | 11 / 11 | kJ/m ² | ISO 179/1eA |
| Izod notched impact strength (+23°C) | 11 / 11 | kJ/m ² | ISO 180/1A |
| Izod notched impact strength (-40°C) | 11 / 11 | kJ/m ² | ISO 180/1A |

THERMAL PROPERTIES

DRY / COND

| | | | |
|--|----------|--------|------------------------|
| Melting temperature (10°C/min) | 295 / * | °C | ISO 11357-1/-3 |
| Temp. of deflection under load (1.80 MPa) | 290 / * | °C | ISO 75-1/-2 |
| Temp. of deflection under load (0.45 MPa) | 290 / * | °C | ISO 75-1/-2 |
| Coeff. of linear therm. expansion (parallel) | 0.25 / * | E-4/°C | ISO 11359-1/-2 |
| Coeff. of linear therm. expansion (normal) | 0.55 / * | E-4/°C | 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 | Yes / * | - | - |
| Burning Behav. at 3.0 mm nom. thickn. | V-0 / * | class | IEC 60695-11-10 |
| Thickness tested | 3 / * | mm | IEC 60695-11-10 |
| UL recognition | Yes / * | - | - |
| Relative Temperature Index – electrical | 140 | °C | UL746B |
| RTI electrical (Thickness (1) tested) | 0.67 | mm | UL746B |
| Thermal Index 5000 hrs | 163 | °C | IEC 60216/ISO 527-1/-2 |

ELECTRICAL PROPERTIES

DRY / COND

| | | | |
|-------------------------------|-------------|-------|---------------|
| Volume resistivity | >1E13 / 1E8 | Ohm*m | IEC 62631-3-1 |
| Electric strength | 30 / 20 | kV/mm | IEC 60243-1 |
| Comparative tracking index | 250 / - | V | IEC 60112 |
| Relative permittivity (100Hz) | 4.3 / 10 | - | IEC 62631-2-1 |
| Relative permittivity (1 MHz) | 4 / 4.5 | - | IEC 62631-2-1 |

Property Data

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| <i>PROPERTIES</i> | <i>TYPICAL DATA</i> | <i>UNIT</i> | <i>TEST METHOD</i> |
|--------------------------------|--------------------------|-------------------|--------------------|
| Relative permittivity (1GHz) | 3.6 / 3.8 | – | IEC 61189–2–721 |
| <i>OTHER PROPERTIES</i> | | | |
| | <i>DRY / COND</i> | | |
| Humidity absorption | 1.6 / * | % | Sim. to ISO 62 |
| Density | 1680 / – | kg/m ³ | ISO 1183 |