

# Stanyl® TS250F6D

## PA46–GF30 FR(17)

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

Print Date: 2025–10–23

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       |
|--------------------------------|-------------------|-------|-------------------|
| <b>RHEOLOGICAL PROPERTIES</b>  |                   |       |                   |
|                                | <b>DRY / COND</b> |       |                   |
| Molding shrinkage [parallel]   | 0.4 / *           | %     | Sim. to ISO 294–4 |
| Molding shrinkage [normal]     | 1.1 / *           | %     | Sim. to ISO 294–4 |
| <b>MECHANICAL PROPERTIES</b>   |                   |       |                   |
|                                | <b>DRY / COND</b> |       |                   |
| 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/m² | ISO 179/1eU       |
| Charpy impact strength (–30°C) | 50 / 50           | kJ/m² | ISO 179/1eU       |

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| PROPERTIES                             | TYPICAL DATA | UNIT  | TEST METHOD |
|----------------------------------------|--------------|-------|-------------|
| Charpy notched impact strength (+23°C) | 12 / 12      | kJ/m² | ISO 179/1eA |
| Charpy notched impact strength (−30°C) | 11 / 11      | kJ/m² | ISO 179/1eA |
| Izod notched impact strength (+23°C)   | 11 / 11      | kJ/m² | ISO 180/1A  |
| Izod notched impact strength (−40°C)   | 11 / 11      | kJ/m² | 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) | 0.17 / *   | E-4/°C | ISO 11359-1/-2         |
| Coeff. of linear therm. expansion (normal)   | 0.66 / *   | E-4/°C | ISO 11359-1/-2         |
| Coeff. of linear therm. expansion (parallel) | 0.25       | E-4/°C | ASTM D696              |
| Coeff. of linear therm. expansion (normal)   | 0.55       | E-4/°C | ASTM D696              |
| 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 |

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| PROPERTIES                   | TYPICAL DATA | UNIT  | TEST METHOD     |
|------------------------------|--------------|-------|-----------------|
| Relative permittivity (1GHz) | 3.6 / 3.8    | —     | IEC 61189-2-721 |
| OTHER PROPERTIES             | DRY / COND   |       |                 |
| Humidity absorption          | 1.6 / *      | %     | Sim. to ISO 62  |
| Density                      | 1680 / —     | kg/m³ | ISO 1183        |

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