

# Stanyl® TW241F6

## PA46–GF30

30% Glass Reinforced, Heat Stabilized, Lubricated

Print Date: 2024–09–17

Stanyl® TW241F6 is a 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]  | 0.5 / *           | %    | Sim. to ISO 294–4 |
| Molding shrinkage [normal]    | 1.3 / *           | %    | Sim. to ISO 294–4 |
| <b>MECHANICAL PROPERTIES</b>  |                   |      |                   |
|                               | <b>DRY / COND</b> |      |                   |
| Tensile modulus               | 10000 / 6000      | MPa  | ISO 527–1/–2      |
| Tensile modulus (120°C)       | 5300 / –          | MPa  | ISO 527–1/–2      |
| Tensile modulus (160°C)       | 4750              | MPa  | ISO 527–1/–2      |
| Tensile modulus (180°C)       | 4550              | MPa  | ISO 527–1/–2      |
| Tensile modulus (200°C)       | 4300              | MPa  | ISO 527–1/–2      |
| Stress at break               | 210 / 115         | MPa  | ISO 527–1/–2      |
| Stress at break (120°C)       | 115 / –           | MPa  | ISO 527–1/–2      |
| Stress at break (160°C)       | 100               | MPa  | ISO 527–1/–2      |
| Stress at break (180°C)       | 95                | MPa  | ISO 527–1/–2      |
| Stress at break (200°C)       | 90                | MPa  | ISO 527–1/–2      |
| Strain at break               | 3.7 / 6           | %    | ISO 527–1/–2      |
| Strain at break (120°C)       | 7.5 / –           | %    | ISO 527–1/–2      |
| Strain at break (160°C)       | 8                 | %    | ISO 527–1/–2      |
| Strain at break (180°C)       | 8                 | %    | ISO 527–1/–2      |
| Strain at break (200°C)       | 8                 | %    | ISO 527–1/–2      |
| Flexural modulus              | 9500 / 5500       | MPa  | ISO 178           |
| Flexural modulus (120°C)      | 5100              | MPa  | ISO 178           |

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## Property Data

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| PROPERTIES                             | TYPICAL DATA | UNIT              | TEST METHOD |
|--|--------------|-------------------|-------------|
| Flexural modulus (160°C)               | 4900         | MPa               | ISO 178     |
| Flexural modulus (180°C)               | 4500         | MPa               | ISO 178     |
| Flexural modulus (200°C)               | 4400         | MPa               | ISO 178     |
| Flexural strength                      | 300 / 180    | MPa               | ISO 178     |
| Flexural strength (120°C)              | 160          | MPa               | ISO 178     |
| Flexural strength (160°C)              | 130          | MPa               | ISO 178     |
| Flexural strength (180°C)              | 110          | MPa               | ISO 178     |
| Flexural strength (200°C)              | 105          | MPa               | ISO 178     |
| Charpy impact strength (+23°C)         | 80 / 100     | kJ/m <sup>2</sup> | ISO 179/1eU |
| Charpy impact strength (-30°C)         | 65 / 75      | kJ/m <sup>2</sup> | ISO 179/1eU |
| Charpy notched impact strength (+23°C) | 12 / 21      | kJ/m <sup>2</sup> | ISO 179/1eA |
| Charpy notched impact strength (-30°C) | 11 / 11      | kJ/m <sup>2</sup> | ISO 179/1eA |
| Izod notched impact strength (+23°C)   | 12 / 21      | kJ/m <sup>2</sup> | ISO 180/1A  |
| Izod notched impact strength (-40°C)   | 11 / 11      | kJ/m <sup>2</sup> | 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)   | 0.6 / *  | E-4/°C | ISO 11359-1/-2  |
| Burning Behav. at 1.5 mm nom. thickn.        | HB / *   | 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.        | HB / *   | class  | IEC 60695-11-10 |
| Thickness tested                             | 3 / *    | mm     | IEC 60695-11-10 |
| UL recognition                               | Yes / *  | -      | -               |
| Relative Temperature Index – electrical      | 65       | °C     | UL746B          |
| RTI electrical (Thickness (1) tested)        | 0.75     | mm     | UL746B          |

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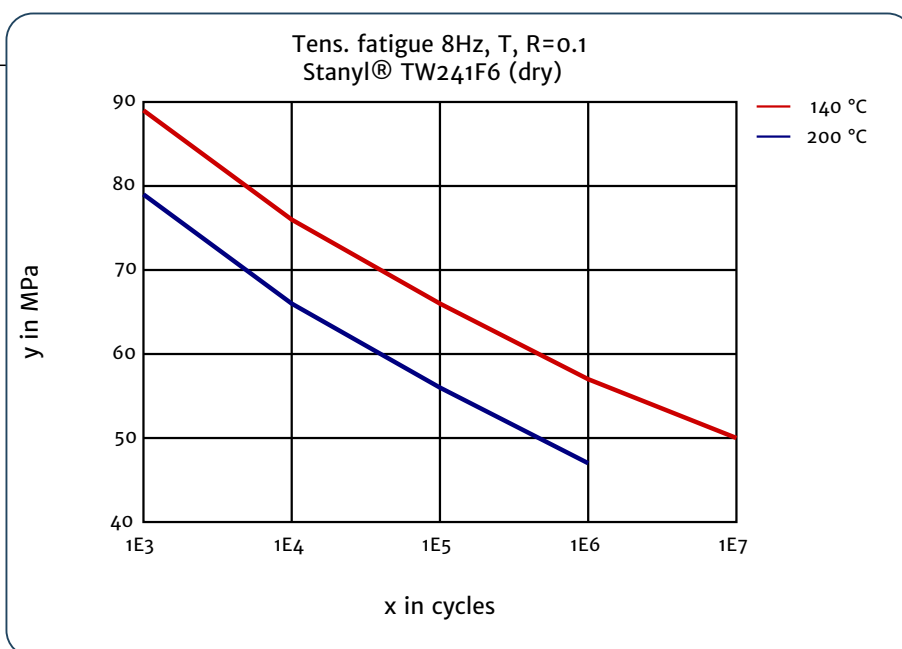
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| PROPERTIES             | TYPICAL DATA | UNIT | TEST METHOD            |
|------------------------|--------------|------|------------------------|
| Thermal Index 5000 hrs | 177          | °C   | IEC 60216/ISO 527-1/-2 |

| ELECTRICAL PROPERTIES         | DRY / COND |       |               |
|-------------------------------|------------|-------|---------------|
| Volume resistivity            | 1E12 / 1E7 | Ohm*m | IEC 62631-3-1 |
| Electric strength             | 30 / 20    | kV/mm | IEC 60243-1   |
| Comparative tracking index    | 300 / -    | V     | IEC 60112     |
| Relative permittivity (100Hz) | 4.3 / 16   | -     | IEC 62631-2-1 |
| Relative permittivity (1 MHz) | 4 / 4.7    | -     | IEC 62631-2-1 |

| OTHER PROPERTIES    | DRY / COND |       |                |
|---------------------|------------|-------|----------------|
| Humidity absorption | 2.6 / *    | %     | Sim. to ISO 62 |
| Density             | 1410 / -   | kg/m³ | ISO 1183       |

Tens. fatigue 8Hz, T, R=0.1 ,  
dry



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