

Stanyl[®] TW371

(PA46+PTFE)

Heat Stabilized, Wear and Friction Modified

Print Date: 2024-09-17

Stanyl[®] TW371 is a friction-modified high heat polyamide that offers excellent wear & friction properties in combination with outstanding 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] | 2 / * | % | Sim. to ISO 294-4 |
| Molding shrinkage [normal] | 2 / * | % | Sim. to ISO 294-4 |
| MECHANICAL PROPERTIES | | | |
| | DRY / COND | | |
| Tensile modulus | 3000 / 1000 | MPa | ISO 527-1/-2 |
| Tensile modulus (120°C) | 750 / - | MPa | ISO 527-1/-2 |
| Tensile modulus (160°C) | 650 | MPa | ISO 527-1/-2 |
| Tensile modulus (180°C) | 600 | MPa | ISO 527-1/-2 |
| Tensile modulus (200°C) | 560 | MPa | ISO 527-1/-2 |
| Yield stress | 90 / 50 | MPa | ISO 527-1/-2 |
| Yield stress (120°C) | 45 | MPa | ISO 527-1/-2 |
| Yield stress (160°C) | 40 | MPa | ISO 527-1/-2 |
| Yield stress (180°C) | 35 | MPa | ISO 527-1/-2 |
| Yield stress (200°C) | 30 | MPa | ISO 527-1/-2 |
| Nominal strain at break | 25 / >50 | % | ISO 527-1/-2 |
| Nominal strain at break (120°C) | >50 | % | ISO 527-1/-2 |
| Nominal strain at break (160°C) | >50 | % | ISO 527-1/-2 |
| Nominal strain at break (180°C) | >50 | % | ISO 527-1/-2 |
| Nominal strain at break (200°C) | >50 | % | ISO 527-1/-2 |
| Flexural modulus | 2850 / 900 | MPa | ISO 178 |

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Property Data

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| PROPERTIES | TYPICAL DATA | UNIT | TEST METHOD |
|--|--------------|-------------------|-------------|
| Flexural modulus (120°C) | 700 | MPa | ISO 178 |
| Flexural modulus (160°C) | 650 | MPa | ISO 178 |
| Flexural strength | 110 / – | MPa | ISO 178 |
| Flexural strength (120°C) | 23 | MPa | ISO 178 |
| Flexural strength (160°C) | 21 | MPa | ISO 178 |
| Charpy impact strength (+23°C) | N / N | kJ/m ² | ISO 179/1eU |
| Charpy impact strength (–30°C) | 150 / N | kJ/m ² | ISO 179/1eU |
| Charpy notched impact strength (+23°C) | 9 / 15 | kJ/m ² | ISO 179/1eA |
| Charpy notched impact strength (–30°C) | 5 / 5 | kJ/m ² | ISO 179/1eA |
| Izod notched impact strength (+23°C) | 7 / 14 | kJ/m ² | ISO 180/1A |
| Izod notched impact strength (–40°C) | 5 / 5 | 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) | 190 / * | °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) | 0.85 / * | E-4/°C | ISO 11359-1/-2 |
| Coeff. of linear therm. expansion (normal) | 1.1 / * | 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 / * | – | – |
| Thermal Index 5000 hrs | 152 | °C | IEC 60216/ISO 527-1/-2 |

ELECTRICAL PROPERTIES

DRY / COND

| | | | |
|--------------------|------------|-------|---------------|
| Volume resistivity | 1E12 / 1E7 | Ohm*m | IEC 62631-3-1 |
|--------------------|------------|-------|---------------|

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Property Data

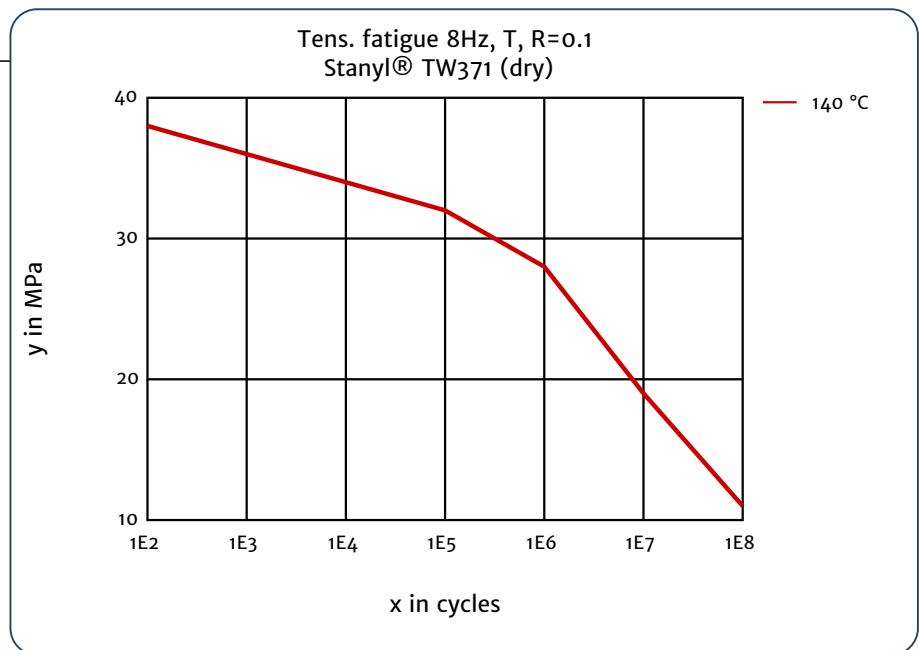
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| PROPERTIES | TYPICAL DATA | UNIT | TEST METHOD |
|----------------------------|--------------|------|-------------|
| Comparative tracking index | 400 / – | V | IEC 60112 |

| OTHER PROPERTIES | DRY / COND | | |
|---------------------|------------|-------------------|----------------|
| Humidity absorption | 3.2 / * | % | Sim. to ISO 62 |
| Density | 1250 / – | kg/m ³ | ISO 1183 |

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



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