

# Stanyl® TW271B6 (PA46+PTFE)-CF30

30% Carbon Reinforced, Heat Stabilized, Wear and Friction Modified

Print Date: 2022-03-18

Stanyl® TW271B6 is a friction-modified 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. TW271B6 has an excellent track-record in gear applications.

| Properties                    | Typical Data  | Unit | Test Method  |
|-------------------------------|---------------|------|--------------|
| <b>Rheological properties</b> | dry / cond    |      |              |
| Molding shrinkage (parallel)  | 0.3 / *       | %    | ISO 294-4    |
| Molding shrinkage (normal)    | 0.7 / *       | %    | ISO 294-4    |
| <b>Mechanical properties</b>  | dry / cond    |      |              |
| Tensile modulus               | 24000 / 14500 | MPa  | ISO 527-1/-2 |
| Tensile modulus (120°C)       | 13500 / -     | MPa  | ISO 527-1/-2 |
| Tensile modulus (160°C)       | 12000         | MPa  | ISO 527-1/-2 |
| Tensile modulus (180°C)       | 11500         | MPa  | ISO 527-1/-2 |
| Tensile modulus (200°C)       | 11000         | MPa  | ISO 527-1/-2 |
| Stress at break               | 260 / 170     | MPa  | ISO 527-1/-2 |
| Stress at break (120°C)       | 140 / -       | MPa  | ISO 527-1/-2 |
| Stress at break (160°C)       | 115           | MPa  | ISO 527-1/-2 |
| Stress at break (180°C)       | 105           | MPa  | ISO 527-1/-2 |
| Stress at break (200°C)       | 95            | MPa  | ISO 527-1/-2 |
| Strain at break               | 1.6 / 3.5     | %    | ISO 527-1/-2 |
| Strain at break (120°C)       | 3.1 / -       | %    | ISO 527-1/-2 |
| Strain at break (160°C)       | 3.1           | %    | ISO 527-1/-2 |
| Strain at break (180°C)       | 3.1           | %    | ISO 527-1/-2 |
| Strain at break (200°C)       | 3.1           | %    | ISO 527-1/-2 |
| Flexural modulus              | 22000 / -     | MPa  | ISO 178      |

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## Property Data

# Stanyl<sup>®</sup> TW271B6

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| Properties                             | Typical Data | Unit              | Test Method |
|--|--------------|-------------------|-------------|
| Flexural strength                      | 365 / -      | MPa               | ISO 178     |
| Charpy impact strength (+23°C)         | 50 / 80      | kJ/m <sup>2</sup> | ISO 179/1eU |
| Charpy impact strength (-30°C)         | 50 / 55      | kJ/m <sup>2</sup> | ISO 179/1eU |
| Charpy notched impact strength (+23°C) | 8 / 17       | kJ/m <sup>2</sup> | ISO 179/1eA |
| Charpy notched impact strength (-30°C) | 7 / 7        | kJ/m <sup>2</sup> | ISO 179/1eA |

### 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    |
| Coeff. of linear therm. expansion (parallel) | 0.25 / * | E-4/°C | ISO 11359-1/-2 |
| Coeff. of linear therm. expansion (normal)   | 0.35 / * | E-4/°C | ISO 11359-1/-2 |

### Other properties

dry / cond

|                     |          |                   |                |
|---------------------|----------|-------------------|----------------|
| Humidity absorption | 2.3 / *  | %                 | Sim. to ISO 62 |
| Density             | 1320 / - | kg/m <sup>3</sup> | ISO 1183       |

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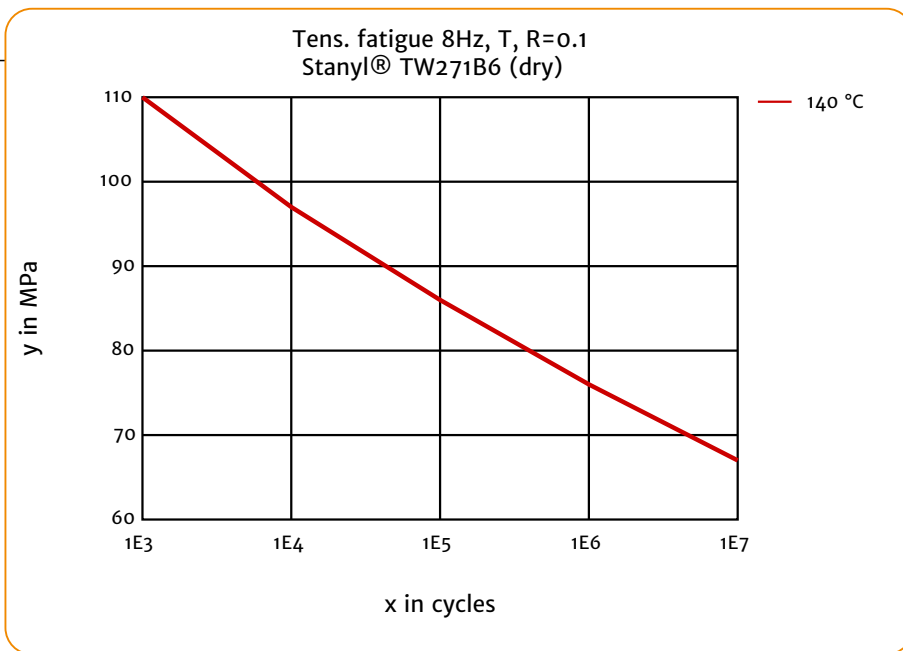
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Tens. fatigue 8Hz, T, R=0.1 ,  
dry



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