

# Stanyl® TW341

## PA46

Heat Stabilized, Lubricated

Print Date: 2024-04-10

Stanyl® TW341 is a V2 UL-rated, non-reinforced 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       |
|---------------------------------|-------------------|------|-------------------|
| <b>RHEOLOGICAL PROPERTIES</b>   |                   |      |                   |
|                                 | <b>DRY / COND</b> |      |                   |
| Molding shrinkage [parallel]    | 2 / *             | %    | Sim. to ISO 294-4 |
| Molding shrinkage [normal]      | 2 / *             | %    | Sim. to ISO 294-4 |
| <b>MECHANICAL PROPERTIES</b>    |                   |      |                   |
|                                 | <b>DRY / COND</b> |      |                   |
| Tensile modulus                 | 3300 / 1000       | MPa  | ISO 527-1/-2      |
| Tensile modulus (120°C)         | 800 / -           | 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)         | 500               | MPa  | ISO 527-1/-2      |
| Yield stress                    | 100 / 55          | MPa  | ISO 527-1/-2      |
| Yield stress (120°C)            | 50                | 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         | 40 / >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                | 3000 / 900        | MPa  | ISO 178           |

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## Property Data

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| PROPERTIES                             | TYPICAL DATA | UNIT              | TEST METHOD |
|--|--------------|-------------------|-------------|
| Flexural modulus (120°C)               | 800          | MPa               | ISO 178     |
| Flexural modulus (160°C)               | 600          | MPa               | ISO 178     |
| Flexural strength                      | 150 / 50     | MPa               | ISO 178     |
| Flexural strength (120°C)              | 50           | MPa               | ISO 178     |
| Flexural strength (160°C)              | 40           | MPa               | ISO 178     |
| Charpy impact strength (+23°C)         | N / N        | kJ/m <sup>2</sup> | ISO 179/1eU |
| Charpy impact strength (-30°C)         | N / N        | kJ/m <sup>2</sup> | ISO 179/1eU |
| Charpy notched impact strength (+23°C) | 10 / 35      | kJ/m <sup>2</sup> | ISO 179/1eA |
| Charpy notched impact strength (-30°C) | 4 / 4        | kJ/m <sup>2</sup> | ISO 179/1eA |
| Izod notched impact strength (+23°C)   | 10 / 35      | kJ/m <sup>2</sup> | ISO 180/1A  |
| Izod notched impact strength (-40°C)   | 4 / 4        | 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)    | 190 / *  | °C     | ISO 75-1/-2            |
| Temp. of deflection under load (0.45 MPa)    | 280 / *  | °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.        | V-2 / *  | 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-2 / *  | class  | IEC 60695-11-10        |
| Thickness tested                             | 3 / *    | mm     | IEC 60695-11-10        |
| UL recognition                               | Yes / *  | -      | -                      |
| Relative Temperature Index – electrical      | 150      | °C     | UL746B                 |
| RTI electrical (Thickness (1) tested)        | 0.75     | mm     | UL746B                 |
| Thermal Index 5000 hrs                       | 152      | °C     | IEC 60216/ISO 527-1/-2 |

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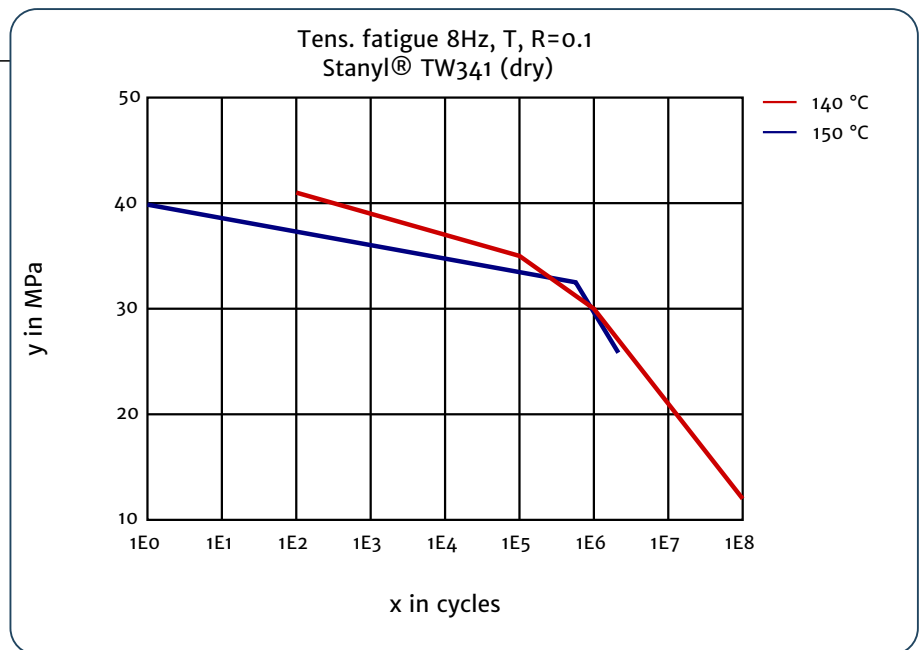
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| PROPERTIES                    | TYPICAL DATA      | UNIT  | TEST METHOD    |
|-------------------------------|-------------------|-------|----------------|
| <b>ELECTRICAL PROPERTIES</b>  |                   |       |                |
|                               | <b>DRY / COND</b> |       |                |
| Volume resistivity            | 1E13 / 1E7        | Ohm*m | IEC 62631-3-1  |
| Electric strength             | 25 / 15           | kV/mm | IEC 60243-1    |
| Comparative tracking index    | 400 / -           | V     | IEC 60112      |
| Relative permittivity (100Hz) | 3.9 / 22          | -     | IEC 62631-2-1  |
| Relative permittivity (1 MHz) | 3.6 / 4.5         | -     | IEC 62631-2-1  |
| <b>OTHER PROPERTIES</b>       |                   |       |                |
|                               | <b>DRY / COND</b> |       |                |
| Humidity absorption           | 3.7 / *           | %     | Sim. to ISO 62 |
| Density                       | 1180 / -          | kg/m³ | ISO 1183       |

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



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