

Stanyl® TW363

PA46-I

Heat Stabilized, Impact Modified

Stanyl® TW363 is an impact-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 | 1850 / 600 | MPa | ISO 527-1/-2 |
| Tensile modulus (120°C) | 400 / - | MPa | ISO 527-1/-2 |
| Tensile modulus (160°C) | 350 | MPa | ISO 527-1/-2 |
| Yield stress | 60 / 45 | MPa | ISO 527-1/-2 |
| Yield stress (120°C) | 35 | MPa | ISO 527-1/-2 |
| Yield stress (160°C) | 30 | MPa | ISO 527-1/-2 |
| Nominal strain at break | >50 / >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 |
| Flexural modulus | 1800 / 550 | MPa | ISO 178 |
| Flexural modulus (120°C) | 400 | MPa | ISO 178 |
| Flexural modulus (160°C) | 350 | MPa | ISO 178 |
| Flexural strength | 80 / 40 | MPa | ISO 178 |
| Flexural strength (120°C) | 40 | MPa | ISO 178 |
| Flexural strength (160°C) | 30 | MPa | ISO 178 |
| Charpy impact strength (+23°C) | N / N | kJ/m² | ISO 179/1eU |

Property Data

Stanyl® TW363

| <i>PROPERTIES</i> | <i>TYPICAL DATA</i> | <i>UNIT</i> | <i>TEST METHOD</i> |
|--|---------------------|-------------------|--------------------|
| Charpy impact strength (-30°C) | N / N | kJ/m ² | ISO 179/1eU |
| Charpy notched impact strength (+23°C) | 75 / 125 | kJ/m ² | ISO 179/1eA |
| Charpy notched impact strength (-30°C) | 26 / 30 | kJ/m ² | ISO 179/1eA |
| Izod notched impact strength (+23°C) | 80 / 125 | kJ/m ² | ISO 180/1A |
| Izod notched impact strength (-40°C) | 40 / 40 | 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) | 90 / * | °C | ISO 75-1/-2 |
| Temp. of deflection under load (0.45 MPa) | 200 / * | °C | ISO 75-1/-2 |
| Coeff. of linear therm. expansion (parallel) | 1.6 / * | E-4/°C | ISO 11359-1/-2 |
| Coeff. of linear therm. expansion (normal) | 1.8 / * | E-4/°C | ISO 11359-1/-2 |
| Thermal Index 5000 hrs | 135 | °C | IEC 60216/ISO 527-1/-2 |

ELECTRICAL PROPERTIES

DRY / COND

| | | | |
|-------------------------------|------------|-------|---------------|
| Volume resistivity | 1E13 / 1E7 | Ohm*m | IEC 62631-3-1 |
| Electric strength | 25 / 15 | kV/mm | IEC 60243-1 |
| Comparative tracking index | 475 / - | V | IEC 60112 |
| Relative permittivity (100Hz) | 3.6 / 14 | - | IEC 62631-2-1 |
| Relative permittivity (1 MHz) | 3.2 / 4 | - | IEC 62631-2-1 |

OTHER PROPERTIES

DRY / COND

| | | | |
|---------------------|----------|-------------------|----------------|
| Humidity absorption | 2.95 / * | % | Sim. to ISO 62 |
| Density | 1100 / - | kg/m ³ | ISO 1183 |