

**Product Texts**

*Intended for engineering applications that require a maximum service temperature higher than that of normal aliphatic polyamides. In addition to the outstanding thermal and chemical resistance, it provides high and constant mechanical performance, unaltered even after moisture absorption. Excellent creep behavior and dimensional stability. Suitable for drinking water applications.*

Flammability @3.2mm nom. HB -  
 thickn.  
 Flammability @0.8mm nom. HB -  
 thickn.

Processing/Physical Characteristics	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Molding shrinkage, parallel	<b>0.3 / *</b>	%	ISO 294-4, 2577
<sup>[C]</sup> Molding shrinkage, normal	<b>0.6 / *</b>	%	ISO 294-4, 2577

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Tensile Modulus	<b>12000 / 12000</b>	MPa	ISO 527
<sup>[C]</sup> Stress at break	<b>200 / -</b>	MPa	ISO 527
<sup>[C]</sup> Strain at break	<b>2.1 / -</b>	%	ISO 527
<sup>[C]</sup> Charpy impact strength, +23°C	<b>50 / -</b>	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy impact strength, -30°C	<b>48 / -</b>	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy notched impact strength, +23°C	<b>9 / -</b>	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Charpy notched impact strength, -30°C	<b>8 / -</b>	kJ/m <sup>2</sup>	ISO 179/1eA

[C]: CAMPUS

Thermal properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Temp. of deflection under load, 1.80 MPa	<b>265 / *</b>	°C	ISO 75-1/-2
Thickness tested	<b>1.6 / *</b>	mm	-

[C]: CAMPUS

Other properties	dry / cond	Unit	Test Standard
<sup>[C]</sup> Water absorption	<b>4.1 / *</b>	%	Sim. to ISO 62
<sup>[C]</sup> Humidity absorption	<b>1.4 / *</b>	%	Sim. to ISO 62
<sup>[C]</sup> Density	<b>- / 1430</b>	kg/m <sup>3</sup>	ISO 1183

[C]: CAMPUS

**Characteristics**

**Processing**

Injection Molding

**Chemical Resistance**

General Chemical Resistance

**Delivery form**

Granules, Black

**Certifications**

Drinking water contact

**Special Characteristics**

Heat stabilized or stable to heat

**Regional Availability**

North America, Europe, Asia Pacific

**Features**

Creep Resistance

**Other text information**

**Injection molding**

The XT1 compound is supplied in a moisture-proof package. The maximum humidity content allowed for the injection molding process is 0.10%, but in order to obtain the best performance and avoid possible degradation phenomena we recommend molding with a moisture content < 0.08%. The drying time depends on the initial moisture content and the drying conditions used. Generally 4-6 hours at 120°C with dry air (dew point of about -30°C) are sufficient to prepare a granule stored in unopened packages or with a moisture content of < 0.20-0.25%.

The following conditions apply to the normal injection molding process of XT1 compounds. Machine temperatures: barrel 310-325°C, nozzle and hot runners 325-340°C. Mold temperatures: > 135°C. Back pressure: typically 5 bar (hydraulic pressure). Temperatures exceeding 340°C and long residence time could lead to degradation and brittleness of the material. In case of gas generation in the melt, please verify moisture content and processing temperatures. Usage of regrind is possible depending on the molded part characteristics. For further details, please contact our technical support team.

Parts made by XT1, do not change significantly their performance depending on the moisture uptake. Normally, a conditioning cycle is not necessary. After molding, with favorable environmental conditions, a piece can absorb moisture up to 0,2% in 24h and reach the equilibrium during its lifetime. The post-treatment of the parts may include annealing at 150-160°C in the oven, for two to four hours depending on the temperature. This treatment is useful to relax any internal stress and maximize thermomechanical performance.

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