

# PRECITE® PRELIMINARY

## E 3 natural (8457)

PET

PRECITE® E 3 natural (8457) is an unreinforced, nucleated and medium viscosity polyethylene terephthalate (PET). Due to its very good flowability, an improved surface quality is achieved. This type is characterised by faster crystallisation compared to a standard PET. Due to its low moisture absorption, this material is particularly dimensionally stable and therefore perfectly suitable for precision parts in the automotive, E&E and household goods industries.

### Features

surface modified   easy flow   process improved   nucleated   E&E

### Properties

Modulus

3.200 MPa

Strength

70 MPa

Impact

Na

## Mechanical Properties

### Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

3200 MPa

### Tensile strain at yield

ISO 527-2

50 mm/min | d.a.m.

4 %

### Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

70 MPa

### Tensile strain at break

ISO 527-2

50 mm/min | d.a.m.

10 %

### Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

3,0 kJ/m<sup>2</sup>

## Thermal Properties

### Temperature of deflection under load HDT/A

ISO 75

1,8 MPa

80 °C

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**Melting temperature**

ISO 11357-3

DSC, 10K/min

**250 °C**

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**Flammability**

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**Flammability**

UL 94

0,8 mm Wall thickness

**HB Class**

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**General Properties**

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**Density**

ISO 1183

23°C

**1,37 g/cm<sup>3</sup>**

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**Molding shrinkage**

ISO 294-4

flow

**1,5 - 1,7 %**

transverse

**1,5 - 1,7 %**

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**Rheological Properties**

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**MVR**

ISO 1133

275°C/5kg

**80 cm<sup>3</sup>/10 min**

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## Processing

The values mentioned are recommendations. We only recommend desiccant / dry air dryers or vacuum dryers. Too long a drying time and the resulting residual moisture content below the lower limit can lead to filling problems and surface defects. The specified drying time refers to closed and undamaged bagged material. When processing from previously opened bags or from octabins with polyolefin inliners, a longer drying time may be necessary. It is recommended to check the residual moisture content after the drying process.



<b>D</b>	Drying time	3 - 4 h
	Drying temperature ( $\tau \leq -30^{\circ}\text{C}$ )	80 - 100 °C
	Processing moisture	0,02 %
<b>1</b>	Feed section	60 - 80 °C
<b>2</b>	Temperature Zone 1 - Zone 4	270 - 290 °C
<b>3</b>	Nozzle temperature	270 - 295 °C
<b>4</b>	Melt temperature	270 - 290 °C
<b>5</b>	Mold temperature	130 - 160 °C
<b>→</b>	Holding pressure, spec.	300 - 800 bar
<b>←</b>	Back pressure, spec.	30 - 100 bar
	Injection speed	medium to high
	Screw speed	8 - 15 m/min