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PolypropyleneTM DaplenTM EF103AE

Polypropylene TPO Compound

Description

Daplen EF103AE is a 10% mineral filled elastomer modified polypropylene compound intended for injection moulding.

This material has excellent balanced mechanical properties, high melt flow rate and gives a good surface quality.

Applications

Daplen EF103AE has been developed especially for the car industry to be used in automotive exterior parts.

Bumpers
Body side mouldings

Body panels

Special features

Suitable for applications, which require low expansion over a broad temperature scale

High flowability allowing to mould complex-structured parts with very high "flow path / wall thickness ratios"

Physical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Density	970 kg/m ³	ISO 1183
Melt Flow Rate (230 °C/2,16 kg)	16 g/10min	ISO 1133
Flexural Modulus (2 mm/min)	1.200 MPa	ISO 178
Flexural Strength	22 MPa	ISO 178
Tensile Modulus (1 mm/min)	1.200 MPa	ISO 527-2
Tensile Strain at Yield (50 mm/min)	8 %	ISO 527-2
Tensile Strain at Break (50 mm/min)	> 100 %	ISO 527-2
Tensile Stress at Yield (50 mm/min)	18 MPa	ISO 527-2
Heat Deflection Temperature A (1,80 MPa)	48 °C	ISO 75-2
Heat Deflection Temperature B (0,45 MPa)	83 °C	ISO 75-2
Vicat softening temperature (50 N)	40 °C	ISO 306
Coefficient of Thermal Expansion (-30 °C/80 °C)	80 µm/mK	Borealis Method
Charpy Impact Strength, notched (23 °C)	46 kJ/m ²	ISO 179/1eA
Charpy Impact Strength, notched (-20 °C)	6,6 kJ/m ²	ISO 179/1eA
Charpy Impact Strength, notched (-30 °C)	5,4 kJ/m ²	ISO 179/1eA
Charpy Impact Strength, unnotched (23 °C)	No break	ISO 179/1eU
Charpy Impact Strength, unnotched (-20 °C)	210 kJ/m ²	ISO 179/1eU
Izod Impact Strength, notched (23 °C)	44 kJ/m ²	ISO 180/A
Izod Impact Strength, notched (-20 °C)	6,5 kJ/m ²	ISO 180/A

Values determined on standard injection moulded specimens conditioned at 23°C and 50% relative humidity after at least 96 hours storage time.

Daplen is a trademark of Borealis A/S, Denmark.

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Polypropylene

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Application Related Tests

Property	Typical Value	Test Method
	Data should not be used for specification work	
Mould average Shrinkage (disk) ¹	0,85 %	Borealis Method
Post Shrinkage (2h/90 °C) ¹	0,10 %	Borealis Method

¹ VALUES MAY ONLY BE USED AS INDICATION, AND SHOULD NOT BE USED DIRECTLY IN MOULD DESIGN WITHOUT PRIOR VALIDATION

Processing Techniques

The actual conditions will depend on the type of equipment used.

Injection Moulding

This product is easy to process with standard injection moulding machines. To avoid residual humidity from transport or storage, the material should be pre-dried approximately 2h at 80°C. Following parameters should be used as guidelines:

Feeding temperature	40 - 80 °C
Mass temperature	220 - 260 °C
Back pressure	Low to medium
Holding pressure	30 - 60 MPa
Mould temperature	30 - 50 °C
Screw speed	Low to medium
Flow front speed	100 - 200 mm/s

Storage

Daplen EF103AE should be stored in dry conditions at temperatures below 50°C and protected from UV-light. Improper storage can initiate degradation, which results in odour generation and colour changes and can have negative effects on the physical properties of this product.

Safety

The product is not classified as a dangerous preparation.

Please see our Safety Data Sheet for details on various aspects of safety of the product, for more information contact your Borealis representative.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling.

Please see our Safety Data Sheet for details on various aspects of recovery and disposal of the product.

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 Polypropylene
Daplen EF103AE**Disclaimer**

The product(s) mentioned herein are not intended to be used for medical, pharmaceutical or healthcare applications and we do not support their use for such applications.

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