



Polypropylene HC205TF

Polypropylene Homopolymer for Thermoforming

Description

HC205TF is a low melt flow rate polypropylene homopolymer intended for thermoformed packaging applications. This homopolymer is produced using the Borealis Controlled Crystallinity Polypropylene (CCPP) technology. This provides a polypropylene with excellent processing consistency and its high crystallisation temperature allows for reduced cycle time and increased output. **HC205TF** is suitable for both in-line and off-line thermoforming where it shows a wide processing window and gives very consistent shrinkage behaviour after forming.

Products made from **HC205TF** are characterised by excellent clarity, good stiffness and better impact properties than conventionally nucleated homopolymers. **HC205TF** has excellent organoleptic properties making it suitable for the most sensitive packaging applications.

Applications

HC205TF is recommended for the following applications:

- Highly transparent and glossy trays, cups and containers.
- Houseware and thin wall packaging requiring good antistatic properties.
- Margarine tubs and dairy containers.
- Blending with copolymers for lids.

Physical Properties**

		Typical Value*	Unit	Test Method
Density		905	kg/m ³	ISO 1183
Melt Flow Rate	(230°C/2.16 kg)	4	g/10 min	ISO 1133
Melting Temperature	(DSC)	164-168	°C	ISO 3146
Flexural Modulus	(5 mm/min)	1700	MPa	ISO 178
Tensile Stress at Yield	(50 mm/min)	35.5	MPa	ISO 527-2
Tensile Strain at Yield	(50 mm/min)	8	%	ISO 527-2
Tensile Modulus	(1mm/min)	1750	MPa	ISO 527-2
Charpy Impact Strength, notched	(+23°C)	5	kJ/m ²	ISO 179/1eA
Heat Deflection Temperature	(0.45 MPa)	106	°C	ISO 75-2

* Data should not be used for specific work.

** Values determined on injection moulded specimens acc. to ISO/DIS 1873-2 (94).

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Processing Guidelines

HC205TF can be processed on machines built for normal PP extrusion and thermoforming. The following settings can be used as guidelines.

Extrusion

Melt temperature		210 - 240°C
Chill-roll temperature	1st Roll:	40 - 70°C
	2nd Roll:	50 - 90°C
	3rd Roll:	40 - 70°C

Thermoforming

Forming temperature:	Solid phase forming:	140 - 155°C depending on forming pressure and plug assist pressure.
	Melt phase forming:	180 - 225°C
Mould temperature:		20 - 40°C
Shrinkage:		1.5 - 2.5% depending on wall thickness and moulding parameters.

Storage and Handling

HC205TF 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

HC205TF is not classified as a dangerous preparation.

Dust and fines from the product carry a risk of dust explosion. All equipment should be properly earthed. Inhalation of dust should be avoided as it may cause irritation of the respiratory system. Small amounts of fumes are generated during processing of the product. Proper ventilation is therefore required.

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.

A Safety Data Sheet is available on request. Please contact your Borealis representative for more details on various aspects of safety, recovery and disposal of the product.



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Related Documents

The following related documents are available on request, and represent various aspects on the usability, safety, recovery and disposal of the product:

Safety Data Sheet, SDS
Environmental Fact Sheet

Liability statements on:

- Compliance to Food Contact Regulations
- Compliance to Regulations on Medical Uses
- Statement on Heavy Metals

Disclaimer

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