



Polypropylene
Daploy™ WB130HMS
 High-Melt Strength Polypropylene for Foam Extrusion

Description

Daploy WB130HMS resin is a propylene-based, structurally isomeric polymer, which combines significantly increased melt strength with largely improved drawability of the polymer melt. Thus, the material is generally characterised by improved processability in polymer forming technologies where stretching flows occur.

Daploy WB130HMS is specially designed for polypropylene foam extrusion, in particular for direct gassing technology. Depending on foam technology, densities of foamed materials in between 40 and 700 g/l can be achieved.

According to the application, **Daploy WB130HMS** can be used on its own or in blends with other grades of PP with lower melt strength.

Daploy WB130HMS is characterised by:

- Combination of high strength and drawability in melt phase
- High stiffness
- High service temperature
- Foamability in foam extrusion processes, especially by direct gassing
- Thermoformability of foamed materials based on **Daploy WB130HMS**
- Good insulating properties of foamed materials based on **Daploy WB130HMS**
- Recyclability

Application

- Thermoformable, foamed films and sheets
- Lightweight packaging trays, beakers and containers
- Microwaveable food packaging
- Technical foams for automotive applications such as headliners, carpet backing,
- Door liners, parcel shelves, water shields, under-the-hood acoustic panels
- Cushioning and protective packaging
- Thermal and acoustic insulation

Daploy is a trademark of Borealis A/S, Denmark

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Physical Properties**

		Typical Value*	Unit	Test Method
Melt Flow Rate	(230°C/2.16 kg)	2.1	g/10 min	ISO 1133
Flexural Modulus		1900	MPa	ISO 178
Tensile Strength at Yield		40	MPa	ISO 527-2
Elongation at Yield		6	%	ISO 527-2
Tensile Modulus		2000	MPa	ISO 527-2
Charpy impact strength, notched	(+23°C)	3.0	kJ/m ²	ISO 179/1eA
Charpy Impact Strength, notched	(-20°C)	1.0	kJ/m ²	ISO 179/1eA
Heat deflection temperature (A)		60	°C	ISO 75-2
Heat deflection temperature (B)		110	°C	ISO 75-2

* Data should not be used for specific work.

** Injection moulded test specimen

Processing Guidelines

Daploy WB130HMS and its mixtures with linear standard polypropylenes may be processed on all conventional equipment for the manufacture of non-crosslinked polyolefin foams with suitable tooling.

Feasible foam density, thickness and quality depend on the polymers, blowing agents, processing aids and on the design of the foam extrusion equipment, as well as the chosen process parameters.

The processing temperature, with normal residence times, should not exceed 260°C. Higher melt temperatures could cause thermal oxidative damage, due to interaction with atmospheric oxygen, and could impair material properties.

It should be ensured that there is adequate ventilation during processing of **Daploy WB130HMS** and its mixtures with linear standard polypropylenes and continuous breathing of vapours should be avoided. The addition of processing aids or master batches can influence the properties of **Daploy WB130HMS** and its mixtures with linear standard polypropylenes.

Delivery

Natural granules with a bulk density of approximately 0.5 kg/l.



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Storage and handling

Daploy WB130HMS 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

Daploy WB130HMS 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.

Related Documents

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

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
- Statement on Heavy Metals

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