Polyethylene
Bormed™ HE7541-PH

Description
Bormed HE7541-PH is a resin intended for evaluation for use in Healthcare applications.

Bormed HE7541-PH is a bimodal high-density polyethylene typically used in articles produced via injection moulding. This grade combines high environmental stress crack resistance and easy processing. Material can be sterilised with ethylene oxide, steam and radiation up to 35 kGy; as a result of sterilisation by radiation some minor yellowing can occur.

Applications
Bormed HE7541-PH has been evaluated according to different regulations and norms. Typical applications are mentioned below for Medical devices or Pharmaceutical & Diagnostic packaging. However, Borealis should be consulted for final approval to evaluate the use of Bormed HE7541-PH .

Bottles and containers for tablets
Bottles and containers for powder
Bottles and containers for granules
Caps and closures
Shoulders for tubes

This grade may only be used for the applications listed in the Product Datasheet and only to the extent that the application is within the scope of the tests set out in the Statement on Compliance to Regulations on Medical Use for that grade. If an application is not listed in the Product Datasheet, the grade can be used for such application only after express written consent of the Borealis Marketing Manager, Healthcare.
Borealis prohibits the use of any healthcare grade product in an implantable device that is introduced into the human body by surgical intervention and that is intended to remain in place following surgical procedure.

Special features

Easy processing
High ESCR

Physical Properties

Property	Typical Value Data should not be used for specification work	Test Method
Density	954 kg/m3	ISO 1183
Melt Flow Rate (190 °C/2,16 kg)	4 g/10min	ISO 1133
Flexural Modulus	950 MPa	ISO 178
Tensile Modulus (1 mm/min) [1]	850 MPa	ISO 527-2
Tensile Strain at Yield (50 mm/min) [1]	10 %	ISO 527-2
Tensile Stress at Yield (50 mm/min) [1]	22 MPa	ISO 527-2
Tensile Impact Stength, notched (23 °C)	80 kJ/m²	ISO 8256/1A
Heat Deflection Temperature (0,45 MPa) [2]	65 °C	ISO 75-2
Environmental Stress Crack Resistance (Antarox 10 %), (F50)	40 h	ASTM D 1693-A
Hardness, Shore D	61	ISO 868

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[1] Measured on injection moulded specimens acc. to ISO 1872-2
[2] Measured on injection moulded specimens acc. to ISO 1873-2

Processing Techniques
Following parameters should be used as guidelines:

Injection Moulding

Melt temperature	190 - 250 °C	
Holding pressure	As low as possible	Minimum to avoid sink marks.
Mould temperature	10 - 40 °C	
Injection speed	As high as possible.	

Shrinkage 1 - 2 %, depending on wall thickness and moulding parameters

Storage
Bormed HE7541-PH 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 dangerous.

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" / "Product safety information sheet" for details on various aspects of safety, recovery and disposal of the product. For more information, contact your Borealis representative.

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

Recovery and disposal of polyolefins
"Safety data sheet" / "Product safety information sheet"
Information on emissions from processing and fires
Statement on compliance to regulations on medical use
Statement on compliance to food contact regulations
Statement on chemicals, regulations and standards
Statement on polymer additives and BSE

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Disclaimer

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication, however we do not assume any liability whatsoever for the accuracy and completeness of such information.

Borealis makes no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.

It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.

No liability can be accepted in respect of the use of any Borealis product in conjunction with any other products and/or materials. The information contained herein relates exclusively to our products when not used in conjunction with any other material unless as specifically provided for in the test methods stated above.