

Polyethylene

BorSafe™ HE3493-LS-H

Natural High Density Polyethylene compound for pressure pipes

Description

BorSafe™ HE3493-LS-H is a bimodal polyethylene compound produced by the advanced Borstar technology. The product is a readymade compound, including carefully selected stabilizers to ensure excellent long-term thermal stability and UV-resistance for limited outdoors storage of the final product.

BorSafe HE3493-LS-H is classified as an MRS 10.0 material (PE100) and is PE100-RC classified following the draft EN/ISO PE pressure pipe standards as currently revised.

Applications

BorSafe HE3493-LS-H is recommended for:

Corrugated pipes	Industrial
Relining	Co-extrusion of layers for pressure pipes
Sheets and profiles	Cable protection pipes
Glass fibre ducts	

Specifications

BorSafe HE3493-LS-H provides an improved performance level in terms of drinking water related requirements such as migration limits. The sensoric properties like taste and odour are regularly monitored for the compound to ensure a high constant level of quality.

The product is a high-density hexene copolymer compound with an outstanding resistance to slow crack growth and used for non-conventional pipe installation technologies, like No Dig. It shows excellent resistance to rapid crack propagation. Thanks to the molecular structure, it offers outstanding extrudability and good melt strength, supporting a problem-free extrusion process to tight tolerances.

Physical Properties

Property	Typical Value	Test Method
	Data should not be used for specification work	
Density (Compound)	949 kg/m ³	ISO 1183-1, Method A
Melt Flow Rate (190 °C/5,0 kg)	0,23 g/10min	ISO 1133
Tensile Modulus (1 mm/min)	950 MPa	ISO 527-2
Tensile Strain at Break (50 mm/min)	> 600 %	ISO 527-2
Tensile Stress at Yield (50 mm/min)	23 MPa	ISO 527-2
Oxidation Induction Time (210 °C)	>= 30 min	ISO 11357-6
Resistance to rapid crack propagation (S4 test, Pc at 0 °C, Test pipe 250 mm, SDR11)	10 bar	ISO 13477
Resistance to slow crack growth / Strain Hardening Modulus	>= 65 bar	ISO 18488
Resistance to slow crack growth / Accelerated Notched Pipe Test (ANPT) in 2% Arkopal N-100 solution (9,2 bar, 80 °C)	>= 300 h	ISO 13479
Resistance to slow crack growth / Accelerated Full Notch Creep Test (AFNCT) in 2% Dehyton solution (4 bar, 90 °C)	>= 550 h	ISO 16770
Resistance to slow crack growth / Cracked Round Bar (CRB), converted to 14,0 mm and initial crack length 1,40 mm (12,5 MPa, 23°C)	1,5 Million cycles	ISO 18489
Resistance to weathering ≥ 7GJ/m ² , tests acc. to EN 1555-1	Pass	EN ISO 16871

BorSafe is a trademark of the Borealis group.

Polyethylene

BorSafe HE3493-LS-H

Processing Techniques

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

Extrusion

Cylinder	190 - 210 °C
Head	200 - 210 °C
Die	200 - 210 °C
Melt temperature	200 - 220 °C

Specific recommendations for processing conditions can be determined only when the application and type of equipment are known. For normal conditions and applications we suggest preheating and drying. Please contact your local Borealis representative for such particulars.

Storage

BorSafe HE3493-LS-H shall be stored indoors below 50°C in unopened original packaging in clean and dry environment. It is recommended to ensure proper stock rotation by using first in – first out principle. Following aforementioned conditions the material can be stored for a period of up to 3 years after production. However, caution shall be taken regarding the moisture level. It is recommended to measure the moisture after longer storage periods prior to processing.

Safety

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.

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.

Polyethylene

BorSafe HE3493-LS-H

Issuer:

Marketing Pipe / Norbert Jansen
Product Management / Gabriele Poinsett

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.

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.