PRODUCT DATA SHEET

05.06.2024 Ed.1

Polyethylene

HE1878E

Crosslinkable PE (PEX)

Description

HE1878E is a high molecular weight, high density polyethylene specially designed for production of crosslinked pipes (PE-X).

Typical characteristics

HE1878E can be described with following typical characteristics:

HE1878E is a free flowing powder for the PE-Xa peroxide crosslinking process. The material is only stabilized for transporting and storage. A crosslinking agent (e.g. peroxide) and stabilizers have to be added by the pipe manufacturer. Good crosslink response and well-balanced powder size distribution enable effective soaking and a stable pipe production.

Applications

HE1878E is intended for following applications:

District heating
Domestic gas
Domestic water
Heating
Industrial applications
Plumbing
Relining

Specifications

HE1878E is expected to meet the applicable requirements included in the below mentioned standards provided it is processed using sound material handling and processing practices as well as appropriate testing procedures.

DIN 16892
DIN 16893
EN ISO 15875
ASTM F876

Physical properties

Property	Typical value *	Unit	Test method
Density	953.0	kg/m³	ISO 1183-1
Melt flow rate （190 °C/21.6 kg)	10.8	g/10min	ISO 1133-1
Tensile stress at yield （50 mm/min)	22	MPa	ISO 527-2
Tensile strain at break	>600	%	ISO 527-2

* Data should not be used for specification work

Processing techniques

Extrusion:
The actual extrusion conditions will depend on the type of equipment used. They will also depend on size and wall thickness of the pipe produced. HE1878E is successfully used in the industry on the RAM (Engel) process as well as on screw extrusion equipment in combination with different PE-Xa crosslinking methods.

Crosslinking:
The product has been tailored for the screw extrusion process in combination with the infrared crosslinking method. Specific recommendations for processing conditions can be determined only when the application and type of equipment are known. Please contact your local Borealis representative for such particulars.

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Packaging and storage

HE1878E 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 safely be stored for a period of up to 12 months 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.

Product compliance documents

Latest versions of product safety information sheets (PSIS), product safety data sheets (SDS) and other product liability documents are available in our website www.borealisgroup.com.

Sustainability aspects

Borealis is ever mindful of the impact of our products on the planet. We promote Design for Circularity (DfC) and Design for Recycling (DfR) to conserve natural resources and to reduce the environmental impact of products over their entire lifetime (including production, use phase and after phase). DfR helps ensure that material can be effectively recycled while maximizing the material performance efficiency.

Further information on sustainability and Design for Recycling (DfR) can be found from our websites www.borealisgroup.com and www.borealiseverminds.com.

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.

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