

Polyethylene

Borcoat™ ME0420**Grafted Polyethylene Adhesive for Steel Pipe Coating****Description**

Borcoat ME0420 is a maleic anhydride grafted polyethylene (PE) adhesive. The product is non-pigmented (not coloured) and available in pellet form for processing via extrusion.

Applications

Steel pipe coating

Borcoat ME0420 is intended to be used as an adhesive in three-layer-PE based anti-corrosion coatings for steel pipes covering a design temperature range from -40°C up to +90°C.

Borcoat ME0420 is intended to fulfill below mentioned national and international standards and specifications, when appropriate industrial manufacturing standard procedures are applied, a continuous quality system is implemented and when used in combination with a compatible Fusion Bonded Epoxy (FBE) powder and top-coat materials such as Borcoat HE3450, Borcoat HE3450-H, Borcoat HE3453, BorSafe™ ME3441 or BorSafe ME3444.

Specifications

Borcoat ME0420 and/or articles produced from it, are 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.

CAN/CSA-Z245.21

DIN 30670

DNVGL-RP-F106

EN ISO 21809-1

NF A49-710

Physical properties

Property	Typical value *	Unit	Test method
Density	934	kg/m ³	ISO 1183-1/Method A
Melt flow rate (190 °C/2.16 kg)	1.2	g/10min	ISO 1133-1
Flexural Modulus (2 mm/min) (23°C)	350	MPa	ISO 178
Moisture content ¹	≤300	ppm	ISO 15512
Melting temperature ²	122	°C	ISO 11357-3
Oxidation induction time (200 °C)	≥30	min	ISO 11357-6
Tensile stress at yield (50 mm/min) (23°C)	11	MPa	ISO 527-2
Tensile strain at break (50mm/min) (23°C)	≥600	%	ISO 527-2
Vicat softening temperature A50 (10 N)	≥100	°C	ISO 306
Hardness, Shore D ³	50	-	ISO 868
Brittleness temperature	≤-80	°C	ASTM D746
Peel strength (23°C) ⁴	≥200	N/cm	ISO 21809-1
Peel strength (80°C) ⁴	≥50	N/cm	ISO 21809-1
Peel strength (90°C) ⁴	≥50	N/cm	ISO 21809-1

* Data should not be used for specification work

¹ Karl Fischer-titration

² DSC

³ Measured at 1s

⁴ 3 layer

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Other properties

Property	Typical value *	Unit	Test method
Reactive site content	≥0.15	%	Borealis test method
* Data should not be used for specification work			

Processing techniques

Borcoat ME0420 can be applied by flat die or crosshead extrusion. The actual extrusion conditions will depend on the type of equipment used.

Processing setting	Typical value/range
Cylinder temperature	200 - 230 °C
Head temperature	210 - 230 °C
Die temperature	210 - 230 °C
Melt temperature	200 - 230 °C
Steel pipe temperature ⁵	180 - 210 °C

⁵ in line with FBE supplier recommendations

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.

Packaging and storage

Borcoat ME0420 is supplied in 25 kg bags on 1375 kg pallets.

Borcoat ME0420 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 afore-mentioned conditions the material can safely be stored for a period of up to 36 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.

The shelf-life of the product can be extended after Borealis has re-tested selected material properties and verified that the test results are still within the product specification.

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.