Borouge Classification: Public

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PRODUCT DATA SHEET

POLYPROPYLENE
Borstar® RA150E

POLYPROPYLENE RANDOM COPOLYMER FOR PRESSURE PIPE SYSTEMS

DESCRIPTION

Borstar® RA150E is a multimodal BNT Nucleated high molecular weight, low melt flow rate natural colored polypropylene random copolymer (PP-R) with MRS of 11.2 MPa.

APPLICATIONS

Borstar® RA150E together with the appropriate additive package is recommended for the production of PP-R pipes and fittings used in: Heating, Plumbing, Domestic water, Relining, and Industrial applications.

SPECIFICATIONS

Borstar® RA150E is intended to fulfill the following standards and regulations, providing the appropriate industrial manufacturing standard procedures are used and a continuous quality system is implemented: DIN 8078, DIN 8077 and EN ISO 15874.

SPECIAL FEATURES

Borstar® RA150E is a natural grade used for production of pipes and fittings with exceptional long term hydrostatic pressure resistance at elevated temperatures and superior toughness delivering exceptional low temperature impact resistance. The material is in pellet form and includes selected additive package which ensure:

- Enhanced processability
- Economical pipe production
- Excellent product consistency
- High temperature resistance
- Low incidence on taste and odor
- Good impact strength

The pipe systems will show high durability, no corrosion, good weldability, homogeneous joints, low tendency to incrustations and fast and easy installation.

PHYSICAL PROPERTIES

Property	Typical Value	Test Method
Density	905kg/m^3	ISO 1183
Melt Flow Rate (230°C/2.16kg)	0.26g/10min	ISO 1133
Flexural Modulus (2mm/min)	850MPa	ISO 178
Tensile Modulus (1mm/min)	800MPa	ISO 527
Tensile Strain at Yield (50mm/min)	13.5%	ISO 527-2
Tensile Stress at Yield (50mm/min)	25MPa	ISO 527-2
Thermal Conductivity	0.24W/(m K)	DIN 52612
Coefficient of Thermal Expansion (0°C/70°C)	1.8*10E-4/K	DIN 53752
Charpy Impact Strength, notched (23°C)	60 kJ/m²	ISO 179/1eA
Charpy Impact Strength, notched (0°C)	6.0kJ/m²	ISO 179/1eA
Charpy Impact Strength, unotched (23°C)	No break	ISO 179/1eU
Charpy Impact Strength, unotched (0°C)	No break	ISO 179/1eU

*Data should not be used for specification work

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Borouge is a joint venture of ADNOC and Borealis

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PROCESSING CONDITIONS

The actual conditions will depend on the type of the equipment used and the diameter and wall thickness of the pipes produced.

Following parameters should be used as guidelines for extrusion:

Cylinder	180-210°C
Head	210-220°C
Die	210-220°C
Melt temperature	200-220°C

Following parameters should be used as guidelines IM Machines:

Holding Pressure	200-500bar
Mold Temperature	10-40°C
Melt temperature	200-220°C
Injection Speed	As high as possible

Specific recommendations for processing conditions can be determined only when the application and type of equipment are known. Please contact your local Borouge representative for such particulars.

STORAGE

Borstar® RA150E should be stored in dry conditions at temperature bellow 50°C and protected from UV-light. Improper storage can initiate degradation, which results in odor generation and color changes and can have negative effects on physical properties of this product.
More information on storage can be found in Safety Information Sheet (SIS) for this product.

SAFETY

The product is not classified as a hazardous preparation.

Please see our Safety Information Sheet (SIS) for details on various aspects of safety, recovery and disposal of the product, for more information contact your Borouge 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.

RELATED DOCUMENTS

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

Safety Information Sheet
Statement on chemicals, regulations and standards
Statement on compliance to regulations for drinking water pipes

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.
Borouge 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 Borouge products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third party materials.

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