PRODUCT DATA SHEET

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Polypropylene

RA7050

Polypropylene Random Copolymer for Pipe Applications

Description

RA7050 is a polypropylene-random-copolymer with a special crystallinity (PP-RCT) brought by beta-nucleation which exhibits an improved pressure resistance and chlorination resistance, especially at elevated temperatures, green in colour.

Ready compounded material in pellet form for maximum quality control. The colour of RA7050 is grey, similar to RAL 7042 (but not equivalent).

Applications

RA7050 is intended for following applications:

Co-extrusion of layers for pressure pipes
District heating
Drinking water
Heating
Industrial applications
Plumbing
Pressure pipes

Specifications

EN ISO 15874
ASTM F876, Class 3

Physical properties

Property	Typical value *	Unit	Test method
Melt flow rate (230 °C/2.16 kg)	0.25	g/10min	ISO 1133-1
Tensile modulus	850	MPa	ISO 527-2
Tensile strain at yield	10	%	ISO 527-2
Tensile stress at yield	25	MPa	ISO 527-2
Charpy impact strength, notched (23 °C)	40	kJ/m²	ISO 179-1/1eA
Charpy impact strength, notched (0 °C)	4	kJ/m²	ISO 179-1/1eA

* Data should not be used for specification work

Processing techniques

The actual conditions will depend on the type of equipment used. In order to avoid the manufacture of pipes that show a brittle behaviour at the freezing temperature, the following recommendations are to be followed.
It is essential that the melt temperature of the material leaving the die head lies between 220 - 230°C. This is usually achieved by setting the extruder cylinder temperatures in the range of 215 - 230°C and the tool temperatures in the range of 220 - 230°C. The specified melt temperature range provides a homogeneously and thoroughly molten polymer, a prerequisite to achieve an optimum crystal structure.
Furthermore, the defined melt temperature level results in a favourable heat transfer rate for the development of the right form and degree of crystallinity. In addition to the appropriate extruder settings, the impact performance can further be enhanced by an arrangement of cooling tanks that allow for an in-line annealing or by a post-extrusion annealing process. The above mentioned processing technique and set-up depends, however, on the type of equipment used. More 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. The product data sheet does not release customers from their liability to check that delivered material is fit for purpose and application.

Packaging and storage

RA7050 should be stored in dry conditions at temperatures below 50°C and protected from UV-light. Improper storage can initiate degradation, which can result in odour generation and colour changes and can have negative effects on the physical properties of this product. Following aforementioned conditions the material can safely be stored for a period of up to 2 years after production.

BOREALIS

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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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