



Solutions for **Rigid Consumer Products**



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BorPure™

High purity grades setting new standards in organoleptic performance combined with outstanding flow properties.

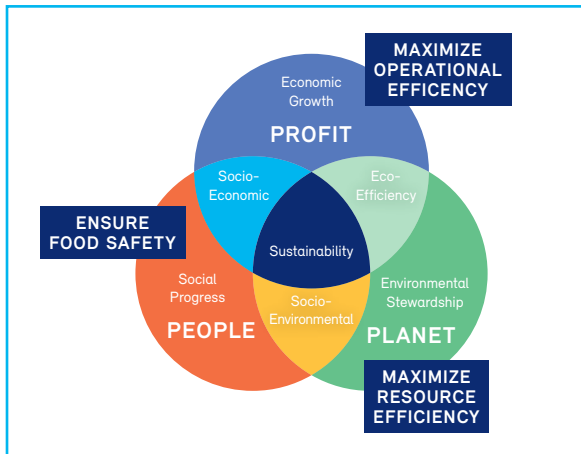


Borstar® Nucleation Technology (BNT)

Based on its proprietary Borstar® technology, Borealis has developed the Borstar® Nucleation Technology as a state of the art In Situ (in reactor) solution. BNT provides a good number of advantages compared to conventional nucleation which is adding a nucleating agent during palletisation of PP:

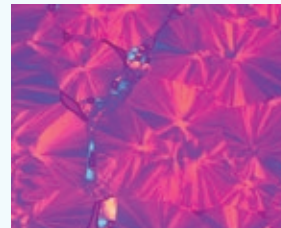
- BNT has a stronger nucleation effect
- Consistent and better dispersion of the nucleating agent
- Inert and thereby no reaction with other additives such as colour masterbatches
- Low taste & odour
- Full compliance with food contact regulations

BNT is a contributor to sustainability targets by enabling higher productivity such as reducing cycle times and energy consumption and achieving lower environmental footprint.

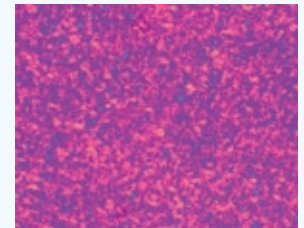


Advantages of BNT nucleated products in injection moulding

- Faster crystallisation process leading to 10–20% cycle time reduction
- Increased stiffness without negatively affecting the drop impact resistance, thus enabling downgauging and thereby material savings
- Reducing impact of colouring on dimensional stability which allows fast colour change during production without the need to change process parameters
- Reduction in energy consumption through the possibility of reducing the extruder temperature
- Improved hot fill performance



Non-nucleated



BNT-nucleated

Overview of injection moulding grades

Product name	MFR (g/10min) PP: 230°C/2.16 kg, PE: 190°C/2.16 kg	Tensile modulus (MPa)	Charpy 23°C (kJ/m²)	Charpy -20°C (kJ/m²)	Key properties	Applications/properties
PP homopolymers						
HE125MO	12	1,550	3.5			Houseware, packaging, general purpose.
HF955MO	20	2,200	2.5		BNT	Houseware, packaging, technical parts. Excellent stiffness and fast cycle.
HF136MO	20	1,500	3		CR	Houseware, packaging, general purpose.
HG385MO	25	1,750	3		BNT, CR, AS, SA	Caps and closures, packaging, houseware. Fast cycle.
HG313MO	30	1,500	2.5		CR, AS, NU, SA	Caps and closures, packaging, houseware.
HJ325MO	50	1,650	2		CR, AS, NU	Thin walled packaging, houseware.
PP heterophasic (block) copolymers						
BC245MO	3.5	1,350	15	6.5	AS, NU	Crates, boxes, technical parts. Good stiffness, high impact.
BC250MO	4	1,200	25PB	7.5	AS, NU	Crates, boxes, technical parts. Good stiffness, very high impact.
BD950MO	7	1,500	8	4	BNT, AS, SA	Caps and closures, low stress whitening.
BD310MO	8	1,400	9	4	AS, NU	Crates, boxes, technical parts, packaging, houseware.
BE961MO	12	1,200	13	6.5	BNT, AS	Crates, boxes, packaging pails, houseware. Fast cycle and high impact.
BE170CF	13	1,250	8	3.5		Packaging pails, houseware, general purpose.
BF970MO	20	1,500	8	4.5	BNT, AS	Crates, boxes, packaging pails, houseware. Fast cycle and high impact.
BH381MO	35	1,700	6.5	3.5	BNT, AS	Packaging pails, thin walled packaging, technical parts and other applications requiring high stiffness.
BH345MO	45	1,400	6	3.5	AS, NU	Thin wall packaging, houseware. Excellent stiffness / impact balance.
BH374MO	45	1,500	6	3.5	BNT, AS	Pails, thin wall packaging. Fast cycle and high stiffness.
BH348MO	50	1,150	10	5	BNT, AS	Thin wall packaging and applications requiring good impact at low temperature, like ice cream and other deep freeze applications and lids.
BJ368MO	70	1,500	5.5	3.5	BNT, AS	Thin wall packaging, houseware. Fast cycle time and high impact.
BJ380MO	80	1,300	5	3.5	CR, AS, NU	Thin wall packaging, houseware. Low warpage.
BJ356MO	100	1,600	4	2.5	AS, NU	Thin wall packaging. High stiffness and flow.
BJ998MO	100	1,400	5	3	BNT, AS	Thin wall packaging, houseware. High flow, high impact copolymer with fast cycle.

Overview of injection moulding grades

Product name	MFR (g/10min) PP: 230°C/2.16kg, PE: 190°C/2.16kg	Tensile modulus (MPa)	Charpy 23°C (kJ/m²)	Charpy -20°C (kJ/m²)	Key properties	Applications/properties
PP random copolymers						
RE420MO	13	1,100	6		AS, NU	Caps and closures, packaging, houseware. Good transparency.
BorPure™ RF777MO	20	1,100	6		AS, BNT	No stress whitening, good organoleptic properties, fast cycle, suitable for closures with integrated hinges. Excellent dimensional consistency of coloured closures.
RF365MO	20	1,150	5.5		AS, NU	Caps and closures, packaging, houseware. Good transparency.
BorPure™ RG466MO	30	1,100	5.5		BNT, AS, good organoleptics	Thin walled packaging, houseware, caps and closures. Fast cycle, good transparency and organoleptics.
BorPure™ RJ377MO	45	1,100	4.5		BNT, AS, good organoleptics	Thin walled packaging, houseware. Fast cycle, good transparency and organoleptics.
BorPure™ RJ766MO	70	1,150	4.5		BNT, AS, good organoleptics	Thin walled packaging, houseware. High flow, fast cycle, good transparency and organoleptics.
RJ908MO	80	1,150	4.2		CR, AS, NU	Thin walled packaging, houseware, caps and closures.
PP specialities						
SH950MO	40	1,050	8	3	BNT, AS, transparent with impact	Thin wall packaging, houseware. Transparent grade with low temperature impact, especially for transparent deep freeze packaging like ice cream.

Overview of injection moulding grades

Product name	MFR (g/10min) PP: 230°C/2.16 kg, PE: 190°C/2.16 kg	Density (kg/m³)	Tensile modulus (MPa)	Charpy 23°C (kJ/m²)	ESCR on caps (failure time in h, Borealis internal method)	Key properties	Applications/properties
PE high density							
BorPure™ MB7541	4	954	850	9		multimodal	Organoleptic multimodal grade targeting flat water, teas and juices.
BorPure™ MB5568	0.8	956	1,100	19	60	multimodal	Organoleptic multimodal HDPE with superior ESCR targeting further lightweighting of beverage closures (recommended for sparkling and flat water and CSD).
BorPure™ MB5569	0.8	956	1,100	19	60	SA; multimodal	Organoleptic multimodal HDPE with superior ESCR targeting further lightweighting of beverage closures (recommended for CSD).
PE low density							
CT7200	5	918	140				Suitable for edible oil closures.
MA8200	7.5	920	145				Suitable for edible oil closures.
Plastomers							
Queo™ 0203	3	912					Impact modification, soft touch effect.
Queo™ 7007LA	6.6	870					Impact modification, soft touch effect, suitable for recyclable valve.
Queo™ 1007	6.6	910					Impact modification, soft touch effect.
Queo™ 8210LA	10	883					Impact modification, soft touch effect.
Queo™ 8230	30	883					Impact modification, soft touch effect.

Thin wall packaging and houseware

Product name	MFR (g/10 min) PP: 230°C/2.16 kg PE: 190°C/2.16 kg	Tensile modulus (MPa)	Charpy 23°C (kJ/m²)	Charpy -20°C (kJ/m²)	Key properties	Applications/properties
PP homopolymers						
HF955MO	20	2,200	2.5		BNT	For general thin walled packaging and houseware. Excellent stiffness and fast cycle. Good product for hot fill applications due to the high heat deflection temperature (HDT).
HJ325MO	50	1,650	2		CR, AS, NU	For thin walled packaging and general purpose applications. High flow homopolymer with low warpage and good demoulding.
PP heterophasic (block) copolymers						
BF970MO	20	1,500	8	4.5	BNT, AS	For pails, houseware and other applications needing high impact. Good impact and stiffness and fast cycle.
BH381MO	35	1,700	6.5	3.5	BNT, AS	High stiffness and heat deflection temperature (HDT). For pails and thin wall packaging, and applications like hot fill requiring good stiffness.
BH345MO	45	1,400	6	3.5	AS, NU	High impact and stiffness in combination with good flow makes this grade perfect for thin wall packaging.
BH374MO	45	1,500	6	3.5	BNT, AS	High flow copolymer suited for thin wall pails. Very fast cycle in combination with excellent drop and stacking properties.
BH348MO	50	1,150	10	5	BNT, AS	Designed for very high impact applications like 2-5 l ice cream tubs. Excellent also for lids. Fast cycle time.
BJ368MO	70	1,500	5.5	3.5	BNT, AS	Fast cycle PP with unique combination of flow and impact for consumer packaging and houseware applications.
BJ380MO	80	1,300	5	3.5	CR, AS, NU	Low warpage makes this grade well suited for lids or packaging exposed to warpage. Good demoulding properties
BJ356MO	100	1,600	4	2.5	AS, NU	Easy flowing, good stiffness copolymer for very thin wall articles or complicated designs. Good e.g. for IML packaging of dairy, fats and desserts.
BJ998MO	100	1,400	5	3	BNT, AS	High flow, good impact copolymer with excellent processability and fast cycle time and good organoleptics. Perfect for packaging of RT, chilled and frozen food products.

Thin wall packaging and houseware

Product name	MFR (g/10 min) PP: 230°C/2.16 kg	Tensile modulus (MPa)	Charpy 23°C (kJ/m²)	Charpy -20°C (kJ/m²)	Key properties	Applications/properties
PP random copolymers						
RF365MO	20	1,150	5.5		AS, NU	Good transparency and good antistatic properties, for packaging and thick houseware articles.
BorPure™ RG466MO	30	1,100	5.5		BNT, AS, good organoleptics	Good organoleptic properties and fast cycle, with good stiffness/impact balance. For transparent packaging and houseware articles.
BorPure™ RJ377MO	45	1,100	4.5		BNT, AS, good organoleptics	Good organoleptic properties and fast cycle, with good stiffness/impact balance. For transparent thin walled packaging and houseware articles.
BorPure™ RJ766MO	70	1,150	4.5		BNT, AS, good organoleptics	High flow grade. Good organoleptic properties and fast cycle, with good stiffness/impact balance. For transparent thin walled packaging and houseware articles.
RJ908MO	80	1,150	4.2		CR, AS, NU	Thin walled packaging, houseware, caps and closures.
PP specialities						
SH950MO	40	1,050	8	3	BNT, AS, transparent with impact	Transparent grade with low temperature impact. For thin wall packaging and houseware, especially for transparent deep freeze packaging like ice cream.

Transport packaging

Product name	MFR (g/10 min) PP: 230°C/2.16 kg PP: 190°C/2.16 kg	Tensile modulus (MPa)	Charpy 23°C (kJ/m²)	Charpy -20°C (kJ/m²)	Key properties	Applications/properties
PP heterophasic (block) copolymers						
BC245MO	3.5	1,350	15	6.5	AS, NU	Crates, boxes, technical parts, high impact.
BC250MO	4	1,200	25PB	7.5	AS, NU	Crates, boxes, luggage, technical parts, very high impact, good creep resistance.
BD310MO	8	1,400	9	4	AS, NU	Packaging, houseware, technical parts.
BE961MO	12	1,200	13	6.5	BNT, AS	Excellent impact/stiffness balance, fast cycle, excellent dimensional consistency regardless of colour used.
BE170CF	13	1,250	8	3.5		Non nucleated block copolymer with good stiffness/impact balance for trays, crates and boxes.
BF970MO	20	1,500	8	4.5	BNT, AS	Crates, trays, boxes, pails, fast cycle, good impact/stiffness balance. Excellent dimensional consistency regardless of colour used.

Caps and closures

Product name	MFR (g/10min) PP: 230°C/2.16 kg, PE: 190°C/2.16 kg	Density (kg/m ³)	Tensile modulus (MPa)	Charpy 23°C (kJ/m ²)	Charpy -20°C (kJ/m ²)	ESCR on caps (failure time in h, Borealis internal method)	Key properties	Applications/properties
PP homopolymers								
HE125MO	12		1,550	3.5				High rigid non nucleated homopolymer for hinge and wide-mouth closure applications.
HF955MO	20		2,200	2.5			BNT	Fast cycle, very high stiffness, good heat stability. Excellent dimensional consistency of coloured closures.
HG385MO	25		1,750	3			BNT, CR, AS, SA	Very good stiffness/impact balance. Fast cycle without warpage. Excellent dimensional consistency of coloured closures.
HG313MO	30		1,500	2.5			CR, AS, NU, SA	Easy flowing, low warpage, fast cycle.
PP random copolymers								
RE420MO	13		1,100	6			AS, NU	No stress whitening, suitable for closures with integrated hinges.
BorPure™ RF777MO	20		1,100	6			AS, BNT	No stress whitening, good organoleptic properties, fast cycle, suitable for closures with integrated hinges. Excellent dimensional consistency of coloured closures.
RF365MO	20		1,150	5.5			AS, NU	Very good transparency, high flow, good anti-static properties.
BorPure™ RG466MO	30		1,100	5.5			BNT, AS, good organoleptics	Good organoleptic properties and fast cycle, with good stiffness/impact balance.
BorPure™ RJ377MO	45		1,100	4.5			BNT, AS, good organoleptics	Good organoleptic properties and fast cycle, with good stiffness/impact balance.
PP heterophasic (block) copolymers								
BD950MO	7		1,500	8	4		BNT, AS, SA	Low stress whitening, excellent dimensional consistency of coloured closures, fast cycle.
BF970MO	20		1,500	8	4.5		BNT, AS	Good impact/stiffness balance, excellent dimensional consistency of coloured closures.
BH381MO	35		1,700	6.5	3.5		BNT, AS	High stiffness and heat deflection temperature (HDT); suitable for hot-fill applications.

Caps and closures

Product name	MFR (g/10 min) PP: 230°C/2.16 kg, PE: 190°C/2.16 kg	Density (kg/m³)	Tensile modulus (MPa)	Charpy 23°C (kJ/m²)	Charpy -20°C (kJ/m²)	ESCR on caps (failure time in h, Borealis internal method)	Key properties	Applications/properties
PE high density								
BorPure™ MB7541	4	954	850	9	5		multimodal	Organoleptic multimodal grade targeting flat water, teas and juices.
BorPure™ MB5568	0.8	956	1,000	19	n/a	60	multimodal	Organoleptic multimodal HDPE with superior ESCR targeting further lightweighting of beverage closures (recommended for sparkling and flat water and CSD).
BorPure™ MB5569	0.8	956	1,000	19	n/a	60	SA; multimodal	Organoleptic multimodal HDPE with superior ESCR targeting further lightweighting of beverage closures (recommended for CSD).
PE low density								
CT7200	5	918	140					Suitable for edible oil closures.
MA8200	7.5	920	145					Suitable for edible oil closures.
Plastomers								
Queo™ 0203	3	912						Impact modification, soft touch effect.
Queo™ 7007LA	6.6	870						Impact modification, soft touch effect, suitable for recyclable valve.
Queo™ 1007	6.6	910						Impact modification, soft touch effect.
Queo™ 8210LA	10	883						Impact modification, soft touch effect.
Queo™ 8230	30	883						Impact modification, soft touch effect.

Bottles, containers and sheet

Product name	MFR (g/10 min) PP: 230°C/2.16 kg, PE: 190°C/2.16 kg	Density (kg/m³)	Tensile modulus (MPa)	Charpy 23°C (kJ/m²)	Charpy -20°C (kJ/m²)	ESCR (h) Igepal 10%	Key properties	Applications/properties
PP random copolymers								
RB307MO	1.5		900	25			NU	Household and industrial containers, cosmetics, suitable also for ISBM. Good clarity, high impact.
RB206MO	1.9		1,150	7			NU, hot fill	Mono- and multilayer bottles for food and cosmetics. Good transparency, hot-fillable.
RF365MO	20		1,150	5.5			AS, NU	Good transparency grade for ISBM applications. Balance of high processability and high temperature resistance with good impact properties.
PP heterophasic (block) copolymers								
BB125MO	1.3		1,300	50PB	7		NU	Sheet, household and industrial containers.
PE high density								
BB2541	0.3	954	1,100	9		500	bimodal	Small/medium UN-containers, small/medium canisters. Small bottles, household industrial chemicals, bottles for food. Very high ESCR.
BB2581	0.3	958	1,300	8		100	bimodal	Small/medium canisters. Small bottles, household industrial chemicals, bottles for food.

Thermoforming

Product name	MFR (g/10min) PP: 230°C/2.16 kg PE: 190°C/2.16 kg	Tensile modulus (MPa)	Charpy 23°C (kJ/m²)	Charpy -20°C (kJ/m²)	HDT 0.45 MPa (°C)	Vicat A50 (°C)	Key properties	Applications/properties
PP homopolymers								
HB600TF	2	1,400	4		86	155		Good melt stability and thermoforming behaviour. Margarine tubs, dairy and food packaging cups, containers and trays, blister packaging, confectionary packaging.
HC600TF	2.8	1,600	4		85	154		Good melt stability and thermoforming behaviour. Food packaging cups, containers, trays and lids, colored applications.
HC205TF	4	1,900	5		105	155	BNT	Good stiffness, fast processability and good thermoforming behaviour. Margarine tubs, dairy and food packaging cups, containers, trays and lids.
PP random copolymers								
RB707CF	1.5	900	20	1	70	122	NU	Excellent transparency and 'see through' clarity. Food packaging cups, containers and trays, blister packaging. Lids with good resistance to splitting.
RB501BF	1.9	800	9	1	60	125		Good thermoforming behaviour. Food packaging cups, containers and trays.
PP heterophasic (block) copolymers								
BB213CF	1.2	1,200	30	2.5	70	150		Good melt stability and thermoforming behaviour. Good low temperature resistance. Freezer and microwave food packaging.
BC918CF	3	1,550	35	1.2	90	155	NU	High transparency with good stiffness and impact behaviour in low temperatures. MAP trays, transparent lids with good resistance to splitting, microwave and freezer food packaging.
BC245MO	3.5	1,350	15	6.5	85	153	AS, NU	Good stiffness and impact balance and low temperature resistance. Food packaging cups, containers and trays for freezer.
BD212CF	5	1,100	7	2.5	70	150		Good melt stability and thermoforming behaviour. Good low temperature resistance. Freezer and microwave food packaging.
Plastomers								
Queo™ 0203	3	65				80		High transparency with good gloss and impact behaviour in low temperatures. Impact modifier and for sealing layers in multilayer system.

Facts

Polypropylene MFR

(230°C/2.16 kg) g/10 min = ISO 1133

Polyethylene MFR

(190°C/2.16 kg) g/10 min = ISO 1133

BNT = Borstar® Nucleation Technology, giving highly nucleated polypropylenes with excellent dimension consistency, regardless of colour pigments, and a high potential for cycle time reduction and lightweighting.

CR = Controlled Rheology (CR) grades have a narrower molecular weight distribution resulting in reduced internal stresses and excellent dimensional stability.

SA = slip agent

IM = injection moulding

AS = antistatic agent

BM = blow moulding

NU = nucleating agent

EXT = extrusion

UV = UV-stabilised

TF = thermoforming

PB = partial break

Making everyday life easier

Date of issue: August 2022

Borealis is one of the world's leading providers of advanced and circular polyolefin solutions and a European market leader in base chemicals, fertilizers and the mechanical recycling of plastics. We leverage our polymers expertise and decades of experience to offer value adding, innovative and circular material solutions for key industries. In re-inventing for more sustainable living, we build on our commitment to safety, our people and excellence as we accelerate the transformation to a circular economy and expand our geographical footprint.

With head offices in Vienna, Austria, Borealis employs 6,900 employees and operates in over 120 countries. In 2021, Borealis generated total sales and other income of EUR 10,153 million and a net profit of EUR 1,396 million. OMV, the Austria-based international oil and gas company, owns 75% of Borealis, while the remaining 25% is owned by a holding company of the Abu-Dhabi based Mubadala. We supply services and products to customers around the globe through Borealis and two important joint ventures: Borouge (with the Abu Dhabi National Oil Company, or ADNOC, based in UAE); and Baystar™ (with TotalEnergies, based in the US).

www.borealisgroup.com | www.borealiseverminds.com

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Borstar is a registered trademark of the Borealis Group.
Queo and BorPure are trademarks of the Borealis Group.

FOR MORE INFORMATION:

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