



**BECAUSE WE CARE**

# THE BORMED™ CONCEPT



## The Bormed Concept delivers:

- Consistency of formulation
- Continuity of supply for at least two years
  - Shelf life letters of up to three years
- Change control procedure
  - Bormed Directive: operating instructions for the development, production and delivery to the end customer of Bormed products
- Pharmacopeia compliance
  - External testing of Ph.Eur., USP, ISO10993; DMF listing
  - Extractable profiles
  - Microbiology

We understand that in the healthcare market, safety and efficiency of the product matters most, and thus you need the right partner to do business with in a reliable and meaningful way. We achieve this through our dedicated innovative range of polyethylene and polypropylene grades, our global team and, critically, the Bormed concept. This is more than simply documentation and technical service, rather it is all encompassing – from product conception to production, procurement, support and distribution. It is based on the three core principles of service, commitment and conformance which cover the different aspects of active information management, change management and security of supply. Additionally, through our technical expertise and an ongoing, clear dialogue with our business partners, we remain at the forefront of healthcare trends and challenges allowing us to evolve our Bormed offering to the industry, providing tailored healthcare solutions for you. Because we care.

## COMMITMENT

Our commitment to and understanding of the healthcare market is tangible in everything we do. We provide security of supply, for the short and long term, with higher stock levels and planning prioritisation. We seek out cooperation with our business partners, the OEMs, converters and machinery suppliers. We believe in consistency – combined with step change innovation which we drive at our state of the art innovation facilities. Experience, technical expertise and a forward looking attitude make us the right partner for the healthcare market.

## SERVICE

It is important to have the right material and the right information at the right time in the right place. To achieve this, we steer information and notifications proactively, aiming to provide you with what you need to know, when you need it, in a concise and structured format. We lead open discussions with our business partners which enables us to remain at the forefront of industry trends and challenges. Through our dedicated global team of specialists, from R&D to technical support to sales and extensive dedicated distribution networks, we are able to provide fast and reliable delivery.

## CONFORMANCE

Our expertise results in a maintained consistency of the variables used to make polyolefins for the healthcare market – safeguarding continued regulatory compliance, be it the European or US Pharmacopeia, or ISO standards. Going beyond this, we have dedicated control procedures in place to prevent uncontrolled changes and quality variations, allowing us to deliver quality of the highest standards. Our change control procedure ensures the highest quality standards. This goes hand in hand with enhanced operating instructions, which ensure that anyone involved in Bormed, knows Bormed – from product development to production, supply chain and support functions.

# BORMED™ PRODUCTS: DEDICATED POLYOLEFINS FOR HEALTHCARE APPLICATIONS

## PP

Grade	MFR 230°C/2.16kg [g/10min] ISO 1133	Flexural Modulus [MPa] ISO 178	Charpy Impact Strength, Notched 23°C [kJ/m <sup>2</sup> ] ISO 179/1eA	Melting Point [°C] DSC	Special Features	European Pharmacopeia	United States Pharmacopeia	ISO 10993	DMF nr.	BFS/Extrusion Blow Moulding (EBM)	Injection Stretch/ Injection Blow Moulding (ISBM/IBM)	Injection Moulding (IM)	Film	Typical Applications
<b>Homopolymers</b>														
DM55pharm	2.8	1,350	4.0	164		✓	✓	*	009146			•	●	Thermoforming film for tablet/pill blister packaging and capillary tubes for aerosols.
HD800CF <sup>1</sup>	8	1,400	4.3	164		✓	✓	✓	020240			•	●	Films used in secondary packaging for medical devices, pouches for peritoneal dialysis, parenteral nutrition and IV solutions.
HD850MO <sup>1</sup>	8	1,850	5.5	162		✓	✓	✓	017929			●	•	Containers and closures for tablets/powders/granules, pharma products and medical devices.
HD810MO <sup>2</sup>	10	1,250	4.5	164	Nu, Rad	*	✓	✓	009040			●		Disposable syringes and medical devices which require gamma sterilisation.
HF840MO <sup>2</sup>	19	1,250	3.5	160	Slip	*	✓	✓	009040			●		Disposable 2-piece syringe barrels, needle covers, catheter connections and aerosol valves.
HG820MO-11 <sup>2</sup>	28	1,900	2.0	162	Nu	*	✓	✓	027799			●		Disposable syringes and laboratory disposables (i.e blood collection systems).
HJ875MO <sup>2</sup>	75	1,600	1.8	160		✓	✓	✓	028620			●		Medical devices and diagnostic products (i.e pipette tips and automatic analysis system recipients).
<b>Random Copolymer</b>														
RB801CF-01 <sup>1</sup>	1.9	750	11.0	140		✓	✓	*	016484 / 028484	•			●	Films used in secondary packaging for medical devices, pouches for peritoneal dialysis, parenteral nutrition and IV solutions.
RD804CF <sup>1</sup>	8	1,000	4.8	151		✓	✓	*	024930 / 028486			•	●	Films used in secondary packaging for medical devices, pouches for peritoneal dialysis, parenteral nutrition and IV solutions.
RD808CF <sup>1</sup>	8	700	9.0	140		✓	✓	*	020244 / 028487			•	●	Films used in secondary packaging for medical devices, pouches for peritoneal dialysis, parenteral nutrition and IV solutions.
RD834CF <sup>2</sup>	8	1,000	3.7	150	AB,Slip	✓	✓	*	**				●	Films used in secondary packaging for medical devices, pouches for peritoneal dialysis, parenteral nutrition and IV solutions.
RE816CF <sup>2</sup>	11	800	5.5	145	AB	✓	✓	*	028485				●	Films used in secondary packaging for medical devices, pouches for peritoneal dialysis, parenteral nutrition and IV solutions.
RE870MO <sup>2</sup>	13	1,050	6.0	150		✓	✓	✓	031606		●	●		Bottles for IV solutions and irrigation solutions by 2-stage Injection Stretch Blow Molding.
RF825MO <sup>1</sup>	20	1,100	6.0	150	Nu	*	✓	✓	012123 / 031607				●	Disposable syringes, needle covers, catheter connections and laboratory disposables (i.e. blood collection systems).
RF830MO <sup>1</sup>	20	1,100	6.0	150	Nu, Rad	*	✓	✓	012123 / 031609				●	Disposable syringes and medical devices which require gamma sterilisation.
RG835MO <sup>1</sup>	30	1,200	6.0	150	Nu, Slip	*	✓	✓	012123 / 031608				●	Medical devices, disposable syringes and closures.
RJ880MO <sup>1</sup>	45	1,050	5.0	150	Nu, AS	*	✓	✓	027840				●	Medical devices and diagnostic products (i.e. pipette tips and automatic analysis system recipients).
<b>Terpolymer</b>														
TD109CF	6	700	5.2	131		✓	✓	*	024931			•	●	Secondary packaging for medical devices and pouches for IV solutions.
<b>Random-Heterophasic Copolymer / Soft PP</b>														
SB815MO	1.5	425	80.0	145		✓	✓	✓	027540	●	•	•	•	Bottles for IV solutions and irrigation solutions; ampoules for injectable solutions.
SC820CF <sup>1</sup>	3.9	550	26.0	141		✓	✓	*	020243			•	●	Films used in secondary packaging for medical devices; pouches for continuous ambulatory peritoneal dialysis products and IV solutions.
SC876CF	3.8	330	77	149		✓	✓	*	027916				●	Films used in secondary packaging for medical devices; pouches for continuous ambulatory peritoneal dialysis products and IV solutions.

## PE / PLASTOMERS

Grade	MFR 190°C/2.16kg [g/10min] ISO 1133	Density [kg/m <sup>3</sup> ] ISO 1183	Flexural Modulus [MPa] ISO 178	Melting Point [°C] DSC	Special Features	European Pharmacopeia	United States Pharmacopeia	ISO 10993	DMF nr.	BFS/Extrusion Blow Moulding (EBM)	Injection Stretch/ Injection Blow Moulding (ISBM/IBM)	Injection Moulding (IM)	Film	Typical Applications
<b>HDPE</b>														
HE2581-PH	0.3	958	1,250	131		✓	✓	✓	027656	●	●	•		Containers and closures for tablets/powders/granules and pharma products.
HE7541-PH	4	954	950	129		✓	✓	✓	027654			●		Containers and closures for tablets/powders/granules and pharma products.
HE9621-PH	12	962	1,300	133		✓	✓	✓	029149			●		Medical devices, pharma packaging and diagnostic products.
<b>LDPE</b>														
LE6607-PH	0.3	927	290	114	No additives	✓	✓	*	008124 / 027108	●			•	Bottles for IV solutions and irrigation solutions; ampoules for injectable solutions.
LE6609-PH	0.3	930	330	117	No additives	✓	✓	*	017927	●	•		•	Bottles for IV solutions and irrigation solutions; ampoules for injectable solutions.
LE6600-PH	1.5	919	250	110	No additives	✓	✓	*	027587	●	•		•	Ampoules, monodose packaging, small bottles for eye/nose/ear drops and pharma/diagnostic products.
<b>Plastomer</b>														
PL8830-PH	1.1	883	23	73		**	**	**	**				●	

## PO

Grade	MFR 230°C/2.16kg [g/10min] ISO 1133	Density [kg/m <sup>3</sup> ] ISO 1183	Flexural Modulus [MPa] ISO 178	Melting Point [°C] DSC	Special Features	European Pharmacopeia	United States Pharmacopeia	ISO 10993	DMF nr.	BFS/Extrusion Blow Moulding (EBM)	Injection Stretch/ Injection Blow Moulding (ISBM/IBM)	Injection Moulding (IM)	Film	Typical Applications
<b>PO Specialty</b>														
WD170CF <sup>1, #</sup>	6.5	910	800	151		✓	✓	*	020242				●	Peelable films used in secondary packaging for medical products.
WE150CF <sup>1, #</sup>	12.5	925	1,000	151	Slip, AB	*	✓	*					●	Peelable films used in secondary packaging for medical products.

Borealis aims to produce all Bormed™ PP grades solely with non-phthalate based catalyst system.

<sup>1</sup> Currently also produced with non-phthalate based catalyst system

<sup>2</sup> Only produced with non-phthalate based catalyst system

\* WD170CF and WE150CF are not Bormed™ branded

AB - Antiblock

AS - Antistatic agent

Nu - Nucleation

Rad - Radiation package

Slip - Slip Agent

✓ Grade has been tested. For detailed information, please refer to medical compliance statement on <http://www.borealisgroup.com/en/search/>

● Main application

• Secondary application

\* Test not performed

\*\* In preparation

All figures are typical values – data should not be used for specification work

## About Borouge and Borealis

Borealis is a leading provider of innovative solutions in the fields of polyolefins, base chemicals and fertilizers. With its head office in Vienna, Austria, the company currently has around 6,600 employees and operates in over 120 countries. Borealis generated EUR 7.5 billion in sales revenue and a net profit of EUR 1,095 million in 2017. Mubadala, through its holding company, owns 64% of the company, with the remaining 36% belonging to Austria-based OMV, an integrated, international oil and gas company. Borealis provides services and products to customers around the world in collaboration with Borouge, a joint venture with the Abu Dhabi National Oil Company (ADNOC).

Borealis and Borouge aim to proactively benefit society by taking on real societal challenges and offering real solutions. Both companies are committed to the principles of Responsible Care<sup>®</sup>, an initiative to improve safety performance within the chemical industry, and work to solve the world's water and sanitation challenges through product innovation and their Water for the World programme.

For more information visit: [www.borouge.com](http://www.borouge.com) • [www.borealisgroup.com](http://www.borealisgroup.com) • [www.waterfortheworld.net](http://www.waterfortheworld.net)

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