

# BORMED™ SOLUTIONS MEDICAL and DIAGNOSTICS DEVICES

September 2020



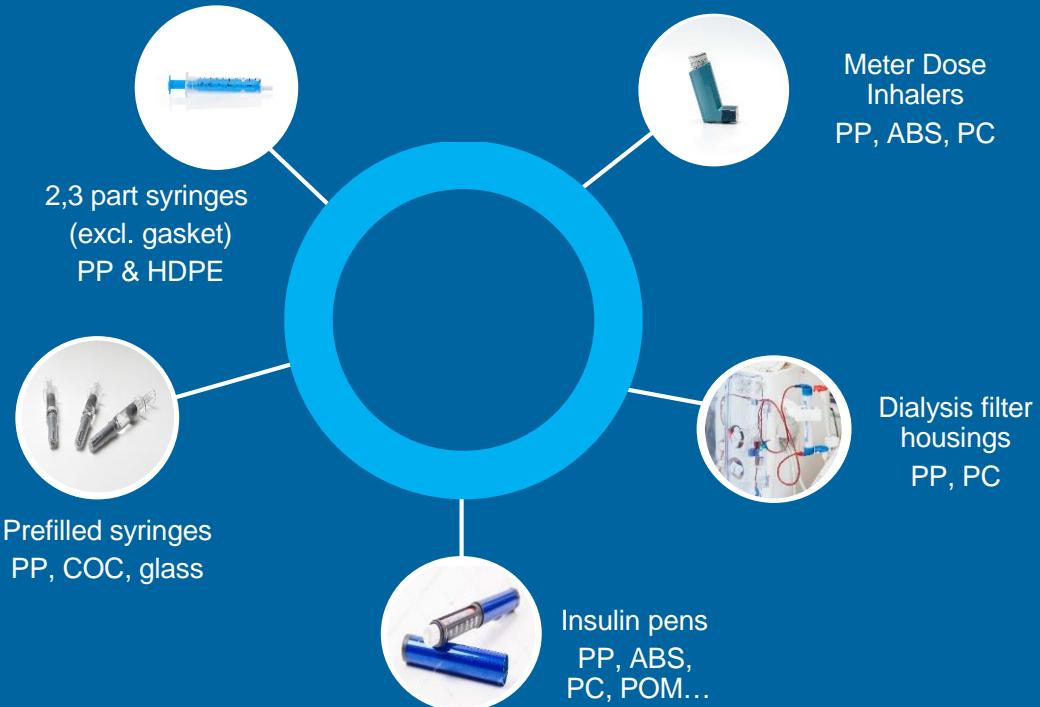
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# Medical Devices – Segment Dynamics

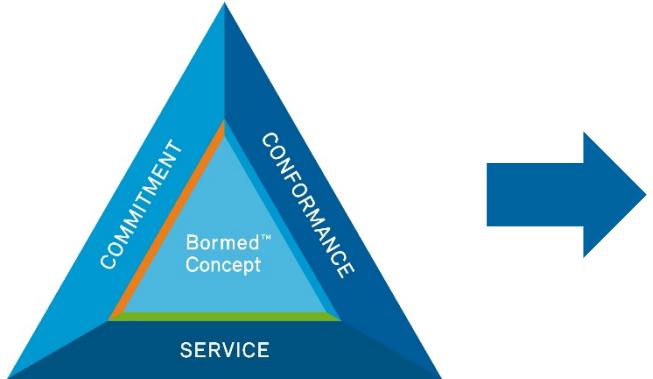


- Medical devices is a **fragmented segment** including diverse applications such as inhalers, catheters, filters for dialysis machines, housings, pumps
- Medical devices is a **regulated segment**. New EU MDR to be applied on May 2021 fostering cooperation within value chain
- In line with home treatment and advancements of digital technologies, **e-health applications, miniature wearables and devices** are seen as future trends

# Medical Devices – Material Needs



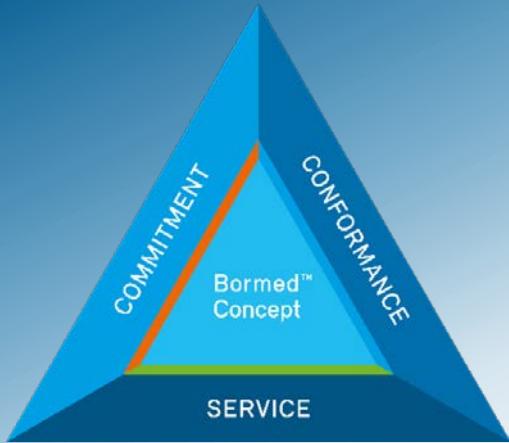
Determining the key material performance criteria is essential for successful material selection



MATERIAL REQUIREMENTS FOR MEDICAL DEVICES	
PHYSICAL	<b>Physical performance elements for robust design</b> <ul style="list-style-type: none"><li>– Stiffness</li><li>– Impact resistance</li><li>– Transparency</li><li>– MFI</li></ul>
REGULATORY	<b>Compliance to regulatory directives</b> <ul style="list-style-type: none"><li>– Compliance to directives and new EU MDR</li><li>– Regulatory back up support</li></ul>
STERILISATION	<b>Compatibility with sterilisation method</b> <ul style="list-style-type: none"><li>– EtO</li><li>– Radiation</li><li>– Steam /Autoclave</li></ul>
ADDITIVES	<b>Functional additives for tailor made solution</b> <ul style="list-style-type: none"><li>– Anti-Static</li><li>– Nucleation</li><li>– Slip Agent</li><li>– Radiation</li></ul>

# Bormed™ Portfolio for Medical Devices

Complying to diverse performance requirements of medical devices



- Grades with **high modulus up to 1900 MPa** for thin wall and insert sections of medical devices where high stiffness is key for robust design
- Grades with excellent balance between **high toughness & high flow** at low temperature
- **Sterilisation compatible** grades for EtO , Steam at 121°C and gamma radiation
- Grades with **special additive packages** including slip , antistatic etc. agents
- All grades have **extractable data and DMF number**
- **Excellent transparent grades** for medical devices

**The Bormed portfolio comes with Bormed service package:  
Pharmacopeia compliance, change control and long-term security of supply**

# Bormed™ Portfolio for Medical Devices

What are the material key performance criteria for your medical device?

	PE High Density		PP Homopolymers				PP Block	PP Random Copolymers				
Key Performance Criteria	HE7541PH	HE9621PH	HD850MO	HD810MO	HF840MO	HG820MO	BJ868MO	RE870MO	RF825MO	RF830MO	RG835MO	RJ880MO
Stiffness	Low	Medium	High	Medium	Medium	High	Medium	Medium	Medium	Medium	Medium	Low
Impact Resistance	High	High	Low	Low	Low	Low	High Ret.	High	High	Medium	Medium	Medium
MFI (g/10dk), 230C/2,16kg	4	12	8	10	19	28	70	13	20	20	30	45
Transparency	Low	Low	Medium	Medium	Medium	Medium	Low	High	High	High	High	High
EtO Sterilisation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Steam Sterilisation @ 121C	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Radiation Sterilisation	No	No	No	Yes	No	No	No	No	No	Yes	No	No
Functional Additives	-	-	-	Nuc, Rad	Slip	Nuc	-	-	Nuc	Nuc, Rad	Nuc, Slip	Nuc, Anst



# Bormed™ Portfolio for Medical Devices



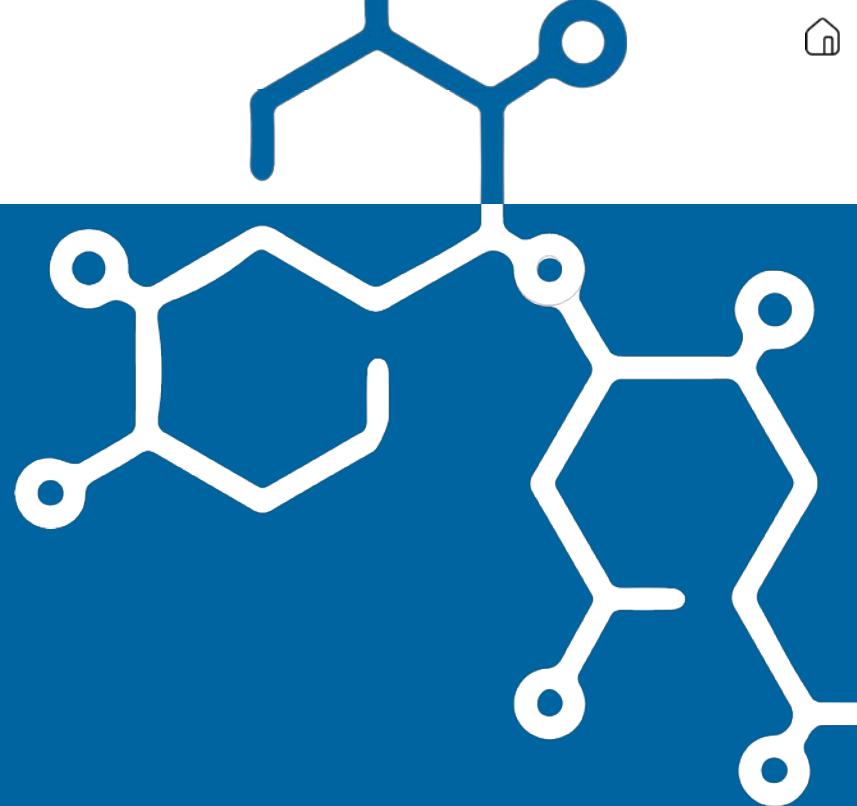
**Bormed grades have been used successfully in numerous medical device applications**

- 2 Part Syringes
- 3 Part Syringes
- Pre Filled Syringes
- Inhaler Components
- Hemodialysis Filter Housings
- Mechanical Components

# Bormed™- 2 Part Syringes

## APPLICATION PRINCIPLES

2 Part Syringe is a simple reciprocating pump consisting of a plunger that fits tightly within a cylindrical barrel. The basic parts of a syringe are the barrel, plunger and tip. The barrel is a tube that is open at one end and tapers into a hollow tip at the other end.

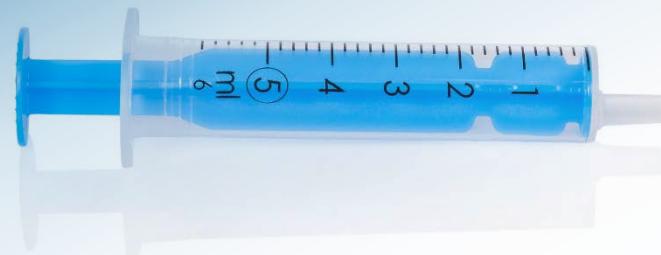


The plunger is a piston-type rod with a slightly cone-shaped top that slides on the inner surface of the barrel. The tip point of the syringe provides the point of attachment for needle. Within 2 part syringes plunger directly contacts with inner surface of the barrel requiring different material selections for both plunger and barrel due to friction between them.

# Bormed™- 2 Part Syringes

## DESIRED BENEFITS ON APPLICATION

- Shorter cycle times for cost efficient production
- Compatibility to selected sterilisation methods
- Transparency for barrels
- Lower friction between barrel and plunger for better pump performance
- Rigid plungers



## KEY MATERIAL REQUIREMENTS

- Faster crystallisation behavior
- Good sterilisation capability
- Transparency
- High stiffness
- Frictional compatible grades

# Bormed™- 2 Part Syringes

## Radiation Sterilisation



2-PART SYRINGES	GRADES FOR BARREL		PLUNGER
<b>Key Performance Criteria</b>	HD810MO	RF830MO	HE9621PH
<b>Stifness</b>	Medium	Medium	Medium
<b>Impact Resistance</b>	Low	Medium	High
<b>MFI(g/10dk),230C/2,16kg</b>	10	20	12
<b>Transparency</b>	Medium	High	Medium
<b>Functional Additives</b>	Nuc, Rad	Nuc, Rad	-

# Bormed™- 2 Part Syringes

## ETO / Steam Sterilisation



2-PART SYRINGES	GRADES FOR BARREL		PLUNGER
<b>Key Performance Criteria</b>	HF840MO	RG835MO	HE9621PH
<b>Stifness</b>	Medium	Medium	Medium
<b>Impact Resistance</b>	Low	Medium	High
<b>MFI(g/10dk),230C/2,16kg</b>	19	30	12
<b>Transparency</b>	Medium	High	Medium
<b>Functional Additives</b>	Slip	Nu,Slip	-

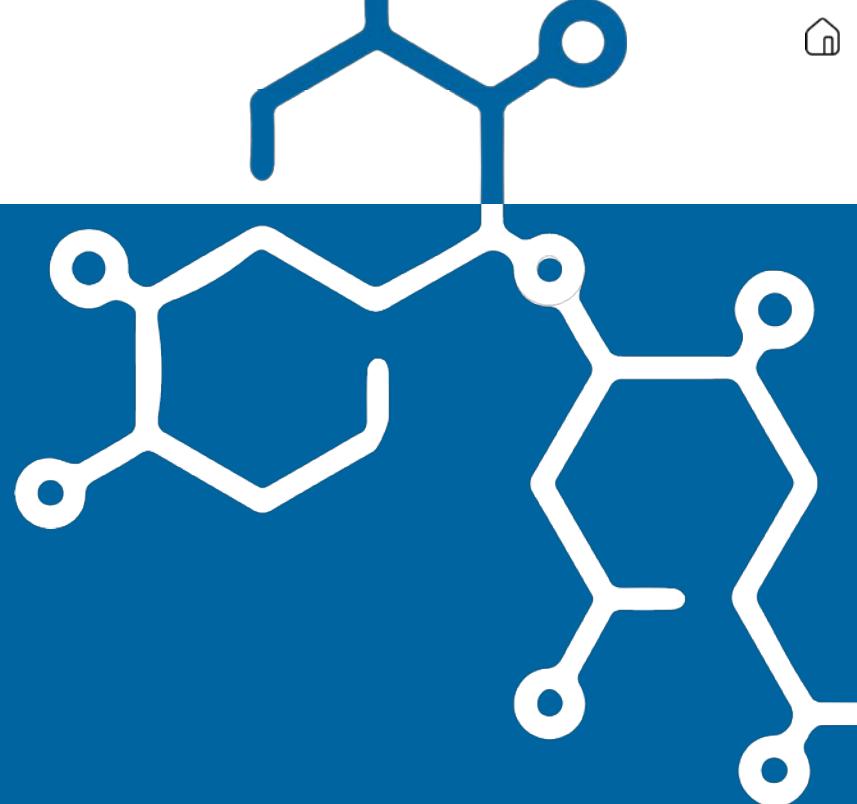
# Bormed™- 3 Part Syringes

## APPLICATION PRINCIPLES

3 Part Syringe is a simple reciprocating pump consisting of a plunger with elastomer stopper that fits tightly within a cylindrical barrel.

The basic parts of a syringe are the barrel, plunger, elastomer stopper and tip.

Within 3 part syringes plunger does not contact directly with inner surface of the barrel due to the usage of elastomer stopper enabling independent material selection for both plunger and barrel.





# Bormed™- 3 Part Syringes

## DESIRED BENEFITS ON APPLICATION

- Shorter cycle times for cost efficient production
- Compatibility to selected sterilisation methods
- Transparency for barrels
- Rigid plungers

## KEY MATERIAL REQUIREMENTS

- Faster crystallisation behaviour
- Good sterilisation capability
- Transparency
- High stiffness



# Bormed™- 3 Part Syringes

## Radiation Sterilisation



3-PART SYRINGES	GRADES FOR BARREL		GRADES FOR PLUNGER		
<b>Key Performance Criteria</b>	<b>HD810MO</b>	<b>RF830MO</b>	<b>HE9621PH</b>	<b>HD810MO</b>	<b>RF830MO</b>
<b>Stiffness</b>	Medium	Medium	Medium	Medium	Medium
<b>Impact Resistance</b>	Low	Medium	High	Low	Medium
<b>MFI(g/10dk),230C/2,16kg</b>	10	20	12	10	20
<b>Transparency</b>	Medium	High	Medium	Medium	High
<b>Functional Additives</b>	Nuc, Rad	Nuc, Rad	-	Nuc, Rad	Nuc, Rad

# Bormed™- 3 Part Syringes

## ETO / Steam Sterilisation



3-PART SYRINGES	GRADES FOR BARREL			GRADES FOR PLUNGER		
Key Performance Criteria	RF825MO	HG820MO	HD850MO	RF825MO	HE9621PH	HD850MO
Stiffness	Medium	High	High	Medium	Medium	High
Impact Resistance	High	Low	Low	High	High	Low
MFI(g/10dk),230C/2,16kg	20	28	8	20	12	8
Transparency	High	Medium	Medium	High	Medium	Medium
Functional Additives	Nuc	Nuc	-	Nuc	-	-

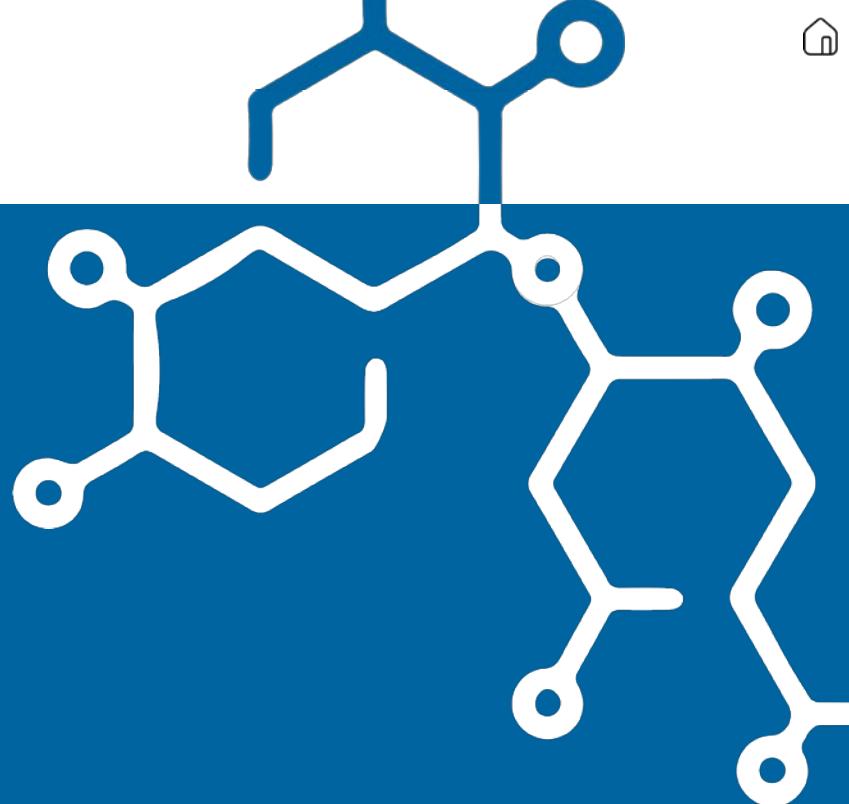


# Bormed™- Pre-Filled Syringes

## APPLICATION PRINCIPLES

Pre-Filled Syringe is a disposable syringe that is supplied already loaded with the substance to be injected. PFS has 2 functions:

- The first function is primary packaging. The purpose of the primary package is to assure that there is no adverse effect on the identity, strength, quality, purity of the drug over its shelf life
- The second function is delivery of drug. This delivery can be done precisely and quickly compared to normal syringes





# Bormed™- Pre-Filled Syringes

## DESIRED BENEFITS ON APPLICATION

- Low interaction of barrel with drug during shelf life
- Stability of drug against oxidation effects
- Transparency for Barrels
- Resistance to breakage



## KEY MATERIAL REQUIREMENTS

- Low extractable profile
- High oxygen barrier properties
- Transparency
- High stiffness and toughness

# Bormed™- Pre-Filled Syringes



PRE-FILLED SYRINGES	GRADES FOR BARREL			RADIATION GRADES	
Key Performance Criteria	RF825MO	HD850MO	HG820MO	HD810MO	RF830MO
Stiffness	Medium	High	High	Medium	Medium
Impact Resistance	High	Low	Low	Low	Medium
MFI (g/10dk), 230C/2,16kg	20	8	28	10	20
Transparency	High	Medium	Medium	Medium	High
EtO Sterilisation	Yes	Yes	Yes	Yes	Yes
Steam Sterilisation @ 121C	Yes	Yes	Yes	Yes	Yes
Radiation Sterilisation	No	No	No	Yes	Yes
Functional Additives	Nuc	-	Nuc	Nuc, Rad	Nuc, Rad



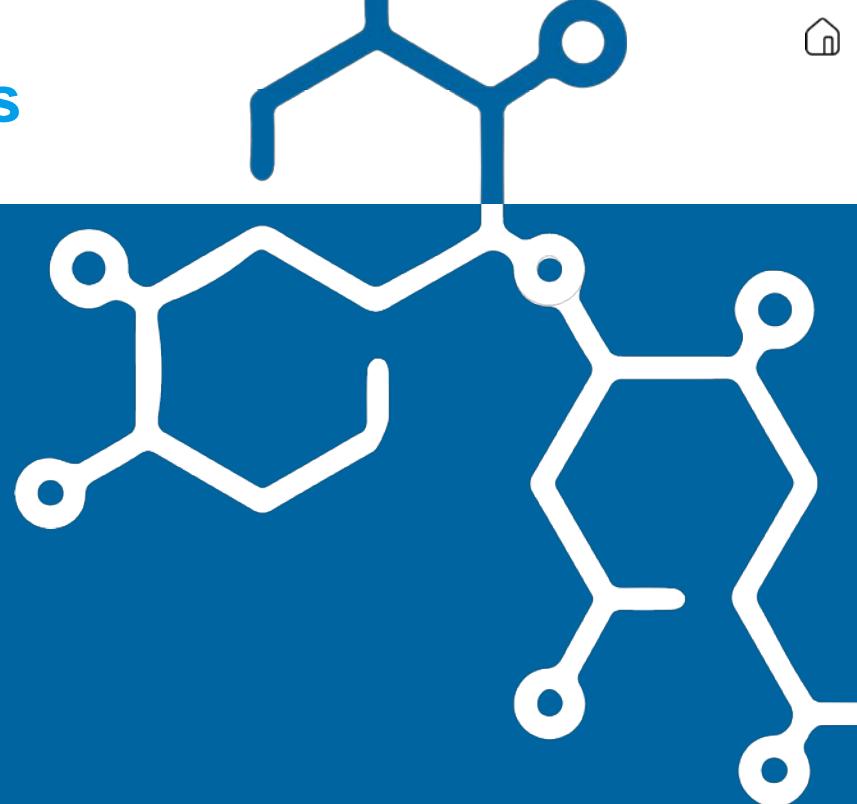
# Bormed™- Inhaler Components

## APPLICATION PRINCIPLES

Inhaler is a medical device used for delivering medication into the body via lungs.

Main components of an inhaler are casing, container, metering valve and actuator. MDI (Metered Dosed Inhalers) and DPI (Dry Powder Inhalers) are the major types of inhalers in the market.

There are several material key performance elements depending on the inhaler component like rigidity, surface quality, dimensional stability, anti static etc.



# Bormed™- Inhaler Components

## DESIRED BENEFITS ON APPLICATION

- Reliability of casing and actuator against deformation
- Consistent and accurate spraying from nozzle
- Dust free surfaces of actuator for smooth operation
- Good coloured surface quality



## KEY MATERIAL REQUIREMENTS

- High stiffness
- High dimensional stability
- Antistatic agent requirement
- High MFI

# Bormed™- Inhaler Components



INHALERS	GRADES FOR COMPONENTS			RADIATION GRADES	
Key Performance Criteria	RJ880MO	HD850MO	HG820MO	HD810MO	RF830MO
Stiffness	Low	High	High	Medium	Medium
Impact Resistance	Medium	Low	Low	Low	Medium
MFI (g/10dk), 230C/2,16kg	45	8	28	10	20
Transparency	High	Medium	Medium	Medium	High
EtO Sterilisation	Yes	Yes	Yes	Yes	Yes
Steam Sterilisation @ 121C	Yes	Yes	Yes	Yes	Yes
Radiation Sterilisation	No	No	No	Yes	Yes
Functional Additives	Nuc, Anst	-	Nuc	Nuc, Rad	Nuc, Rad

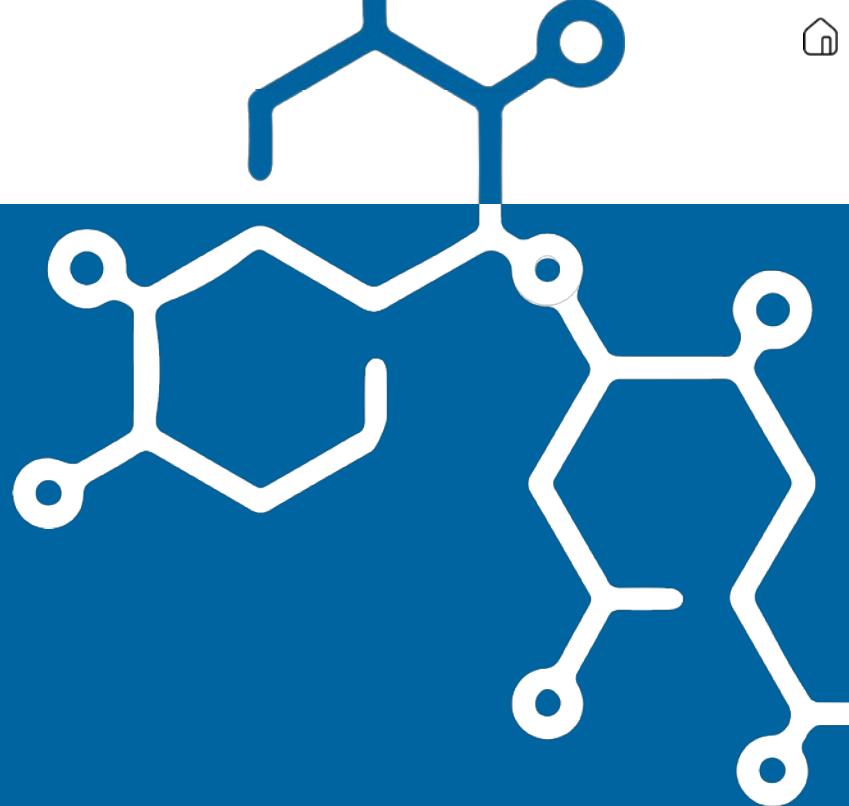


# Bormed™- Hemodialysis Filter

## APPLICATION PRINCIPLES

The dialysis filter is indicated for purification of dialysis fluid to obtain microbiologically highly purified dialysis fluid which is used to remove excess water, solutes and toxins from the blood during hemodialysis operation.

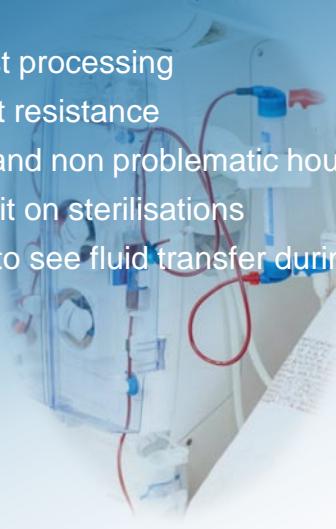
Although PC has been widely used in the market due to its high toughness, transparency and sterilisation capability, PP can also be an option with its cost and BPA free chemistry advantages.





# Bormed™- Hemodialysis Filter

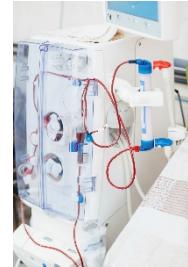
## DESIRED BENEFITS ON APPLICATION

- Robust processing
  - Impact resistance
  - Easy and non problematic housing assembly
  - No limit on sterilisations
  - Need to see fluid transfer during operation
- 

## KEY MATERIAL REQUIREMENTS

- Good flow and easy processability
- High toughness
- Good dimensional stability and high rigidity
- Compatibility to sterilization methods
- Transparency

# Bormed™- Hemodialysis Filter



Hemodialysis Filter Housing	GRADE	RADIATION GRADES	
Key Performance Criteria	HD850MO	HD810MO	RF830MO
Stiffness	High	Medium	Medium
Impact Resistance	Low	Low	Medium
MFI (g/10dk), 230C/2,16kg	8	10	20
Transparency	Medium	Medium	High
EtO Sterilisation	Yes	Yes	Yes
Steam Sterilisation @ 121C	Yes	Yes	Yes
Radiation Sterilisation	No	Yes	Yes
Functional Additives	-	Nuc, Rad	Nuc, Rad



# Bormed™- Mechanical Components

## APPLICATION PRINCIPLES

Medical devices have several mechanical components inside such as actuators, housings, spring holder etc. In line with miniaturisation and functionality integration of medical devices, complex shaped functional components are used.

Besides Engineering polymers, PP has also capability to replace engineering polymers within several medical device components.





# Bormed™- Mechanical Components

## DESIRED BENEFITS ON APPLICATION

- Reliability of components against deformation
- Consistent and accurate mechanical performance
- Shock resistance to impacts
- Design of complex shapes
- Cost efficient mass production
- Environmental crack resistant parts



## KEY MATERIAL REQUIREMENTS

- High stiffness
- High crystallinity with high stiffness
- High toughness
- High flow
- Good processability and low density
- Good chemical resistance

# Bormed™- Mechanical Components



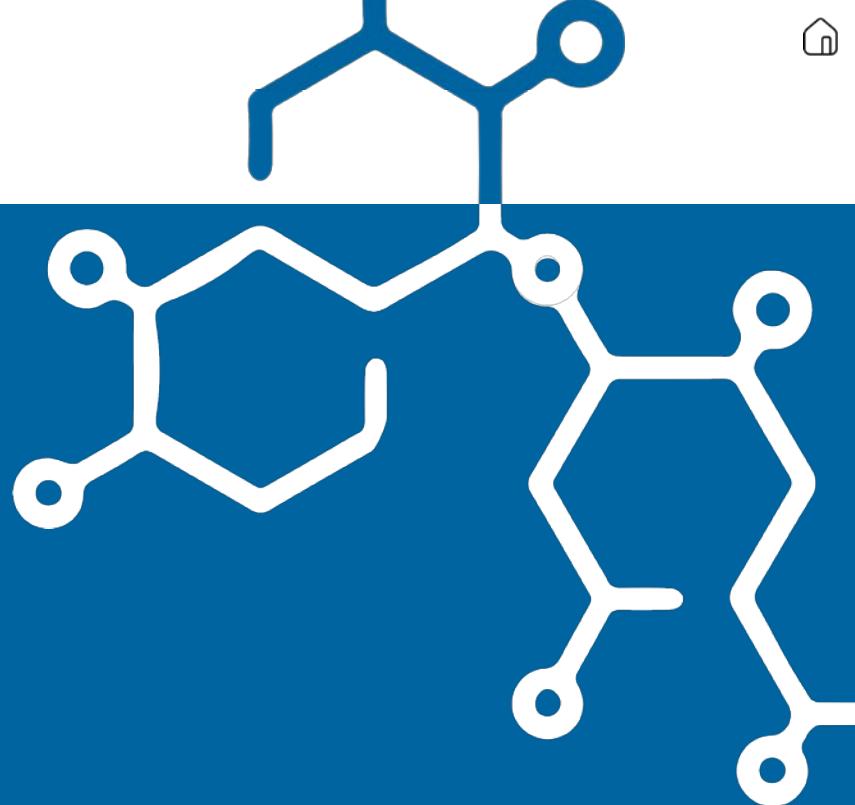
MECHANICAL COMPONENTS	GRADES FOR COMPONENTS				RADIATION GRADES	
Key Performance Criteria	BJ868MO	HD850MO	HG820MO	RF825MO	HD810MO	RF830MO
Stiffness	Medium	High	High	Medium	Medium	Medium
Impact Resistance	High Ret.	Low	Low	High	Low	Medium
MFI (g/10dk), 230C/2,16kg	70	8	28	20	10	20
Transparency	Low	Medium	Medium	High	Medium	High
EtO Sterilisation	Yes	Yes	Yes	Yes	Yes	Yes
Steam Sterilisation @ 121C	Yes	Yes	Yes	Yes	Yes	Yes
Radiation Sterilisation	No	No	No	No	Yes	Yes
Functional Additives	-	-	Nuc	Nuc	Nuc, Rad	Nuc, Rad



# Bormed™ PP performance

What is your key performance criteria?

- Bormed PP portfolio has the potential to replace engineering polymers with its optimized performance characteristics enabling sustainable processing and efficient designs

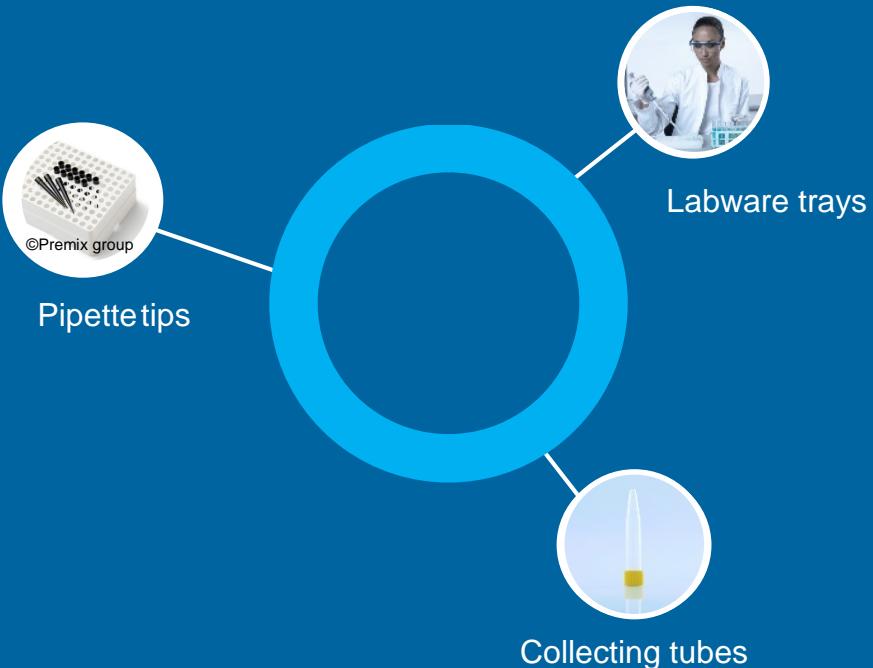


# Bormed™ PP performance

Key Performance Criteria	PP	PC /ABS	ABS	PC	PBT	POM	PA6
Stiffness @ room temp.	1100-1900 MPa	2000-2600 MPa	1300-2700 MPa	2100-2400 MPa	2000-2300 MPa	1600-3200MPa	1000-1400MPa
Yield Strength @ room temp.	25-40MPa	40-60MPa	45-65MPa	55-65MPa	50-60MPa	60-75MPa	45-80MPa
Toughness	Good	Good	Fair	Good	Fair	Fair	Very Good
Transparency	Good	Poor	Poor	Very Good	Poor	Poor	Poor
EtO Sterilisation	Good						
Steam Sterilisation @ 121C	Good	Poor	Poor	Fair	Fair	Good	Fair
Radiation Sterilisation	Fair	Good	Good	Good	Good	Poor	Fair
Chemical Resistance	Very Good	Fair	Good	Poor	Fair	Fair	Fair
Processability	Good	Fair	Good	Fair	Fair	Fair	Good
Density	0,90-0,91gr/cm3	1,08-1,17gr/cm3	1,03-1,07gr/cm3	1,20-1,24gr/cm3	1,30-1,32gr/cm3	1,41-1,43gr/cm3	1,12-1,15gr/cm3

- Grades with **high modulus up to 1900 MPa** for thin wall and insert sections of medical devices where high stiffness is key for robust design
- Grades with excellent balance between **high toughness & high flow** at low temperature
- **Sterilisation compatible** grades for EtO , Steam at 121°C and gamma radiation
- Very good **chemical resistance**

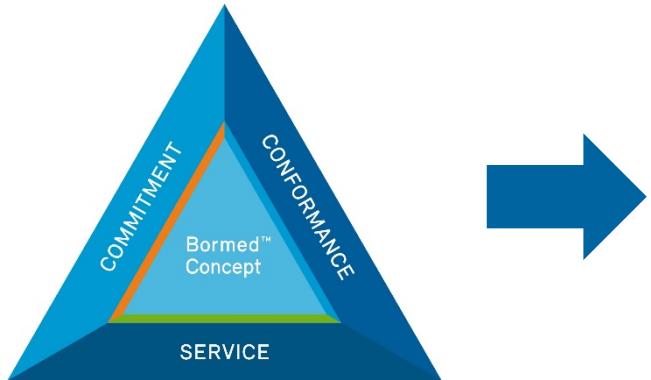
# Diagnostic Devices – Segment Dynamics



- Diagnostic devices is a **fragmented segment** including diverse applications such as labware trays, collecting and diagnostic tubes, blood cards, pipette tips
- Diagnostic devices will become an even more **regulated segment**. New EU IVDR to be applied in 2022 triggering a potential shift towards medical grade plastics
- Growing importance of POC (point of care), high automatisation and digitalisation **are seen as future trends**

# Diagnostic Applications – Material Needs

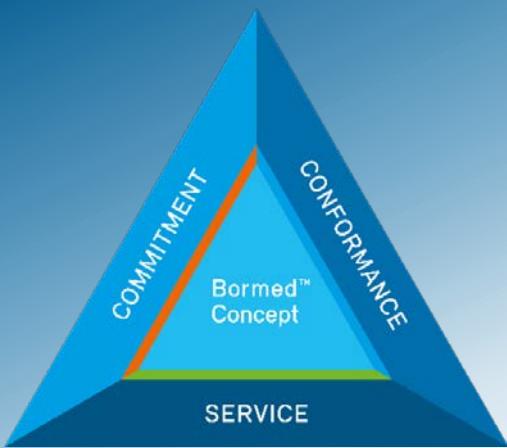
Determining the key material performance criteria is essential for successful material selection



MATERIAL REQUIREMENTS FOR MEDICAL DEVICES	
PHYSICAL	<b>Physical performance elements for robust design</b> <ul style="list-style-type: none"><li>– Stiffness for thin walled sections</li><li>– High impact strength retention at low temperatures</li><li>– Transparency</li><li>– High MFI for multicavity tools</li></ul>
REGULATORY	<b>Compliance to regulatory directives</b> <ul style="list-style-type: none"><li>– Compliance to directives and new IVDR (2022)</li><li>– Regulatory back up support</li></ul>
STERILISATION	<b>Compatibility with sterilisation method</b> <ul style="list-style-type: none"><li>– EtO</li><li>– Radiation</li><li>– Steam /Autoclave</li></ul>
ADDITIVES	<b>Functional additives for tailor made solution</b> <ul style="list-style-type: none"><li>– Anti-Static</li><li>– Nucleation</li><li>– Slip Agent</li><li>– Radiation</li></ul>

# Bormed™ Portfolio for Diagnostic Applications

Complying to diverse performance requirements of diagnostic applications



- Grades with **superior flow up to 75 gr/10 min MFI values** for easy flow of material within high cavity tools of diagnostic applications
- Grades with **high impact strength retention** at low temperatures
- **Sterilisation compatible** grades for EtO, Steam at 121°C and gamma radiation
- Grades with **special additive packages** including slip, antistatic etc. agents
- All grades have **extractable data and DMF number**
- **Excellent compounding compatible grades** for diagnostics applications

**The Bormed portfolio comes with Bormed service package:  
Pharmacopeia compliance, change control and long-term security of supply**

# Bormed™ Portfolio for Diagnostics Application

What are the material key performance criteria for your diagnostics application?

DIAGNOSTICS	PE HIGH DENSITY		PP HOMO				PP RANDOM COPOLYMERS				PP BLOCK
Key Performance Criteria	HE7541-PH	HE9621-PH	HF840MO	HD810MO	HD850MO	HG820MO	RG835MO	RF825MO	RJ880MO	RF830MO	BJ868MO
Stiffness	Low	Medium	Medium	Medium	High	High	Medium	Medium	Low	Medium	Medium
Impact Resistance	High	High	Low	Low	Low	Low	Medium	High	Medium	Medium	High Ret.
MFI (g/10dk), 230C/2,16kg	4	12	19	10	8	28	30	20	45	20	70
Transparency	Low	Low	Medium	Medium	Medium	Medium	High	High	High	High	Low
EtO Sterilisation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Steam Sterilisation @ 121C	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Radiation Sterilisation	No	No	No	Yes	No	No	No	No	No	Yes	No
Functional Additives	-	-	Slip	Nuc, Rad	-	Nuc	Nuc, Slip	Nuc	Nuc, Anst	Nuc, Rad	-

# Diagnostics – Applications with Bormed™

Complying to diverse performance requirements of diagnostics



**Bormed grades have been used successfully in several diagnostic applications**

- Labware trays
- Collecting tubes
- Pipette tips

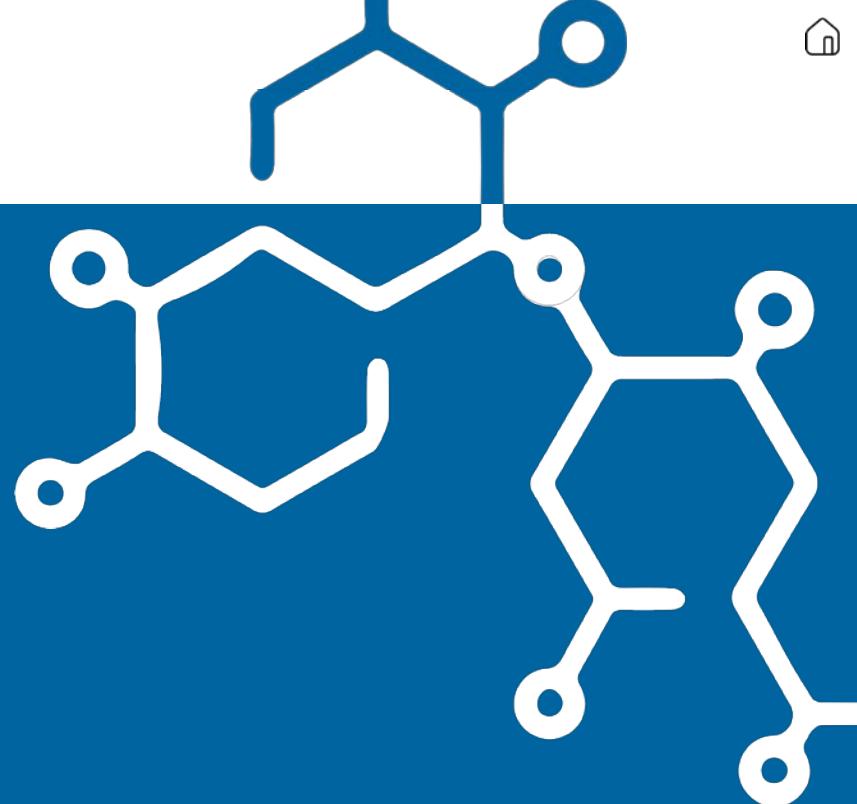
# Bormed™- Labware Trays

## APPLICATION PRINCIPLES

Labware trays are used in diagnostics labs to carry the collecting tubes. They have relatively flat surface and several holes requiring high flow material.

Depending on the storage method lab ware trays may also be exposed to low temperatures where impact resistance might be critical.

They should also have certain chemical resistance to withstand chemicals and fluids in the lab environment.





# Bormed™- Labware Trays

## DESIRED BENEFITS ON APPLICATION

- Reliable part strength
- Shock resistance to impacts
- Withstanding at storage temperature
- Environmental crack resistant parts
- No sterilisation limitation



## KEY MATERIAL REQUIREMENTS

- High flow and good processability
- High toughness
- High impact retention at diverse temperatures
- Good chemical resistance
- Compatibility to sterilization methods

# Bormed™- Labware Trays



Labware trays	GRADES FOR LABWARE TRAYS							RADIATION GRADES
Key Performance Criteria	HE7541-PH	HE9621-PH	RF825MO	HG820MO	HF840MO	HD850MO	HD810MO	RF830MO
Stiffness	Low	Medium	Medium	High	Medium	High	Medium	Medium
Impact Resistance	High	High	High	Low	Low	Low	Low	Medium
MFI (g/10dk), 230C/2,16kg	4	12	20	28	19	8	10	20
Transparency	Low	Low	High	Medium	Medium	Medium	Medium	High
EtO Sterilisation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Steam Sterilisation@ 121C	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Radiation Sterilisation	No	No	No	No	No	No	Yes	Yes
Functional Additives	-	-	Nuc	Nuc	Slip	-	Nuc, Rad	Nuc, Rad

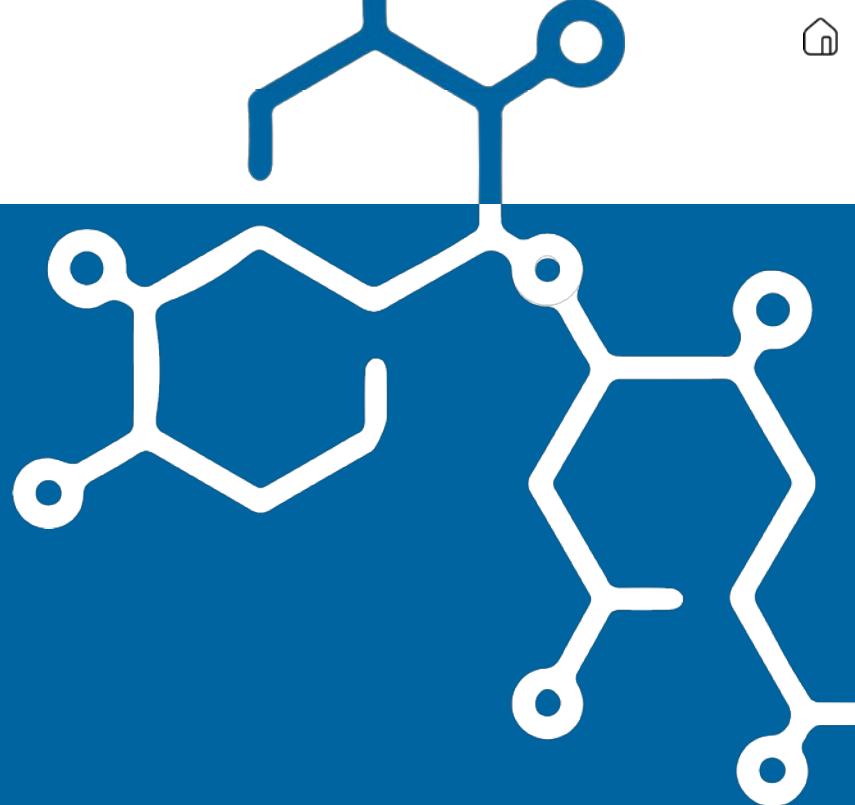
# Bormed™- Collecting Tubes

## APPLICATION PRINCIPLES

Collecting tubes are used in diagnostics labs to collect the samples. They are tube shaped and transparent parts molded with high cavity number tools.

Depending on the storage method lab ware tubes may also be exposed to low temperatures where impact resistance might be critical.

They should also have certain chemical resistance to withstand chemicals and fluids in the lab environment.





# Bormed™- Collecting Tubes

## DESIRED BENEFITS ON APPLICATION

- Visibility of sample level
- Efficient, high volume production
- Withstanding at storage temperature
- Environmental crack resistant parts
- No sterilisation limitation



## KEY MATERIAL REQUIREMENTS

- Transparency
- Easy processing: moderate to high flow
- High impact retention at diverse temperatures
- Good chemical resistance
- Compatibility to sterilization methods

# Bormed™- Collecting Tubes



Key Performance Criteria	RF825MO	RJ880MO	RG835MO	HD810MO	RF830MO
Stiffness	Medium	Low	Medium	Medium	Medium
Impact Resistance	High	Medium	Medium	Low	Medium
MFI (g/10dk), 230C/2,16kg	20	45	30	10	20
Transparency	High	High	High	Medium	High
EtO Sterilization	Yes	Yes	Yes	Yes	Yes
Steam Sterilisation @ 121C	Yes	Yes	Yes	Yes	Yes
Radiation Sterilisation	No	No	No	Yes	Yes
Functional Additives	Nuc	Nuc, Anst	Nuc, Slip	Nuc, Rad	Nuc, Rad

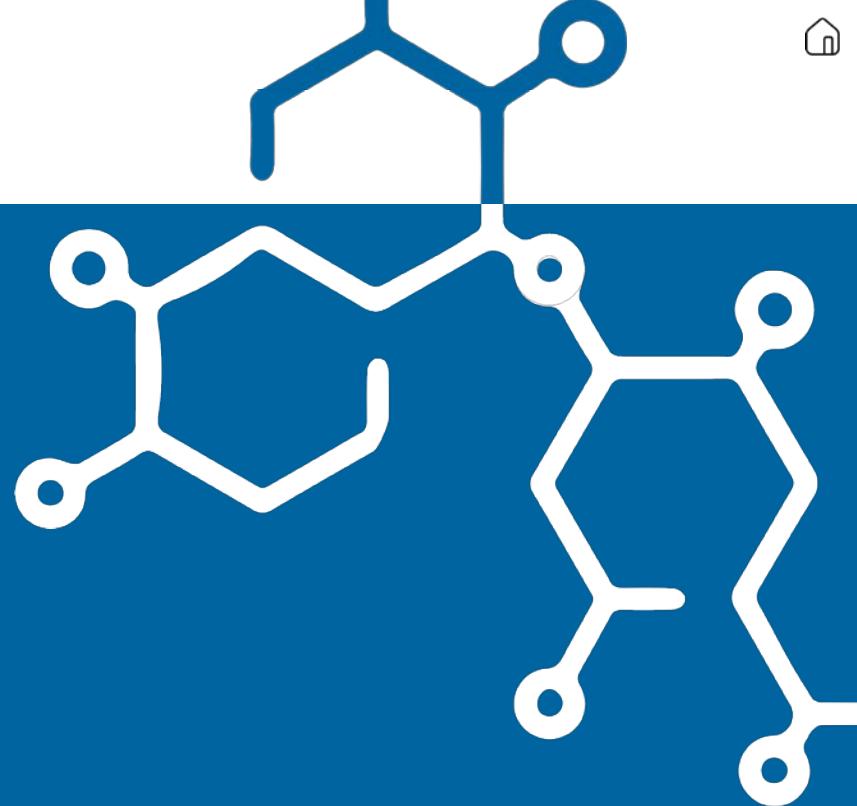


# Bormed™- Pipette Tips

## APPLICATION PRINCIPLES

Pipette tips are used in diagnostics labs to transport measured volume of the samples. Even though pipette tips vary in size, dimensional stability is important for their accuracy. They are molded with high cavity number tools where reliable process and high precision dimensions are keys for productivity and quality.

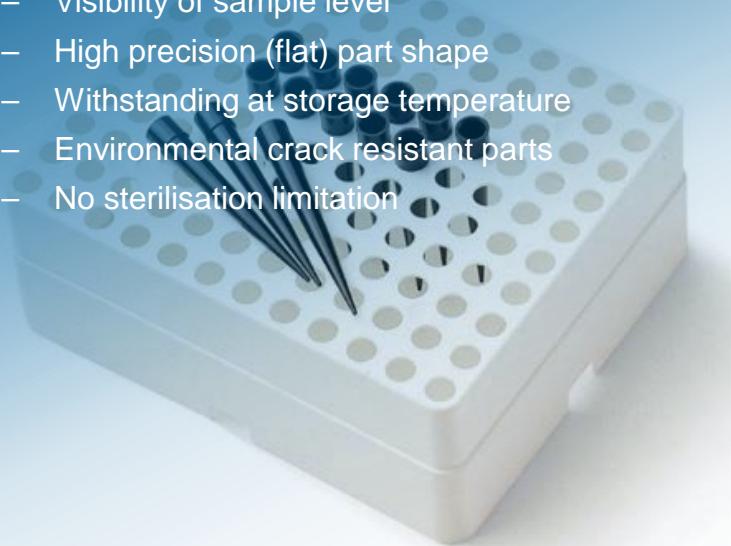
Depending on the storage method, pipette tips may also be exposed to low temperatures at subzero degree where impact resistance might be critical.



# Bormed™- Pipette Tips

## DESIRED BENEFITS ON APPLICATION

- Visibility of sample level
- High precision (flat) part shape
- Withstanding at storage temperature
- Environmental crack resistant parts
- No sterilisation limitation



## KEY MATERIAL REQUIREMENTS

- Transparency
- Easy processing and high flow
- High impact retention at subzero temperatures
- Good chemical resistance
- Compatibility to sterilization methods

# Bormed™- Pipette Tips



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PIPETTE TIPS	GRADES					RADIATION GRADES	
Key Performance Criteria	BJ868MO	RJ880MO	RF825MO	HG820MO	HF840MO	HD810MO	RF830MO
Stiffness	Medium	Low	Medium	High	Medium	Medium	Medium
Impact Resistance	High Ret.	Medium	High	Low	Low	Low	Medium
MFI (g/10dk), 230C/2,16kg	70	45	20	28	19	10	20
Transparency	Low	High	High	Medium	Medium	Medium	High
EtO Sterilisation	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Steam Sterilisation @ 121C	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Radiation Sterilisation	No	No	No	No	No	Yes	Yes
Functional Additives	-	Nuc, Anst	Nuc	Nuc	Slip	Nuc, Rad	Nuc, Rad

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# Thank you

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