



BIOPURE® MBBR Bio Media

High Protected Surface Area • Fast Biofilm Formation • 100% Virgin Polymers

PRODUCT OVERVIEW & BIOFILM TECHNOLOGY

BIOPURE® MBBR Bio Media provides an engineered protected surface area designed for active microbial growth, significantly maximizing biological BOD, COD, and Ammonia removal in Moving Bed Biofilm Reactors (MBBR) and IFAS systems. Manufactured from UV-stabilized 100% virgin HDPE and PP polymers, BIOPURE® carriers ensure uniform fluidization, low wear, and long operational lifespan across municipal and industrial STPs/ETPs.

✓ Increases reactor biological capacity and treatment efficiency without expanding physical basin dimensions.

> 400 - 1000

M²/M³ ACTIVE SURFACE

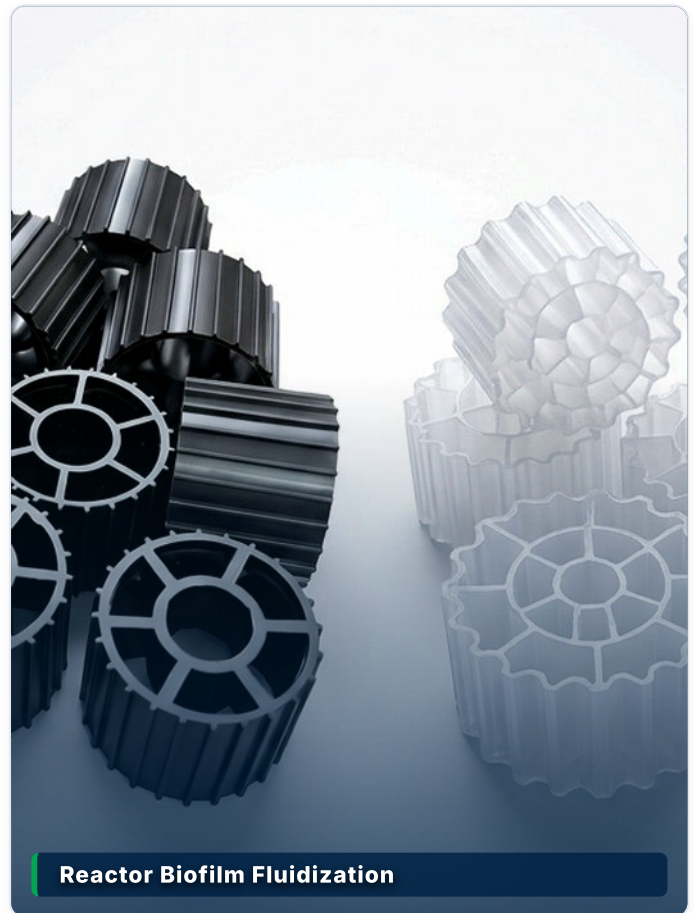
15 - 25 Days

RAPID BIOFILM FORMATION

HDPE / PP

UV-STABILIZED VIRGIN MOC

MEDIA SHOWCASE & PROCESS MODELING



★ KEY SYSTEM ADVANTAGES



High Protected Area

Provides up to 1000 m²/m³ protected surface area for active biofilm attachment.



Optimal Density

Specific gravity of 0.93-0.98 ensures smooth continuous suspension and mixing.



Fast Bio-Formation

Rapid active microbial colonization setup achieved within 15 to 25 operational days.



Durable Construction

UV-stabilized virgin polymers resistant to continuous abrasion and chemical loads.



High-Performance Biological Carrier Technology

Designed to optimize organic carbon and ammonia removal in municipal STPs, industrial ETPs, and package wastewater systems.

TECHNICAL SPECIFICATIONS

PARAMETER / MODEL	BIOPURE® BM-650	BIOPURE® BM-400L	BIOPURE® BM-400C	BIOPURE® BM-1000
Material Composition	HDPE	PP	PP	HDPE
Geometry Shape	Cylindrical	Cylindrical	Cylindrical	Cylindrical
Dimensions (Ø × H)	Ø25 × 12 mm	Ø25 × 20 mm	Ø22 × 16 mm	Ø25 × 8 mm
Specific Surface Area	> 650 m ² /m ³	> 400 m ² /m ³	> 400 m ² /m ³	> 1000 m ² /m ³
Specific Gravity	0.93 – 0.98	0.93 – 0.98	0.93 – 0.98	0.93 – 0.98
Standard Colour	White / Black	Black	Black	White / Black
Biofilm Formation	15 – 25 Days	15 – 25 Days	15 – 25 Days	15 – 25 Days
Working Temp. Limit	-5°C to +60°C	-5°C to +60°C	-5°C to +60°C	-5°C to +60°C
UV Stabilized Guard	Yes	Yes	Yes	Yes

MBBR BIOLOGICAL PROCESS & REACTOR MECHANICS

MBBR MODEL

High Efficiency • Low Maintenance • Reliable Performance



 High Surface Area for Maximum Biofilm Growth
  High Strength & Long Life
  Chemical & Corrosion Resistant
  Eco-Friendly & Recyclable
  Efficient Treatment & Low Maintenance

 **Aeration & Microorganism Degradation Mechanism**

QUALITY & OPERATIONAL PERFORMANCE SUMMARY

Filling Ratio Limits

10% – 67% Volumetric

Flexible fill ratios to meet targeted BOD/COD removal rates.

Process Compatibility

MBBR & IFAS

Ideal for both new installations and activated sludge retrofits.

Material Grade

100% Virgin HDPE/PP

UV-stabilized for extended operational life and durability.