



Perry Fiberglass Products, Inc.

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PERRY BIO-FGB

Proven Biological Technologies

Technical Guidance Document for Biofilters

PERRY BIO-FGB media is an engineered, inorganic substrate designed to maximize surface area and serve as part of the ecosystem for the growth of a diverse colony of microorganisms. A proprietary formula of nutrients, adsorbents, minerals, and PERRY BIO-FGB substrate is manufactured from 100% recycled material (green technology), is rigid, lightweight, and will not degrade or decompose over time.

Physical Properties

	kg/m³	lb./ft³
Bulk Density (dry):	250	15.5
	kg/m³	lb./ft³
Bulk Density (operating):	495	30.7
	kg/m³	lb./ft³
Water Holding Capacity:	350	21.7
	mm	in
	90%	90%
Particle Size:	12 to 40	0.5 to 1.5
	m²/m³	ft²/ft³
Surface Area:	45,000,000	13,716,000
	%	%
Porosity:	80 to 90	80 to 90
	%	%
Void Fraction:	80 to 90	80 to 90
	kPa	lb./in²
Crushing Load:	10% 447.85	65
	50% 2,756	400
	80% 9,232.6	1,340

Technical Design Parameters

PERRY BIO-FGW biofilter media is an engineered, high-performance product that must be operated within certain design parameters to ensure long-term, satisfactory performance. Deviations outside of the conditions below will adversely affect the odor removal performance, media longevity, and potentially void any media warranty claims.

- Empty Bed Residence Time (EBRT): Typically 20-45 seconds (Based on project specific inlet loadings and performance expectations)
- Media bed temperature: 50-100F (10-38C)
- Foul air humidity into biofilter media: >90%
 - Pre-humidification of the foul air stream is required prior to biofilter bed.
- Intermittent surface irrigation of the biofilter bed is also required. Typical irrigation flowrate is 0.08GPD*Ft³ of media, spread out 3-4 times each 24 hour period.
- Face velocity through media bed: 5-15 feet per minute (FPM)
- Inlet H₂S loading: <10ppm (average)
- Media bed depth: 4'-8' (1.2-2.4M)
- Media bed moisture content: 20%-30%

All design parameters are pertaining to a system while in operation.

Refer to Perry Fiberglass Products, Inc. O&M manual for proper media storage and handling instructions.

