

SorbtiveMEDIA is a patented, engineered, granular filter media designed to filter sediment, sediment-bound pollutants, and capture and retain high levels of dissolved pollutants such as phosphorus from water for extended time periods. In the case of phosphorus in water, SorbtiveMEDIA removes 65 to 90% of Total Phosphorus (TP) – both sediment-bound phosphorus and dissolved phosphorus.

SorbtiveMEDIA is an easy adaptable filtration media, aggregate or landscape-design friendly solution to meet your site design, LID, LEED, stormwater quality and quantity needs.

Pollutant removal: SorbtiveMEDIA is formulated to sorb dissolved phosphorus.

Physical forms: Bulk granular filter media and porous concrete materials (continuous filtration matrix).

Composition: Substrates utilized to provide effective treatment:

- Pumice
- Waste/recycled aggregate
- Porous concrete



Bulk density: 42 to 52 Lbs/ft³ (672 to 768 kg/M³) (varies by grade).

Applications: Proprietary and non-proprietary stormwater filtration and infiltration practices, functional land-scaping features. SorbtiveMEDIA can be added to and/or displace standard filtration media such as sand, zeolite, perlite, activated carbon, compost, peat, bioretention soil, or standard and expanded aggregates. Can be used in existing sand filters, bioretention, rain gardens, pervious pavement, pervious rip-rap and other BMPs, including SorbtiveFILTER.

How it works: Physically filters sediment and sediment-bound pollutants while sorbing high levels of dissolved phosphorus through oxide technology. High specific surface area, combined with fast-reactive kinetics and extended breakthrough provides long-lasting sorption capacity to tightly bind dissolved phosphorus.

Advantages: Unlike other media, SorbtiveMEDIA does not decompose, desorb phosphorus, leach other pollutants, or alter effluent pH.

Handling: Safe, non-hazardous & easy to handle.

Granular size: A variety of gradations are available to be flexibly incorporated into a range of BMPs.

Gradation name	% Passing						
	150µm (No. 100)	300µm (No. 50)	600µm (No. 30)	1.16mm (No. 16)	2.36mm (No. 8)	4.75mm (No. 4)	9.5mm (3/8 inch)
ASTM C33 Fine Agg.	0 to 10	5 to 30	25 to 60	50 to 85	80 to 100	95 to 100	100
No. 7	0	0 to 5	0 to 10	55 to 75	80 to 100	95 to 100	100
ASTM No. 9	0	0 to 5	0 to 10	0 to 10	10 to 40	85 to 100	100
No. 10	0	0	0 to 5	5 to 15	70 to 85	95 to 100	100

Design guidelines

Longevity is based on media volume, annual WQ_v, influent pollutant loading, and SorbtiveMEDIA breakthrough performance metrics.

As with most filtration and infiltration BMPs, 90% WQ_v is generally the suggested design target to achieve high rates of pollutant removal.

Design guidelines

Suggested design guidelines within most BMPs are:

- Balance hydraulics and media contact time by applying the appropriate gradation.
- Preferentially apply media as a layer with a minimum thickness of 3 to 4 inches (8 to 10 cm).
- Utilize pre-treatment where possible to extend intervals between maintenance frequency.

Life spans to remove dissolved phosphorus (dependant on design considerations):

- Proprietary Cartridges – 1 to 3 years
- Sand Filters – 1 to 20 years
- Bioretention cells – 1 to 30 years
- Porous Concrete – 1 to 30+ years

Media substrate	Gradations available	Applications	Product attributes
Pumice	ASTM C-33 fine aggregate No. 7, No. 10	Proprietary filtration systems including the SorbtiveFILTER, sand filters, bio retention cells, infiltration trenches, polishers, etc.	High removal performance; high sorptive capacity and long life versus conventional medias, LEED credit potential
Waste / recycled aggregate	ASTM C-33 fine aggregate, No. 7, ASTM No. 9 / No. 10,	Proprietary filtration systems including the SorbtiveFILTER, sand filters, bio retention cells, infiltration trenches, polishers, joint fill and bedding layer for pervious pavers.	Higher removal performance; high sorptive capacity and long life versus conventional medias; high strength; high LEED credit potential with waste / recycled aggregate media.
Porous concrete	Rip-rap, gabions, pervious concrete pavement	Lining for channels, swales, stormwater outfalls, walkways, parking lots, gabion walls.	Enhance pollutant removal capability; rip rap applications, pervious concrete pavements. High LEED credit potential. Flexible, eco-friendly form for integrating it into an innovative landscape design, stormwater management or agricultural runoff too.

Independent testing and removal rates

Independently field tested

Independent field testing has demonstrated total phosphorus (TP) removal of 78% over multiple storm events and dissolved phosphorus (DP) of 44%, with a mean TP EMC effluent of 0.05 mg/l and a range of TP influents of 1.5 to 0.04 mg/L.

Independently evaluated

Third party evaluations found that SorbtiveMEDIA performed over 100 to 1000 times better than tested comparative filter media.

TP removal enhancement can be achieved when SorbtiveMEDIA displaces 3 to 12 inches of standard filtration media or aggregate. Examples:

- **Sand filter**
 - Without SorbtiveMEDIA ≈ 40% TP removal
 - With SorbtiveMEDIA = > 65% TP Removal
- **Bioretention cell**
 - Without SorbtiveMEDIA ≈ 50% TP removal
 - With SorbtiveMEDIA = > 75% TP Removal

Available LEED credits

With SorbtiveMEDIA the following LEED credits are available

- c1.1: Innovation in Design
- c2.1 & c2.2: Construction Waste Management
- c4.1 & c4.2: Recycled Content
- c5.1 & c5.2: Regional Materials
- c6.1: Stormwater Management – Rate and Quantity
- c6.2: Stormwater Management – Treatment
- c7.1: Landscape & Exterior Design to Reduce Heat Island Effect