Granular Coconut Shell Based Carbon

A high activity granular Activated Carbon manufactured by steam activation from select coconut shell charcoal. Its enhanced micro porosity makes it particularly well suited for the removal of low molecular weight organic compounds and their chlorinated by-products such as chloroform and other trihalomethanes (THM's). It is also ideally suited for the removal of oxidizing agents such as chlorine and ozone from process water. An important feature of this material is its superior mechanical hardness and the extensive dedusting during its manufacture that ensures an exceptionally clean activated carbon product.

Certifications and Approvals:

NSF / ANSI Standard 61
NSF/ANSI 42

Features and Benefits:

- **Extensive internal structure**
- **Optimized density**
- **Highly microporous structure**
- **Maximum hardness**
- **Low dust and turbility**
- **Optimized density**
- **Excellent adsorption capacity**
- **High volume activity**
- **Rapid dechlorination**
- **Effective removal of ozone**
- **Low filtered water turbidity**

Certified to NSF/ANSI 61

Certified to NSF/ANSI 42

Catalytic Granular Coconut Shell Based Activated Carbon

A catalytic, high activity granular activated carbon manufactured by steam activation of selectcoconut shell charcoal. The catalytic activity of this activated carbon makes it highly effective for the removal of chloramines andhydrogen sulfide from potable water. Its large micropore volume makes it particularly well suited for the removal of low molecular weight organic compounds and their chlorinated by-products such as chloro- form and other trihalomethanes (THMs). An important feature of this material is its supe- rior mechanical hardness and the extensive dedusting during its manufacture ensures an exceptionally clean activated carbon product.

An activated carbon with a catalytic activity that is required for liquid phase application involving oxidation, reduction, and decomposition.

Certifications and Approvals:

- NSF Std. 61
- NSF Std. 42

Features and Benefits:

- Catalytic activity
- Large and extensive internal pore structure
- Highly microporous structure
- Optimized density
- Maximum hardness
- Low dust and turbidity
- Excellent adsorption capacity
- High volume activity
- Rapid dechlorination
- Low filtered water turbidity

NSF®

Certified to NSF/ANSI 61

NSF®

Certified to NSF/ANSI 42

Filter Sand & Gravel

Features and Benefits:

- Support Bed – Serves as the foundation layer for granular media such as activated carbon, catalytic media, or ion exchange resin.
- Hydraulic Stability – Provides uniform water distribution and prevents channeling by maintaining consistent flow through the filter bed.
- Media Protection – Supports upper layers of filtration media, reducing migration and loss of fine materials.
- System Longevity – Promotes maximum efficiency and lifespan of overlying filter media by ensuring even contact and performance.

Certifications and Approvals:

- Tested and certified by UL under ANSI/NSF 61
- Meets AWWA B100 specifications
- ASTM C33 / C136- standard test methods for sieve analysis and gradation of aggregates.
- Independent Third-Party testing for outline analysis for hardness, silica content, acid solubility, bulk density, and absence of impurities.
- A “natural state” glacial deposit product
- Precision sizing and uniform grading with close limits
- Red Flint filter sand and gravel meets strictest effective size and uniformity coefficients
- All product is processed to exacting specifications

Average Screen Analysis of Sand Standard Grades Effective Sizes - MM Uniformity Coefficient - 1.35 - 1.70 Range

Opening mm	Sieve No.	0.35-0.45		0.45-0.55		0.50-0.60		0.60-0.65		0.70-0.80		0.80-1.20		1.65-2.00	
		Ref%	Pass%	Red%	Pass%	Ref%	Pass%	% Ref	% Pass	Ref%	Pass%	Ref%	Pass%	Ref%	Pass%
3.327	6													0.5	99.
2.794	7													1.0	5
2.362	8													58.0	98.
1.981	9		10.0							0.0	100.0	0.0	100.00		5
1.651	10		27.0							14.0	86.0	28.0		38.0	40.
1.397	12		29.0			0.0	100.0	0.0	100.0	11.0	75.0	72.0			5
1.168	14		25.0	0.	100.0	8.0	92.0	8.5	91.5	20.0	55.0	30.0		2.5	0.0
0.991	16		100.0	0	99.0	24.0	68.0	16.0	75.5	22.0	33.0	42.0			2.5
0.883	20	1.0	99.0	1.	89.0	32.0	36.0	25.0	50.5	18.0	15.0	32.0			
0.701	24	8.0	91.0	0	62.0	24.0	12.0	26.0	24.5	11.0	4.0	10.0			
0.589	28	24.0	67.0		33.0	8.0	4.0	20.5	4.0	4.0	0.0	9.5			
0.495	32	29.0	38.0		8.0	4.0	0.0	4.0	0.0			0.5			
0.417	35	23.0	15.0	6.	2.0							0.5			
0.351	42	12.0	3.0	0	0.0							0.0			
0.295	48	3.0	0.0	2.											
0.208	65			0											
0.147	100														

Uniformity coefficient can be controlled at points between limits shown above.

Parameter	Description
Physical Form	White, sub-angular
Bulk Density	~ 90 lbs. per cubic foot
Hardness (Mohs Scale)	7.0
Effective Size Range	0.20 - 0.30 mm to 2.00 - 3.00 mm
Uniformity Coefficient	1.3 to less than 1.7
Acid Solubility	< 1.0%
Specific Gravity	> 2.6
Silicon Dioxide Content	> 97%
Loss on Ignition	< 1.0%

Parameter	Description
Physical Form	Uncrushed, smooth surface
Bulk Density	~ 90 lbs. per cubic foot
Hardness (Mohs Scale)	7.0 - 8.0
Size Range	1/8" x 1/16" to 1½" x 3/4"
Porosity	38% - 45%
Acid Solubility	< 1.0%
Specific Gravity	> 2.6
Silicon Dioxide Content	< 97%
Thin, Flat & Elongated	< 2.0%

Certifications and Approvals:

Certified to NSF/ANSI 61

AWWA MEMBER

Meets or Exceeds AWWA B100

Garnet

Product Description

Garnet is a high hardness, high density granular filter media. It is normally used as the lower (final) filtration in a multi-media bed down flow filtration system. Called multi-media or mixed media filtration, the high density, small grain size of Garnet solves a major filtration problems. In a single media granular filter such as a sand filter, the material will hydraulically classify during backwash according to granule size, the smallest rising to the top. When water flows downward through the sand, the fine particles at the top of the bed do most of the straining of the sediment. The penetration of the solids into the entire bed allows for increased solids storage, longer filter runs, and higher filtration rates.

Features and Benefits:

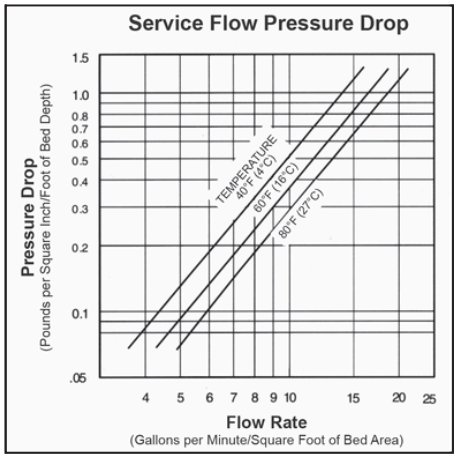
• High specific gravity allows unique filter design in combination with other filter medias, higher
flow rates, higher loading and better filtration can be achieved
• High hardness reduces attrition and provides for years of reliable service medias

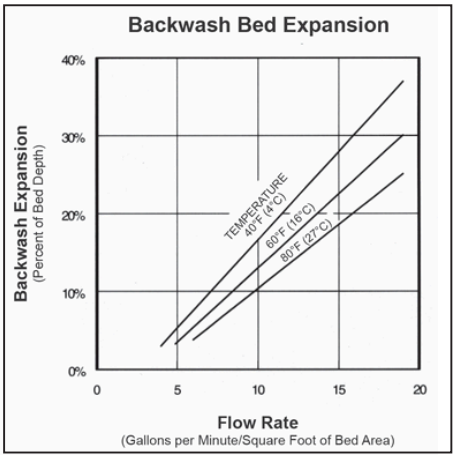
Certifications and Approvals:

Garnet meets AWWA B100-96 specifications.

Garnet mineral sand is classified by Under-writers Laboratories Inc.®

In Accordance with Standard ANSI/NSF 61





AWWA MEMBER
Meets or Exceeds AWWA B100

CLASSIFIED UL

Garnet mineral sand manufactured by International Garnet Co., Inc. is classified by Underwriters Laboratories Inc.®
in Accordance with Standard
ANSI/NSF 61

NSF

Certified to NSF/ANSI 61

KDF®

KDF® Process Media delivers unmatched advantages for water filtration and purification systems. As a trusted supplier to the industry's top OEMs and filter manufacturers, KDF®'s unique redox-based filtration, broad contaminant removal capability, microbial control, and durability make it stand out from conventional filtration technologies.

Redox (Oxidation-Reduction) Reaction: KDF® Process Media operate on the principle of redox reactions, where electrons are transferred between molecules. This process changes harmful contaminants into harmless components. For example, KDF® can convert chlorine into chloride, which is less reactive and non-toxic.

Broad Spectrum of Contaminant Removal: Unlike traditional carbon filters that primarily target organic compounds and chlorine, KDF® Process Media can remove a wide range of contaminants, including heavy metals (like lead, mercury, and nickel), chlorine, hydrogen sulfide, and even control microbial growth.

Enhanced System Performance and Longevity: KDF® Process Media significantly improve the efficiency of existing carbon-based systems by extending their lifespan, reducing maintenance needs, and lowering total operating costs.

Effective Microorganism Control: Our innovative media creates an environment that eliminates harmful microorganisms and disrupts the functioning of others, providing robust protection against microbial contamination and preventing biofouling without the need for chemical disinfectants.

High-Temperature Tolerance: KDF® Process Media can operate effectively in high-temperature environments, where other filtration materials like carbon may degrade. This makes it suitable for industrial and hot water applications, including showerhead filters.

Environmental Benefits: Being a recyclable material made from high-purity copper and zinc, KDF® Process Media have a lower environmental impact compared to disposable filter cartridges commonly used in other technologies.
Compatibility with Other Technologies: KDF® Process Media are often used in combination with other filtration systems, such as carbon filters or reverse osmosis units, enhancing their efficiency and lifespan by pre-treating the water and reducing the load on subsequent stages.

KDF® 55 Process Medium
Designed specifically for removing or reducing chlorine and water-soluble heavy metals. It controls scale, bacteria and algae, even in hot water. The process medium received NSF International Certification and is certified by NSF to NSF/ANSI Standard 42 – Drinking Water Treatment Units – Aesthetic Effects. This medium is also in compliance with California's Health and Safety Code Section 166875 (or commonly know as AB1953) and Vermont Act 193.

Certifications and Approvals:

NSF

This Reduction Oxidation Media is Tested and Certified by NSF International against NSF/ANSI/CAN Standard 61 for material requirements only.

TESTED AND CERTIFIED Water Quality UNDER INDUSTRY STANDARDS ®

NSF

This Reduction Oxidation Media is Tested and Certified by NSF International against NSF/ANSI Standard 42 for material requirements only.

Rapid Sand

Certified to NSF/ANSI/CAN 61, which now includes **NSF/ANSI/CAN 372 Lead Free requirements**, rapid sand is a remarkable advance in media filtration technology. Based on a rare natural mineral that is highly processed and refined, rapid sand's unique properties allow it to radically alter the performance and cost of media filtration. The hardness, stability and micro-porous character of sapid sand makes it a perfect filtration media for virtually every application in the water and wastewater treatment industry.

Features

High Filtration Performance: 3-5 Micron Removal
High-Capacity Filtration Throughout Bed: >2x The Capacity Of Multimedia Filtration
High Service Flow: 3-4 Times That Of Multimedia With Superior Filtration
Long Lasting Media: >5 Years (Not Consumed In The Process)
Simple, Periodic Backwash Required: Keeps The Media Clean & Operating Efficiently

Made from high purity clinoptilolite, which delivers superior performance over conventional filter sands or multimedia, and at a lower cost. The material is mined in western USA and then highly processed and graded; the resulting product is hard and stable with a high surface area and micro-porous character in addition to surface micro-crystals making it an ideal filter media.

Rapid sand has high filtration performance at <5 micron compared to 12 to 15 micron for multimedia. It also has a higher flow capacity, typically three to four times that of multimedia. This higher flow rate means a greater performance can be achieved from existing vessels when upgraded with Next-Sand, or for new applications smaller filter vessels would be required to achieve the same results.

Filtration through the entire media bed depth provides more than twice the capacity of multimedia filtration. It has a higher dirt holding capacity so requires less frequent backwashing, leading to reduced downtime. Lighter weight and lower volume requirement means lower capital and shipping costs than multimedia and the product also lasts longer. The media isn't consumed in the filtration process; a simple periodic backwash will keep the media clean and operating efficiently for five years or more.

Certifications and Approvals:

NSF Certified to NSF/ANSI 61

NSF Certified to NSF/ANSI 372

Physical properties as follows:
Composition: High-Purity Alumino-Silicate (Clinoptilolite)
Size: 0.4-1.4mm (Approx 14×40 mesh)
Color: Dark Grey
Surface Area: 25m^2/gram
Surface Absorption: Hydrophilic
Thermal Stability: Stable up to 500˚C
Coeffficient of Uniformity: 1.7
Bed Void Volume: 55%
Surface Charge: Net Negative

Bio-Ceramics

Bio-Ceramics is the most efficient way to upgrade your water anywhere anytime. It is made of natural mineral stone powder, efficiently making healthy water, such as alkaline water, antioxidant ORP water, mineral water, and activated small water. Antibacterial and dichlorination are also efficient.
Calcium Alkaline Bio Ceramic adopts the latest technology and mineral materials such as natural shells. It is a new type of alkaline mineral with the latest "micro porous sustained release" technology and high temperature roasting process. It has long service life, safe and controllable and low price. By increasing the concentration of Ca+ in the water, the balls have very good capability to increase pH with the level 7-11 to create alkaline potable water as your require. With liquid status, the calcium is easy to be absorbed by human bodies. The ball can be applied to water purifier filters, net kettles and alkaline products.

Features and Benefits:

Alkaline Calcium Ball: Alkaline correction: pH 7.0 - 9.0+

Mineral release: K, Ca, Na, Mg

Far-infrared Ball: Far-infrared wavelengths: 7-15um

Tourmaline Ceramic Ball: Mineral release: H2SiO3, K, Ca, Na, Mg, Zn, Se, Sr

Alkaline correction: 7.5-7.8 pH

Maifan Ball: Mineral release: K, Ca, Na, Mg, Zn, Fe

Negative Ion Ball: Negative ion release: 1000-3000cm3

Certifications and Approvals:

This Reduction Oxidation Media is Tested and Certified by NSF International against NSF/ANSI Standard 42 for material requirements only.

Certified to NSF/ANSI 44