FILTRASORB® 400

Granular Activated Carbon

FILTRASORB 400 activated carbon can be used in a variety of liquid phase applications for the removal of dissolved organic compounds. FILTRASORB 400 has been successfully applied for over 40 years in applications such as drinking and process water purification, wastewater treatment, and food, pharmaceutical, and industrial purification.

APPLICATIONS

- Municipal Drinking Water
- Industrial Wastewater
- Pond/Aquarium
- Pharmaceuticals
- Environmental Water Processing
- Water Reuse
- Surface Water
- Groundwater
- Food & Beverage
- Bottling & Brewing

DESCRIPTION

FILTRASORB 400 is a granular activated carbon (GAC) for the removal of dissolved organic compounds from water and wastewater as well as industrial and food processing streams. These contaminants include taste and odor compounds, organic color, total organic carbon (TOC), and industrial organic compounds such as TCE, PCE, and PFAS.

FILTRASORB 400 is made from select grades of bituminous coal through a process known as reagglomeration to produce a high activity, durable, granular product capable of withstanding the abrasion associated with repeated backwashing, hydraulic transport, and reactivation for reuse. The raw coal is mined and subsequently manufactured into GAC in the United States to ensure the highest quality and consistency in the finished product. Activation is carefully controlled to produce a significant volume of both low and high energy pores for effective adsorption of a broad range of high and low molecular weight organic contaminants.

FILTRASORB 400 is formulated to comply with all the applicable provisions of the AWWA Standard for Granular Activated Carbon (B604) and Food Chemicals Codex. FILTRASORB 400 is also certified to the requirements of NSF/ANSI 61 for use in municipal water treatment facilities. Only products bearing the NSF Mark are certified to the NSF/ANSI 61 - Drinking Water System Components - Health Effects standard. Certified Products will bear the NSF Mark on packaging or documentation shipped with the product.

Specifications

Iodine Number, mg/g	1,000 (min)
Moisture by Weight	2% (max)
Effective Size	0.55–0.75 mm
Uniformity Coefficient	1.9 (max)
Abrasion Number	75 (min)
Screen Size by Weight, US Sieve Series	
On 12 mesh	5% (max)
Through 40 mesh	4% (max)

Typical Properties

Apparent Density	0.57 g/cc
Water Extractables	<1%
Non-Wettables	<1%

FEATURES & BENEFITS

- Produced in the United States from a pulverized blend of high quality, domestically mined bituminous coals resulting in a consistent, high quality product.
- Carbon granules are uniformly activated through the whole granule, not just the outside, resulting in excellent adsorption properties and consistent adsorption kinetics.
- The reagglomerated structure ensures proper wetting and minimal floating material.
- High mechanical strength relative to other raw materials, thereby reducing the generation of fines during backwashing and hydraulic transport.
- Carbon bed segregation is retained after repeated backwashing, ensuring the adsorption profile remains unchanged and therefore maximizing the bed life.
- Reagglomerated with a high abrasion resistance, which provides excellent reactivation performance.
- High density carbon resulting in a greater adsorption capacity per unit volume.

pH stabilized product offerings available upon request.

SAFETY MESSAGE

Wet, activated carbon can deplete oxygen from air in enclosed spaces. If use in an enclosed space is required, procedures for work in an oxygen deficient environment should be followed.

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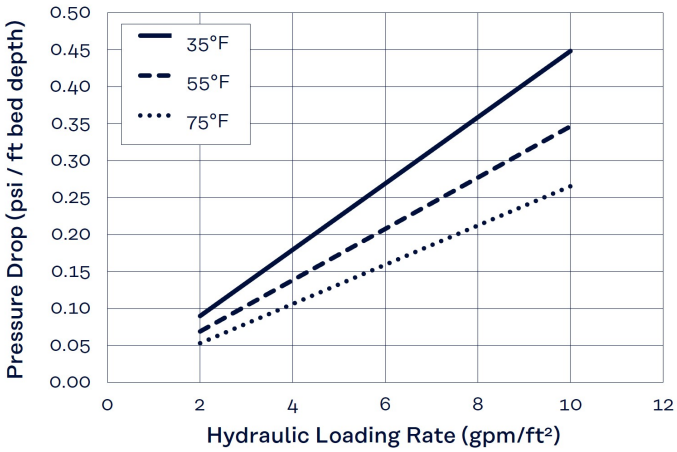
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BACKWASH AND CONDITIONING
Prior to placing a recently filled granular activated carbon (GAC) vessel online, adequate media backwash and media conditioning are required. The following steps are intended to serve as guidelines to condition GAC media prior to placing the system in service. These steps may be able to be tailored to accommodate site specific constraints. For more information, please contact your Calgon Carbon sales or technical representative.

INITIAL BACKWASH
Following GAC media exchange, slowly fill the vessel with potable water in the up-flow direction until the vessel is full. Fill using flow rates that provide less than 5% bed expansion. Soak the new GAC media overnight (approx. 16 hours) to degas the media bed. Once the soaking period is complete, conduct a start-up backwash (up-flow operation) per the steps outlined below.

TYPICAL CLEAN-BED PRESSURE DROP
Based on a backwashed and segregated bed

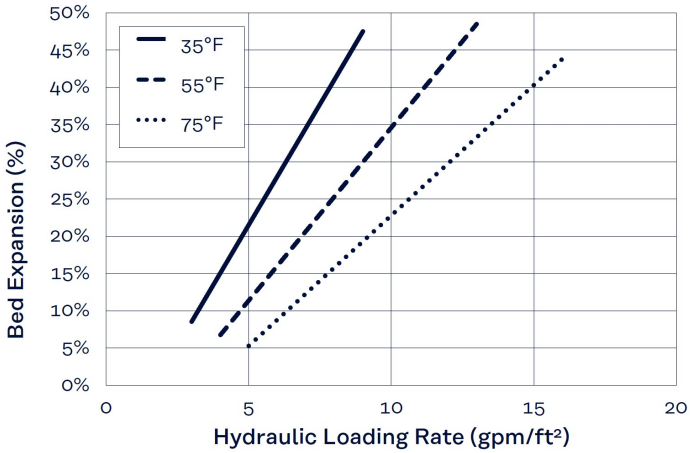


Startup Backwash

1. Flow @ 5% expansion for 2 minutes.
2. Flow @ 10% expansion for 2 minutes.
3. Flow @ 15% expansion for 2 minutes.
4. Flow @ 30% expansion for 30 minutes.
5. Flow @ 15% expansion for 2 minutes.
6. Flow @ 10% expansion for 2 minutes.
7. Flow @ 5% expansion for 2 minutes.

Refer to the bed expansion curve to determine the flowrates needed at each step. Please note, an identical backwash procedure is recommended when a media vessel is restarted after an extended shutdown or restarted after the bed has been drained.

TYPICAL BED EXPANSION DURING BACKWASH
Based on a backwashed and segregated bed



DESIGN CONSIDERATIONS
FILTRASORB 400 activated carbon is applied in down-flow operation and can be used in both pressure vessels and gravity filters. Design considerations for a treatment system is based on the user's operating conditions, the treatment objectives desired, and the chemical nature of the compound(s) being adsorbed. Reach out to your Technical Sales Representative for more information and to address your specific needs.

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