

# FILTRATION MEDIA



## PROACTIVE™ ACID WASHED 12 X 40 CARBON

**ProActive Acid Washed 12 x 40 Granular Activated Carbon (P/N IT50005)** is made from a superior quality anthracite and non-viscous coal with naturally low ash, sulphur, and phosphorous content. It is manufactured through high temperature steam activation under stringent quality control. It has a large surface area, high pore volume, high mechanical hardness and chemical stability, longer operating life, and it is easy to regenerate. It is intended for use in dechlorinating water, reducing organic impurities, and as pretreatment for reverse osmosis and ion exchange systems.

### FEATURES

- High adsorption capacity and efficiency
- Super durability that stands up well to backwash
- Low fines, no floats, rinses fast
- Low pH
- Acid washed in the USA

### Physical Properties

Carbon Type .....	Coal
US Standard Mesh Size .....	12 x 40
Larger than 12 .....	5% maximum
Smaller than 40 .....	5% maximum
Mean Particle Size .....	0.9 to 1.1 mm
Uniform Coefficient .....	1.9 maximum
Abrasion Number .....	75 minimum
Wet Density (as used) .....	38 lb/cu.ft.
Dry Density (as shipped) .....	28 lb/cu.ft.
Moisture .....	5% maximum
Ash .....	14% maximum
Iodine Number .....	950 mg/g minimum

### Acid Washed Specifications

Acid Soluble Ash .....	Less than 0.5%
Total Ash (typical) .....	8 to 9%
pH (as shipped) .....	5 to 8
Acid Soluble Metallic Impurities (as mg/kg of moist carbon)	
Aluminum .....	Less than 2000
Copper .....	Less than 100
Moisture (as shipped) .....	30 to 40% typical

These suggestions and data are based on information we believe to be reliable. They are offered in good faith. However we do not make any guarantee or warranty. We caution against using these products in an unsafe manner or in violation of any patents; further we assume no liability for the consequences of any such actions.

### Suggested Operating Conditions

Maximum Temperature .....	250°F
Minimum Bed Depth	
Chlorine Removal .....	24 inch
Organics Removal .....	36 inch minimum
Support Bed .....	12 inch graded gravel or coarse sand
Backwash Expansion .....	15 to 25%
Flow Rate	
Chlorine Removal .....	1.0 to 2.0 gpm/cu.ft.
Organics Removal .....	0.5 to 1.0 gpm/cu.ft.

### Packaging

Plastic lined, corrugated box. Each box contains 1 cu.ft.  
(28 lb net weight).

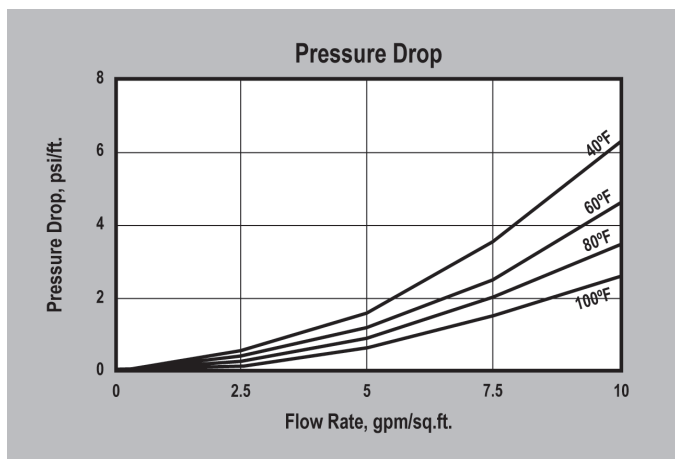
### Warning

For safety and handling purposes, we recommend appropriate protective measures when entering a wet vessel containing granular activated carbon, because wet activated carbon depletes oxygen from air and therefore, dangerously low levels of oxygen may be encountered. In such a case, the oxygen level inside the vessel shall be determined before entering and appropriate protective equipment should be worn when entering, or leave the vessel open until the oxygen level in the vessel is normal.

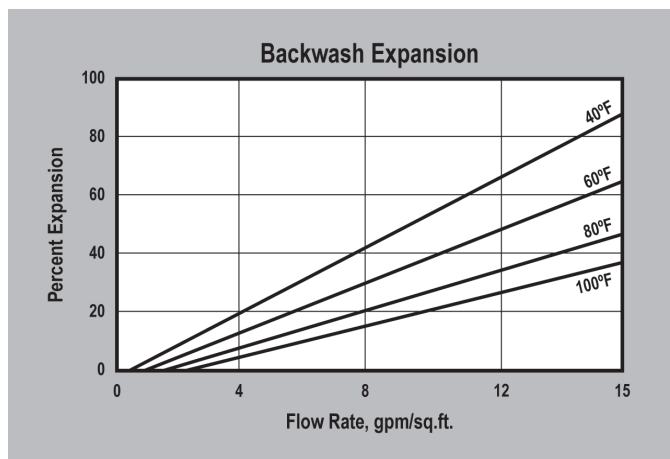
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**PRESSURE DROP** — The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate at various temperatures.

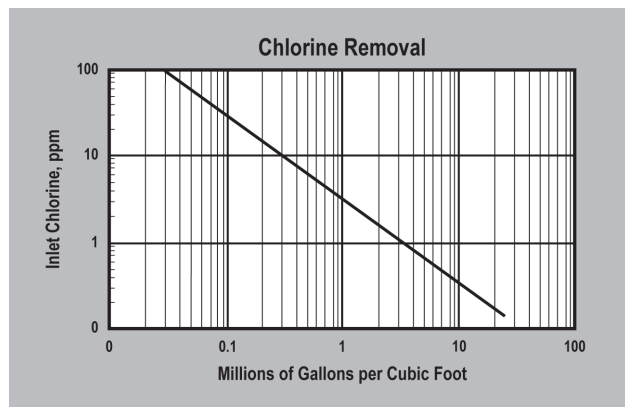


**BACKWASH** — The carbon bed should be backwashed at least once per week with chlorinated water to expand the bed 15 to 20 percent. This helps keep the carbon bed sterile and removes any foreign matter and carbon fines.

## OPERATING CAPACITY

### Chlorine Removal

ProActive Acid Washed 12 x 40 Carbon (IT50005) can be expected to remove a minimum of one pound of chlorine per pound of carbon. A 24 inch deep bed of IT50005 will reduce 1 ppm of inlet chlorine to below the limit of detection.



The graph above shows throughput capacity for chlorine removal using 2 gpm/cu.ft. of deionized water at 77°F with 0.1 ppm chlorine leakage endpoint.

Chlorine removal efficiency is affected by the following:

- Increasing temperature increases removal
- Increasing pH reduces removal (above pH 8.0 consult SWT for recommendations)
- Increasing TOC usually improves removal
- High flow rate reduces removal

### Organics Removal

Removal of organics by activated carbon is variable and is site specific. In general, large organic molecules are removed more completely than smaller molecules. The probable mechanism of removal is adsorption into the carbon pores. Organics with fewer than 6 carbon atoms are not well removed. Aromatic organic molecules are generally removed better than aliphatic molecules. Organic ions are generally not well removed. Polar molecules are not removed as well as non-polar molecules.

### Steam Regeneration

IT50005 can be regenerated with steam to remove organics and/or chlorine that has been adsorbed. Contact your representative for additional information.