

# FILTRASORB® 200

## Agglomerated Coal Based Granular Activated Carbon

### DESCRIPTION

**FILTRASORB® 200** is from the renowned **FILTRASORB®** range of Granular Activated Carbons, which are installed in numerous water treatment plants in Europe, the United States and Asia. **FILTRASORB®** carbons are produced by steam activation of selected grades of bituminous coal that have first been pulverised then **agglomerated**.

Though it has less total pore volume than other **FILTRASORB®** products, **FILTRASORB® 200** possesses a high proportion of high energy adsorption pores required for the removal of specific organic compounds. This makes it particularly suited to the removal of micropollutants such as chlorinated hydrocarbons from ground waters or surface waters containing a low level of natural organic matter. In addition, it is suited to the removal of taste and odour forming compounds such as geosmin and for dechlorination and deozoneation applications.

### FEATURES

Agglomerated coal based granular activated carbons have several properties, which explain their superior performance in a wide range of applications:

- Produced from a pulverised blend, results in a **consistent high quality product**.
- The Activated Carbon Granules are uniform activated over the whole granule, not just the outside. This results in **excellent adsorption properties** in a wide range of applications.
- High mechanical strength of the coal based carbon gives **excellent reactivation performances**.
- Agglomerated coal based carbon are suitable for **multiple reactivations** compared to other base materials such as peat and wood.
- The agglomerated structure ensure **rapid wetting**. There is no remaining floating material.
- Carbon bed segregation is retained after repeated backwashing, ensuring the **adsorption profile remains unchanged** with time and therefore maximising the bed life before breakthrough.
- **FILTRASORB® 200** complies with EN12915 and is approved by the United Kingdom Drinking Water Inspectorate.

### PROPERTIES

<b>FILTRASORB® 200 12x40</b>	
<b>SPECIFICATIONS</b>	
Iodine Number, min., mg/g	850
Abrasion Number, min.	75
Moisture Content, as packed, max., wt%	3
Mesh Size, US Sieve Series, wt%	
> 12 mesh (1.70 mm), max.	5
< 40 mesh (0.425 mm), max.	4

*(Please refer to the Sales Specification Sheets, which state the Chemviron test method used to define the above specifications. Copies are available upon request.)*

<b>FILTRASORB® 200 12x40</b>	
<b>TYPICAL PROPERTIES</b>	
Backwashed and Drained Bed Density*, kg/m <sup>3</sup>	500
Hardness Number	95
Floating Content, wt%	0.1
Surface Area, (N <sub>2</sub> BET method**), m <sup>2</sup> /g	900
Methylene Blue Number	230
Methylene Blue Number (CEFIC), ml/0.1g	15
Effective Size, mm	0.7
Mean Particle Diameter, mm	1.1
Uniformity Coefficient	1.7
Dechlorination Half Length, DIN19603, cm	2.0
Atrazine loading*** at 1µg/l, mg/g	40
Trichloroethylene loading *** at 50µg/l, mg/g	25

*(\*) Backwashed and Drained Density for adsorber sizing;*

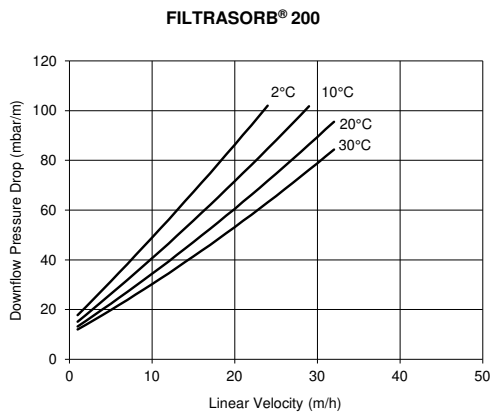
*(\*\*) Brunauer, Emmett and Teller, J. Am. Chem. Soc. 60. 309 (1938).*

*(\*\*\*) Isotherm loading in distilled water. These are reported for comparison and are unlikely to reflect loadings in practice.*

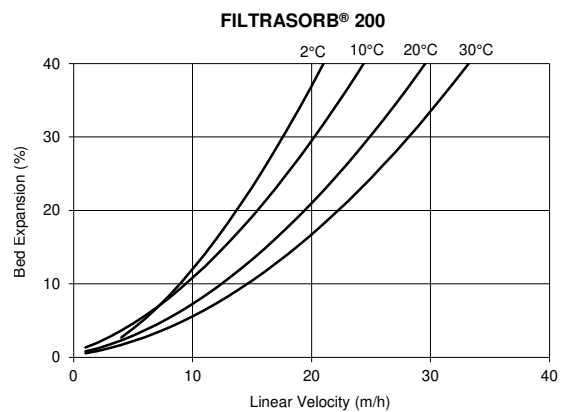
### RECYCLING BY THERMAL REACTIVATION

Once granular carbon is saturated or the treatment objective is reached, it can be recycled, by thermal reactivation, for reuse. Reactivation involves treating the spent carbon in a high temperature reactivation furnace to over 800°C. During this treatment process, the undesirable organics on the carbon are thermally destroyed. Recycling by thermal reactivation is a highly skilled process to ensure that spent carbon is returned to a reusable quality. **Chemviron** operates Europe's largest reactivation facilities and daily recycles large quantities of spent carbon for a diverse range of customers. Recycling activated carbon by thermal reactivation meets the environmental need to minimise waste, reducing CO<sub>2</sub> emissions and limiting the use of the world's resources. The combined high mechanical strength of **FILTRASORB® 200** with the transport pores gives the carbon **excellent reactivation performance and low losses**.

## TYPICAL PRESSURE DROP CURVE FOR A BACKWASHED AND SEGREGATED BED



## TYPICAL BED EXPANSION CURVE FOR A BACKWASHED AND SEGREGATED BED



### DESIGN INFORMATION

The following are typical design parameters for **FILTRASORB® 200** installed for the treatment of ground water:

- Superficial contact time            10-20 min.
- Bed Depth                                1.5-3 m
- Linear Velocity                         10-20 m/h
- Backwash Bed Expansion            20 %

### PACKAGING

- 25 kg bags
- Big bags
- Bulk tanker

### SAFETY MESSAGE

Wet activated carbon preferentially removes oxygen from air. In closed or partially closed containers and vessels, oxygen depletion may reach hazardous levels. If workers are to enter a vessel containing carbon, appropriate sampling and work procedures for potentially low-oxygen spaces should be followed.

### QUALITY

Each of our worldwide operations has achieved **ISO 9001:2015** certification for their quality management system related to activated carbon. **Chemviron** guarantees the specifications against representative sampling. For food grade applications, it is recommended to check the quality of the initial effluent before putting the adsorber into service.

### CHEMVIRON

**Chemviron**, the European operation of Calgon Carbon Corporation, is a global manufacturer, supplier, and developer of granular activated carbon, innovative treatment systems, value added technologies, and services for optimising production processes and safely purifying the environment.

With our experience developed since the early years of the twentieth century, facilities around the world, and a world-class team of over 1,300 employees, Calgon Carbon Corporation can provide the solutions to your most difficult purification challenges.

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