

REACTIVATION SERVICES

Our reactivation services

Due to the adsorption process, granular activated carbon (GAC) becomes exhausted after a certain service period. Depending on the application, the service time for GAC varies from weeks for sweetener purification in the food industry, to months for wastewater and gas/air applications, and even years for drinking water treatment. In many cases the exhausted GAC may be regenerated by a thermal reactivation process, which makes the product suitable for reuse. Our reactivation services at modern, state-of-the-art plants in the EU provide a cost effective and environmentally sound solution. The overall CO₂ emission, or Carbon Footprint, of reactivation is only 20 percent of the benchmark for making virgin GAC!

How does reactivation work?

We use dedicated reactivation processes and transport systems, depending on the type of exhausted carbon. The main classification of exhausted GAC is based on the application:

- ◆ Potable water and food (Green listed GAC)
- ◆ Wastewater, gas/air and chemicals (Amber listed GAC)

We take care to treat exhausted GAC originating from and meant for Green listed applications in a dedicated reactivation process, separate from exhausted GAC from Amber listed applications.

During thermal reactivation the exhausted GAC is heated to temperatures over 900 °C. Adsorbed organics are thermally destroyed in a highly specialized process under strict environmental control. Following reactivation the adsorptive properties of the GAC are restored to a level close to virgin GAC quality. After reactivation and sieving, fresh GAC is added (Make-up GAC) to compensate for losses due to attrition and burn-off. Typically the Make-up is 10 % (volume).



Can all GAC types be reactivated?

Whether or not GAC can be reactivated depends on several factors:

- ◆ The impurities adsorbed on the carbon – there are limits to the level of metals and organic halogens
- ◆ The base carbon type – the vast majority of GAC grades can be reactivated, however certain grades are not suitable
- ◆ The volume of GAC – reactivation is viable if the volume is greater than 15 m³ (individual user or collected)
- ◆ Logistics – distance to our nearest reactivation plant

Our reactivation services

Our reactivation services are located in our plants in The Netherlands, United Kingdom and Italy and include a complete package:

- ◆ Evaluation of exhausted GAC quality, GAC feasibility, and design and on-site handling of GAC
- ◆ Assistance in arranging the proper documents for transport, including international transport permits
- ◆ Arranging the best shipping method - dedicated containers, bulk tank cars, big bags, or mobile filter units
- ◆ Reactivation is covered by our ISO 9001:2008 and ISO 14001:2004 certifications

Technical Documentation

- TB 40: Transport, handling and reactivation of GAC
- TB 41A: Commissioning GAC adsorbers for potable water treatment
- TB 56: Delivery of granular activated carbon by tank car
- TB 084: Exhausted GAC acceptance procedures and transport regulation in the EU
- TB 121: GAC in potable water treatment; filter volumes
- TB 135: Thermal reactivation of GAC for gas-air-chemical-wastewater applications



We manufacture activated carbon in seven plants and reactivate carbon in four plants. Our sales, technical service and customer service teams are prepared to serve customers around the world.

So whether you have one operation or many facilities around the globe, we've got you covered.

Contact us at cabotcorp.com/activatedcarboncontact



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