



Jacobi Carbons

Worldwide Quality and Service



In 1916, Ferdinand Adolph Wilhelm Jacobi emigrated from Germany to Sweden. Jacobi AB was immediately established to supply a broad range of chemicals used in the manufacture of food products, pharmaceuticals and textiles. At an early stage in the development of the business, a need was recognised for an adsorbent material to enable manufacturing industry to meet increasing production targets and stringent environmental regulations. The potential for activated carbon had been identified and the future development of the company secured.

From this humble beginning the Jacobi Carbons Group has evolved to become a highly respected manufacturer of activated carbon and associated adsorption technology. The Jacobi Carbons Group is a global company, with strategically located offices, manufacturing units, laboratories and agencies located around the world.

From these facilities Jacobi Carbons offer a comprehensive range of liquid and vapour phase adsorbents to meet the performance requirements of a highly diverse market.

The range of activated carbons manufactured is one of the most comprehensive available in the world today. This includes AquaSorb[®], EcoSorb[®], GoldSorb[®], DioxSorb[®], ColorSorb[®] and AddSorb[®].

All materials manufactured by Jacobi Carbons are supplied in full accordance with our ISO-9000 approved quality control procedures.

The materials manufactured at our facilities in Europe and Asia can be shipped directly to customers throughout the world, or supplied from our strategically located warehousing facilities. This ensures that our principal product lines are always available for immediate ex stock supply, at highly competitive market rates.

Jacobi Carbons firmly believe that a quality product deserves quality packing, this factor cannot be over-emphasised. All materials are packed to the highest international standards, in polyethylene valve sacks, laminated FIBCs (big bags) and bulk silo tankers. In order to meet the requirements of individual clients, Jacobi Carbons can also provide special packaging on request.

We know there are no shortcuts. This is why we work hard in continuing the legacy left by Ferdinand himself in 1916.



Jacobi Carbons operate
in full accordance with
approved ISO-9000 quality
control procedures



Carbon is the most abundant element on earth. Amongst the most common forms of carbon are coal, coconut shell, wood, peat and lignite. Coal, coconut shell and wood are the principal raw materials used in the manufacture of the activated carbons supplied by Jacobi Carbons.



What is Activated Carbon?

Carefully selected raw materials are processed at low temperatures (200-300°C) to remove natural volatile components and residual moisture levels. This is the initial carbonisation step. This is followed by passing the carbonised raw material through high temperature (900-1000°C) activation retorts in the presence of a stringently controlled flow of steam which is used as the oxidising medium.

The resulting product is a powerful adsorbent with a range of pores of molecular dimensions. Under a scanning electron microscope the pore development is clearly visible, appearing like a porous sponge. This high concentration of pores within a relatively small volume produces a material with a phenomenal internal surface area (800-1600 m²g⁻¹ BET N₂). To put this into perspective, a tea spoon of activated carbon would exhibit a surface area equivalent to that of a football field. It is this vast internal surface area that gives activated carbon its unique ability to adsorb a wide range of compounds from both the gas and liquid phase. The target compound is contacted with the activated carbon and subsequently diffuses into the internal pore structure. The internal surface area of the activated carbon exhibits weak Van der Waals forces which lock the compound into the pore structure. The process of transferring molecules from the gas or liquid phase onto a solid surface is defined as adsorption.



Extruded
0.9, 1.5, 2, 3, 4, 5, 6 mm



Granular
8x16, 6x12, 4x8, 3x6 USS



Granular
30x70, 20x50, 12x40, 8x30 USS



Powder
<75 µm (200 USS)



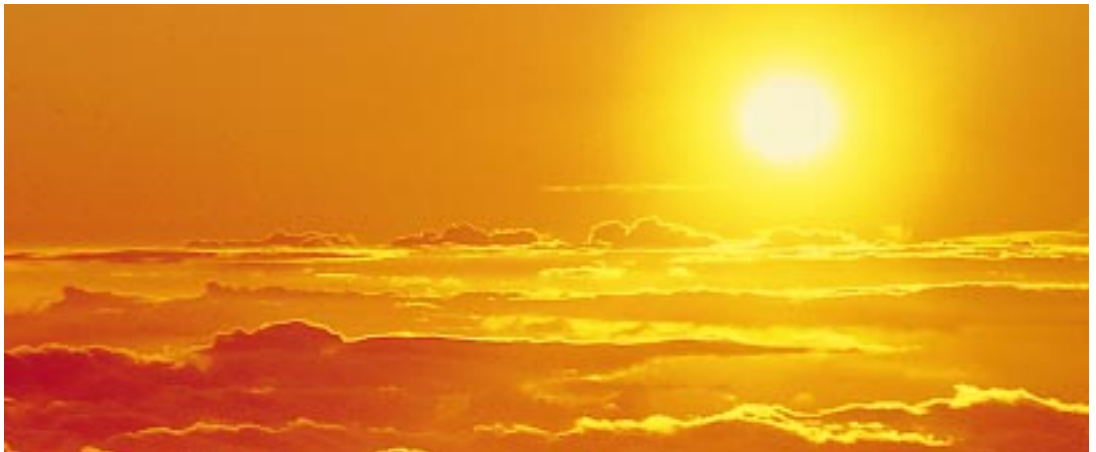
Water covers three quarters of the earth's surface and is the essential substance which brings life to plants, animals and the entire population of the globe. The AquaSorb® range of activated carbons has been specially developed to remove dissolved organic contaminants from water and to revitalise its natural purity. Applications include municipal water treatment involving the removal of taste, odour and color compounds, process water treatment in beverage production, brewing, semiconductor manufacture, effluent water treatment in the remediation of contaminated ground, car wash facilities and landfill leachate treatment.



A product for



The purity of air on our planet is of vital importance to us all. The EcoSorb® range of activated carbons has been developed to remove volatile organic compounds from air and gas. Applications include the recovery of solvents used in rotogravure printing, viscose production and the manufacture of magnetic films, air treatment in airports, cigarette filter tips, range hoods, gas purification in the petrochemical industry, natural gas production and brewing industry.





The days when gold prospectors could extract nuggets from the hillside with picks and shovels are long gone. Advanced chemical processing techniques are now required to recover the minute traces of gold which remain in the earth's crust. Ore is extracted, milled and treated with sodium cyanide to leach the gold into solution. GoldSorb® activated carbons are used to adsorb the gold complex which is formed in carbon-in-leach (CIL), carbon-in-pulp (CIP) and heap leach/carbon-in-column (CIC) circuits. The gold loaded activated carbon is eluted and the gold is recovered using zinc precipitation or electrowinning techniques.



each application



The ever growing population of the world and the responsibility for the environment continue to place increasing pressure on traditional methods of waste disposal. Incineration has become widely recognised as best available technology to deal with this problem and consequently a substantial number of plants are now operating in the developed world. Due to the constituents of the waste, the flue gas can become contaminated with dioxins, mercury and heavy metals. The DioxSorb® range of powdered activated carbons has been specifically developed to eliminate this problem. Applications include domestic waste-to-energy plants, hazardous waste incineration and clinical waste incineration.





Complex processing steps that may introduce an off-color are often used in the manufacture of food products, chemicals and pharmaceuticals. Decolorisation is undertaken using ColorSorb® activated carbon. Applications in the decolorisation of food products include the processing of glucose and dextrose syrups, sugar refining, edible oil processing and wine treatment. Organic and inorganic acids including adipic, citric, lactic and phosphoric acid are often decolorised. In the pharmaceutical industry specialist applications exist requiring high purity activated carbon.



Inorganic compounds in the vapour phase are often corrosive or toxic and due to their chemical properties they are difficult to adsorb onto base activated carbon. The AddSorb® range of activated carbons consists of specially impregnated adsorbents, designed to remove these compounds by chemisorption. AddSorb® acid gas removal products are used for adsorbing odorous sulphur compounds in sewage pumping stations and for the removal of corrosive gases from air intake systems in electronics manufacturing facilities, museums and libraries. AddSorb® mercury removal products are used to purify hydrogen generated in chloralkali cells, to prevent corrosion of heat exchangers in natural gas production and to prevent atmospheric contamination when recycling fluorescent lamps. AddSorb® activated carbons are also supplied for the adsorption of special gases and for use in respirators for personal protection.



The AquaFlow® series of mobile adsorption systems offer a flexible approach to water treatment. Applications include the treatment of contaminated ground water, the treatment of process effluents and inexpensive in-process solutions.

The EcoFlow® series of mobile adsorption systems offer a flexible approach to air treatment. Applications include the treatment of solvent storage tank vents, the control of process emissions and odour removal in sewage treatment plants.

The range of adsorption systems offered by Jacobi Carbons is significantly enhanced by our design and build service.





Jacobi Carbons

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Sales and Marketing



Jacobi Carbons AB – Sweden

Headquarters of the Jacobi Carbons Group, coordinating worldwide sales and marketing



Jacobi Carbons (Suomen Siv.) – Finland

Sales and marketing of activated carbon in Finland and the Baltic States.



Jacobi Carbons GmbH – Germany

Sales and marketing of activated carbon in Germany and Continental Europe.



Jacobi Carbons Ltd – United Kingdom

Sales and marketing of activated carbon in the United Kingdom and Republic of Ireland



Jacobi Carbons, Inc. – United States

Sales and marketing of activated carbon in the United States and Canada.



Jacobi Carbons Agents – Worldwide

A diverse network of agents and distributors strategically located around the world.

Production and Engineering



Jacobi Carbons Co. Ltd. – China

The manufacture of extruded and granular coal based activated carbons – ANSI/NSF 61 facility.



Jacobi Carbons (Pvt.) Ltd. – India

The manufacture of granular coconut shell based activated carbon.



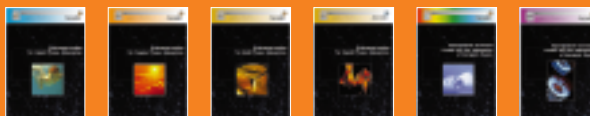
Jacobi Carbons AB – Sweden

Powdered activated carbon manufactured from coal, coconut shell and wood.



Jacobi Carbons Ltd – United Kingdom

Specialist impregnation facility, technical activated carbons, media handling and adsorption equipment.



All products manufactured by Jacobi Carbons are classified under registered trademarks (®). Detailed information is available on the use of our activated carbons in each application.