

高效提炼稀有金属的佳产品 完全超越活性炭

产品名称	高效提炼稀有金属的佳产品 完全超越活性炭
公司名称	秦皇岛市紫川碳纤维有限公司
价格	.00/个
规格参数	
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产品详情

关于活性炭纤维在有色金属方面的介绍

我国是80年代开始研究这项新技术的，研究工作进展十分迅速，并于80年代末开始工业化，目前国内已形成年产600吨的生产能力。由于活性炭纤维优越的吸附性能，在工农业生产和日常生活的各个领域得到了推广应用，其产品还远销到韩国、台湾及东南亚等地区。近年来，活性炭纤维在有色金属行业的原料纤维预处理阶段可碳化纤维应用发展迅速。本文就活性炭纤维的特点及其在有色金属行业的应用情况作一简要介绍。

活性炭纤维的生产原理及特点

活性炭纤维生产原理，活性炭纤维是由有机化学原料(如聚丙烯腈、褥青、聚乙烯醇等)经过碳化和进一步活化而成。活性炭纤维与颗粒活性炭相比，吸附容量大10倍以上，吸附速度快100倍，活性炭纤维的高效吸附功能，得助于它发达均匀的微孔结构，其微孔孔径大部分在10微米左右。在这种新材料的各个断面均匀地布满了微孔，每克炭纤维上都有近百亿个微孔，颗粒活性炭之所以吸附容量小，且吸附速度慢，是因为其结构中大、中、小孔都有。而孔径还较深。孔太大，成了单纯通道，起不了吸附作用，孔太深，延缓了吸附速度。另外，活性炭纤维还具有成型好，不易粉化、再生容易(在温度100 热蒸汽或热空气条件下可完全再生)、再生速度快(5~15分钟即可)、易于加工成毡、布、丝、纸等优点。而颗粒活性炭再生条件十分苛刻，再生后吸附能力下降。

活性炭纤维在有色金属行业的应用

活性炭纤维用于炭浆法提金，已经在国内取得了专利。其试验效果显著，大大缩短了提金时间，并且炭纤维磨损率低，减少了金的损失，易于再生，反复使用效率不降低。该工艺国内有些科研单位正在进行半工业试验，目前已进入工业化。

活性炭纤维用于有色金属行业废水治理排放中的酚类、砷、铬、汞、锡、铜等均有很大的吸附量。用碳纤维制造的吸附装置可以小型化”，且工艺简单，再生容易，能较好地处理这类废水。这种废水处理装置已经在国内推广使用。活性炭纤维用于有色金属行业废气治理，用活性炭纤维治理有色金属行业排放的低浓度二氧化硫废气、低浓度含氯废气，是近年发展起来的最新技术。西北矿冶研究院开展了利用碳纤维吸附—解析法处理低浓度二氧化硫废气的小型试验研究，取得了令人满意的结果。同时还开展了用碳纤维吸附—催化转化法(生成副产品稀盐酸)处理低浓度氯气废气新方法研究，亦取得了可喜的试验结果。

活性炭纤维用于制作劳动防护用品利用活性炭纤维优良的吸附、解吸性能。制成的劳动防护用品，在有色金属行业各种有毒岗位得到了推广应用。针对有色金属行业防毒的特殊需要，西北矿冶研究院开发生产了劳保口罩，适用于各种有机废气(如酚类)工作岗位。适用于二氧化硫、硫酸雾、含汞、铬、铅等粉尘废气工作岗位。适用于氯气、氯化氢、含氟废气工作岗位，适用于硫化氢废气工作岗位。上述劳保口罩使用及携带方便，防护效果好。在有色金属行业有毒岗位上推广使用，受到了普遍欢迎。

activated carbon fiber in nonferrous metal on the aspects

our country is in the study began 80 new technology, research progress, and very quickly began in the 1980s, the current domestic industrialization has already formed the annual production capacity of 600 tons. because of activated carbon fiber superior adsorption. in industrial and agricultural production and daily life field application. the products are exported to korea, taiwan and southeast asia, etc. in recent years, activated carbon fiber in nonferrous metal industry raw fibrous preprocessing carbon fiber can rapid progress. based on the characteristics and activated carbon fiber in nonferrous metal industry application to make a brief introduction.

carbon fiber production principle and characteristics

carbon fiber production principle, activated carbon fiber is by organic chemistry raw material (such as polyacrylonitrile, pad, etc) and polyvinyl alcohol (pva) by carbonization and activation further. compared with the particle activated carbon fibers, adsorption capacity is 10 times greater than 100 times faster, adsorption, absorption function of efficient activated carbon fiber to help it developed. the microporous structure, even the tiny holes in the 10 microns. most in this new material of each section of the microporous evenly with carbon fibre per gram. have 100 million microporous activated carbon, particle adsorption capacity, and the small adsorption slow, because of the large, medium and small structure. and aperture is deep. hole is too big, and became the only channel, adsorption, hole is too deep, delaying the absorption rate. in addition, active carbon fibre has molding, powder, regeneration easy (in temperature 100 ° c hot steam or hot air condition can be completely regenerated), regeneration speed (5-15 minutes), easy processing, cloth, silk carpet into paper, etc. and regenerating activated carbon particles and demanding conditions after the adsorption ability.

carbon fiber in nonferrous metal industry application

activated carbon fibers used in coal slurry in domestic gold, has obtained the patent. the test results greatly shortened significantly, gold, and carbon fiber low wear rate, reduce the loss of gold, easy to regenerate, repeated use efficiency is lower. this process is domestic some scientific research units and industrial experiments, currently has entered the industrialization.

activated carbon fibers used in nonferrous metal industry wastewater discharge of phenolic, arsenic, chromium, mercury, tin, copper, all have very big adsorption with carbon fibre. adsorption device can be made, and the simple process miniaturization ", renewable easily, can better handling such wastewater. this kind of wastewater treatment plant has been used in china for carbon fiber. the non-ferrous metal industry waste gas treatment with active carbon fibre, non-ferrous metal industry management of sulfur dioxide emissions of low concentration of chlorine gas and

low exhaust, is developed in recent years. new technologies in the northwest institute of metallurgy using carbon fiber adsorption with a low concentration of analytical method of sulfur dioxide emissions small experiment research, gives satisfactory results. also launched a catalyst with carbon fibre adsorption process (generating by-products processing of ancient rare hydrochloric acid) low concentration of chlorine gas new method research. also have achieved remarkable results.

activated carbon fibers used to make labor protection articles using active carbon fibre excellent adsorption, desorption performance. made of labor protection articles, non-ferrous metal industry in various toxic post had applied. the non-ferrous metal industry according to the special needs of antivirus. northwest institute has developed to produce labor vol.39, masks, applicable to all kinds of organic waste gases (such as phenols) jobs. applicable to so₂, sulfuric acid fog mercury, lead, chromium, etc xi dust emissions jobs. suitable for chlorine gas and hydrogen fluoride, suitable jobs, hydrogen gas jobs. the use of labor and easy to carry, mask protective effect. in nonferrous metal industry to promote the use of toxic post by popular.

活性炭纤维与活性炭的对比

活性炭纤维亦称纤维状活性炭，是新一代高效活性吸附材料和环保功能材料，是活性炭的更新换代产品。较高的技术含量和较高的产品附加值是其主要特征，可使吸附装置小型化，吸附层薄层化，吸附漏损小，效率高，节能经济，可以完成颗粒活性炭无法实现的工作，是任何其它类型的活性炭纤维无法比拟的，性能出类拔萃的活性吸附材料和环保工程材料。

活性炭纤维（acf）是用天然纤维或人造有机化学纤维经过碳化制成。其主要成份由碳原子组成。碳原子主要以类似石墨微晶片、乳层堆叠的形式存在。

acf另一引人注目的结构是具有发达的比表面积，丰富的微孔径。一般活性炭纤维（acf）的比表面积可达1000-1600m²/g，微孔体积90%左右，其微孔孔径为10a-40a。

产品性能

1、吸附容量大：对有机气体恶臭、腥臭物质（no、no₂、so₂、h₂s、nh₃、co、co₂）吸附量比颗粒和粉状活性炭大20-30倍。

对水溶液中的无机物、燃料、有机物质及重金属离子吸附量比颗粒、粉状活性炭高8倍以上。

对微生物及细菌有优良的吸附能力。（如大肠杆菌的吸附率可达94%-99%）。

对低浓度吸附质的吸附能力特别优良。如对ppm吸附仍保持很高的吸附量。而gac吸附材料往往在低浓度吸附能力大大降低。

2、吸附速度快：对气体的吸附一般在数十秒至数分钟达到吸附平衡，比gac高2-3个数量级。

3、脱附速度快、易再生：用120 -150 热空气加热10-30分钟即可完全脱附。在多次吸附过程中，仍然保持原有的吸附性能。

4、耐高温性能好：在惰性气体中耐高温1000 以上，在空气中着火点达500 。

5、耐酸、耐碱，具有良好的导电性能和化学稳定性。

6、灰份少：它的灰份含量仅为gac的十分之一，对回收物质的催化作用小

compared with the activated carbon fiber

carbon fiber is also called fibrous activated carbon, is a new generation of high activity adsorption materials and environmental protection function of active material is updated products. high technology content and high value-added products is the main feature, can make the adsorption equipment miniaturized, adsorptive layer thin layer, adsorption leaks, high efficiency, energy-saving, economic, can complete granular activated carbon, the work is not any other type of carbon fiber and incomparable outstanding performance, environmental protection and material activity adsorption of engineering materials.

carbon fiber (acf) is to use natural fiber or man-made fibre made by carbonization of organic chemistry. the main ingredients of carbon atoms. carbon atoms mainly similar graphite microchips, exists in the form of stacked layers.

acf another striking structure has been developed area, rich micro pore. general activated carbon fiber (acf) of the surface of 1000-1600m² / g, pore volume of about 90%, its tiny holes for 10-40a.

product performance

1, adsorption capacity: organic material, foul stench gas (so₂, no₂, axle, h₂s, nh₃, co and co₂) the adsorption quantity and large powdered carbon than 20-30 times.

the solution of inorganic materials, fuels, organic matter and heavy metal ions adsorption ratio granular, powder activated high above 8 times.

on the microorganisms and bacteria have excellent adsorption ability. e. coli (such as the absorption rate can reach 94% - 99).

low concentrations of fine quality adsorption ability adsorption. as for ppm adsorption remain high adsorption capacity. but in the gac adsorption materials often low concentration of adsorption ability greatly reduced.

2 and adsorption speed: gas adsorption in general for several seconds to a few minutes to achieve higher than the gac adsorption balance, 2-3 orders of magnitude.

3, fast, easy attached with 120 degrees - regenerative: 150 degrees c hot air heating 10-30 minutes off completely. at times, still keep adsorption process of adsorption performance.

4, good performance is good: inert gases in high-temperature 1000 ° c above, in the air in the ignition 500 deg c.

5, acid and alkali resistance, good conductive properties and chemical stability.

6 and the method of less: it's only for the gac compared.superconductive carbon-black of recycling substances one-tenth of catalysis