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**Note**

The numerical values presented in this brochure are representative values, not guaranteed values.  
Please verify the regulations corresponding to the purpose and application, product safety, and other such details when using products.  
Do not use for the medical applications (including implantation into the body) or food applications.  
When disposing the material, be sure to treat it as "industrial waste".  
Safety Data Sheets (SDS) have been prepared separately in regard to handling precautions. Please contact our representative.



20191031-02

# BAC



Bead-shaped Activated Carbon BAC

# Kureha is a carbon material manufacturer with sales worldwide.

We, Kureha, are commonly known for household goods such as NEW Krewrap. Our business includes a wide variety of products, for example advanced materials, pharmaceuticals, agricultures, and packing plastics. Carbon product is one of our main businesses. We continually support the industry as the pioneer who first developed pitch type carbon fiber in the world. Kureha's carbon products are also known in the global market for its high quality.

History	
1944	Spin off from Kureha Cotton Spinning
1953	Started production of polyvinylidene chloride
1960	Launched "Krewrap" to the market
1969	Developed world's first technology of Crude oil thermal cracking process
1970	Launched carbon fiber "KRECA" to the market
1972	Launched bead-shaped activated carbon "BAC" to the market
1977	Launched anti-cancer agent "Krestin" to the market
1987	Launched engineering plastic "Fortron KPS" to the market
1989	Launched "NEW Krewrap" to the market
1991	Launched therapeutic agent for chronic kidney disease "Kremezin" to the market
1993	Launched agricultural fungicide "Metoconazole", seed treatment fungicide "Ipconazole", carbon material for lithium ion secondary batteries "Carbotron P" and PVDF binder for lithium ion secondary batteries "KF polymer" to the market.
2000	Launched fine grain agent "Kremezin" to the market
2005	Changed the company name from Kureha Chemical Industry Co., Ltd to Kureha Corporation
2012	Started operation of industrial Scale PGA (Polyglycolic Acid) manufacturing facility



Usage example of "KF polymer" as pipe valve



Usage example of "Fortron KPS" as water pump impeller



"NEW Krewrap"



Industrial salt, raw material of the Kureha product lineup

## Features of Kureha's Bead-shaped Activated Carbon "BAC"

### ■ Wisdom of the world's pioneer

In 1972, Kureha industrialized pitch type bead-shaped activated carbon for the first time in history. Since then, we have kept accommodating to the high level and various demands by our original technologies.

### ■ High purity products with less metal impurity

BAC's low impurity comes from the raw material, petroleum pitch.

### ■ Received certificate of the quality control and environmental management system

Kureha's mother factory, the Iwaki Factory obtained quality control standard ISO9001 and environmental management system standard ISO14001.

**Legend:**  
P : Production site  
S : Sales location

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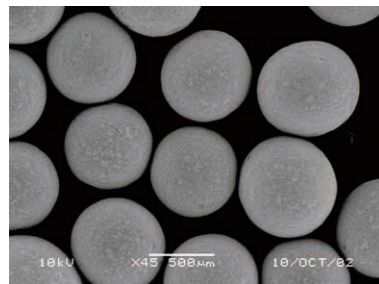
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# Bead-shaped Activated Carbon BAC

High purity, high quality activated carbon

## About the Product

- Kureha Bead-shaped Activated Carbon (BAC) is a highly spherical activated carbon with petroleum pitch as its raw material.
- BAC has various unique features in addition to its original adsorption performance.



[electron micrograph] shows highly spherical feature

## Main Usages or Applications

- water treatment
- exhaust gas, water purification
- clean room air filter, chemical filter
- polysilicon production process
- trichlorosilane purification



Solvent recovery system (product of Kureha Engineering Co)



Water purification systems

## Features

### ■ Six features of BAC

#### 1. High-fill capability

Due to the high bulk density, BAC is able to achieve high fill density compared to coal based activated carbon or coconut shell based activated carbon in the same volume capacity.

#### 2. High flowability

Due to the high flowability by the spherical shape, BAC reaches all areas of a complex-shaped container.

#### 3. Low carbon dust

BAC generates less carbon dust due to the bead formation process that does not use binder.

#### 4. High purity

High purity prevents contamination of your product.

#### 5. High strength, high wear resistance

High strength and high wear resistance prevents carbon contamination from BAC.

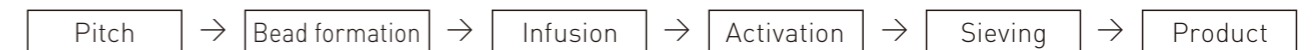
#### 6. Narrow particle size distribution

Grades are set by average particle size, providing consistent quality.

### ■ The six features are ensured by the proprietary production process.

- BAC is produced under an integrated process from raw material pitch.
- BAC uses raw material pitch with low metal impurities.
- Beads are formed without any binder.
- Uniform infusion and activation process on fluidized bed contribute to the consistent quality.

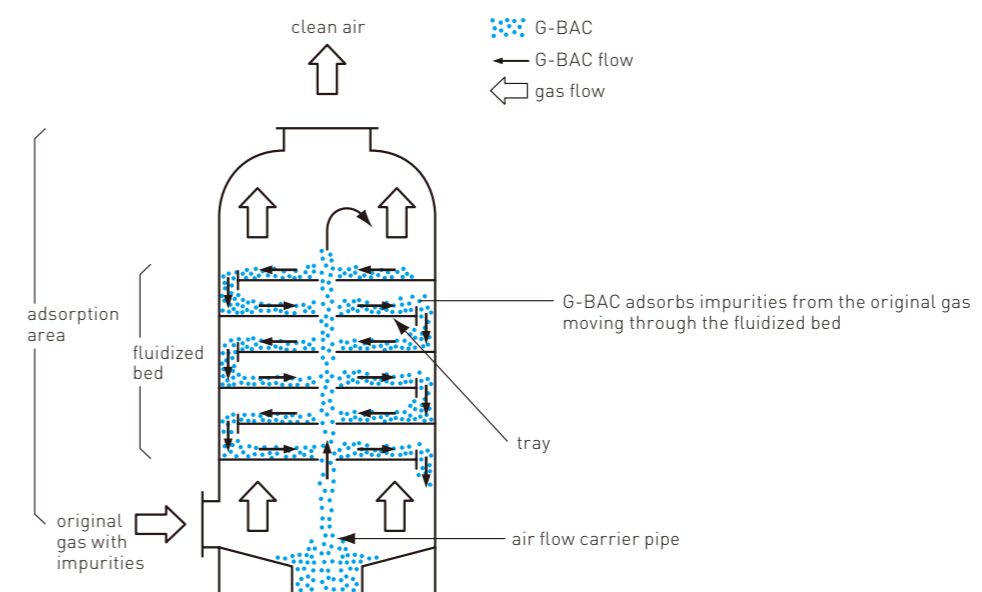
### 【Production process flow】



## Installation Advantages

- High flowability makes BAC suitable for fluidized bed type filters.
- High wear resistance contributes to longer lifetime in fluidized bed filter.

### ■ Simple Image of BAC (G-BAC G-70R) in a Fluidized Bed



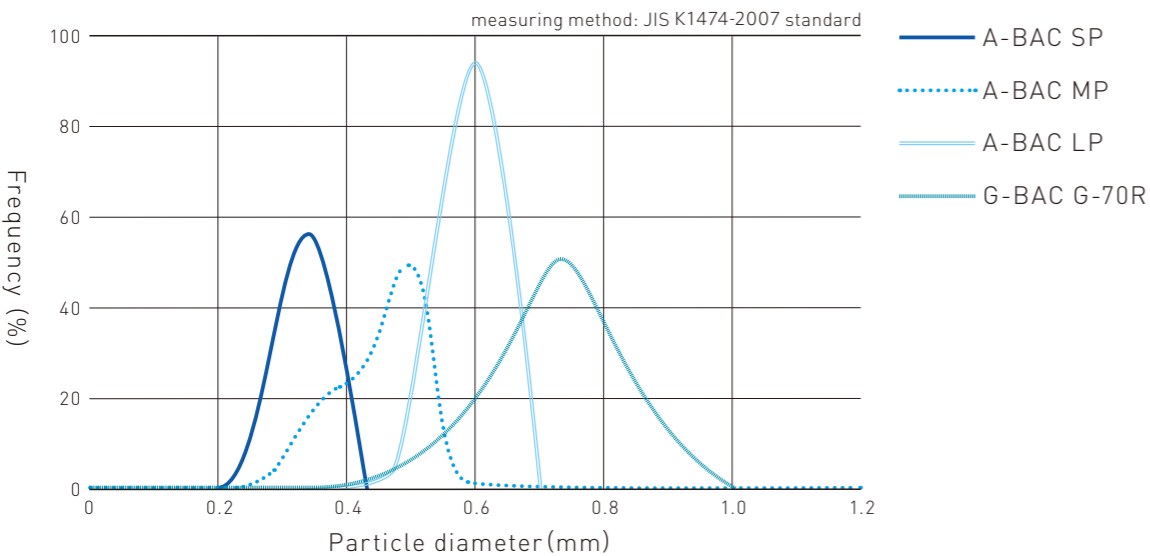
## BAC Product Specifications

### Grades

BAC may be classified into four grades based on average particle size

Property		A-BAC SP	A-BAC MP	A-BAC LP	G-BAC G-70R
Average Particle Size	mm	$\leq 0.40$	$0.50 \pm 0.05$	$0.60 \pm 0.05$	$0.70 \leq$
0.25mm or less	wt %	-	$\leq 5$	-	-
0.71mm or more	wt %	-	$\leq 10$	-	-
Particle Diameter					
0.30mm or less	wt %	-	-	$\leq 5$	-
0.85mm or more	wt %	-	-	$\leq 10$	-
0.6mm or less	wt %	-	-	-	$\leq 5$

### < Particle size distribution for each grade >



Various particle sizes are available.

### Package

Standard sizes are 20kg paper bag and 600kg flexible container

\* Please inquire for the other grades and specifications

## BAC Performance

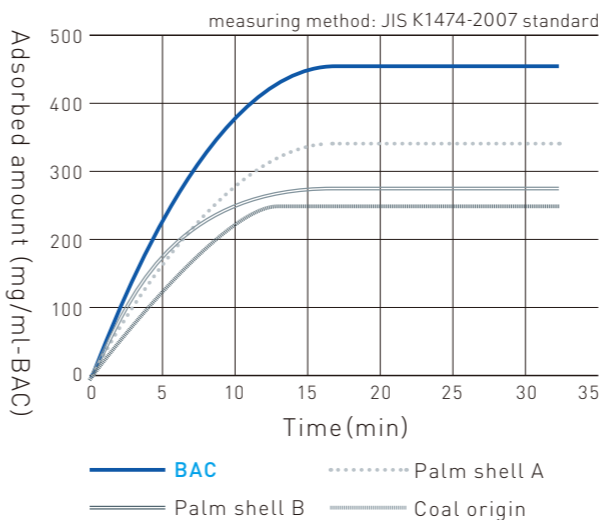
### Characteristic Values

Item	Characteristic Value	Item	Characteristic Value
Shape	Sphere	Carbon Tetrachloride Adsorption Capacity	70~85%
Fill Density	approx. 0.6g/ml	Caramel Decoloring Power	80~95%
Specific Surface Area*	1,100~1,300m <sup>2</sup> /g	Methylene Blue Decoloring Power	220~270ml/g
Hardness	95% or higher	ABS Value	50 or less
Reduction on Drying	5% or less	Phenol Value	60 or less
Iodine Adsorption Capacity	1,200~1,350mg/g	Residue on Ignition (Ash)	0.05% or less

\* measuring method: BET method

### Adsorption Property

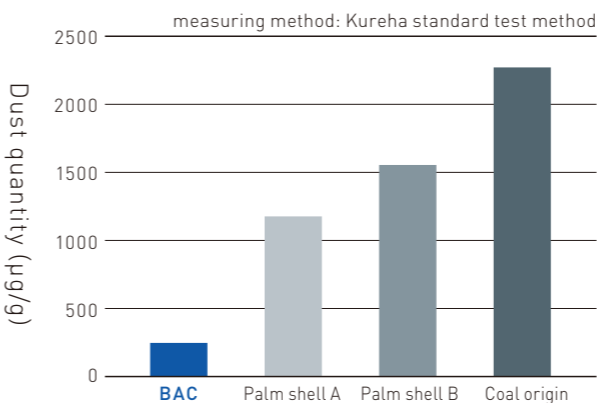
#### < Test of carbon tetrachloride adsorption capacity : specific volume >



advantage: **Good adsorption capacity due to its high fill density**

### Cleanness

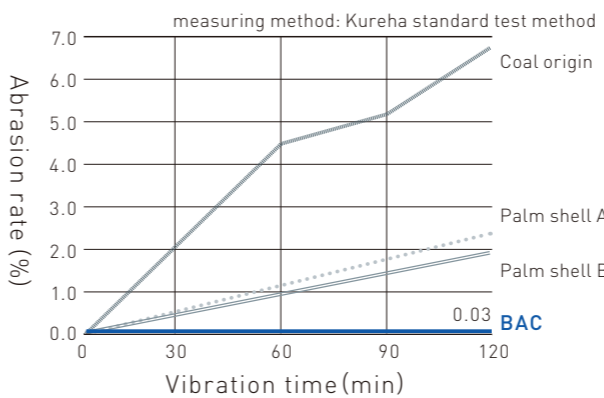
#### < Carbon dust quantity >



advantage: **low dust**

### Wear Resistance Capability

#### < Wear resistance capability under water >



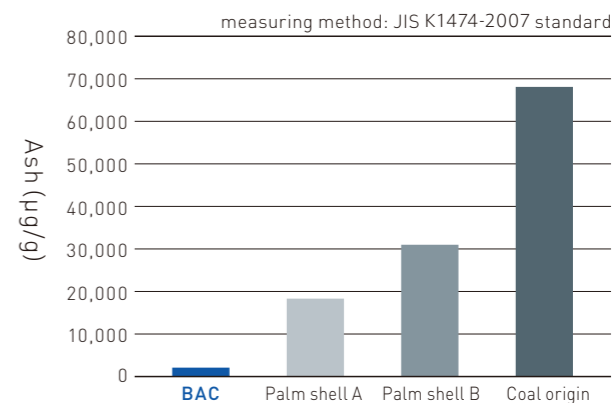
advantage: **high strength, high wear resistance**

### Metal Impurity Data

unit: ppm  
measuring method: Kureha standard test method

Item	BAC
Ash	< 500
Ca	19.0
Cr	0.5
Cu	1.7
Fe	34.0
K	3.7
Mg	4.3
Na	13.2
Ni	0.5
Si	25.0
P	1.0
B	< 1.0

### < Residue on ignition (ash) >

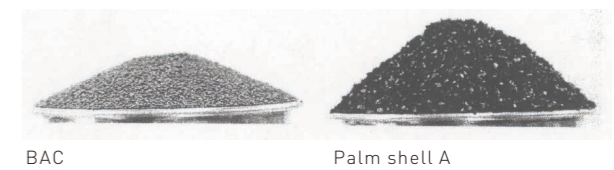


advantage: **high purity**

### Angle of Repose $\theta$

measuring method: Kureha standard test method

BAC	Palm shell A	Coal origin
25°	40°	30°



advantage: **high flowability, high fill density**