

ACF Environment Purification Material

Activated Carbon Fiber

■ What is ACF Environment Purification Material?

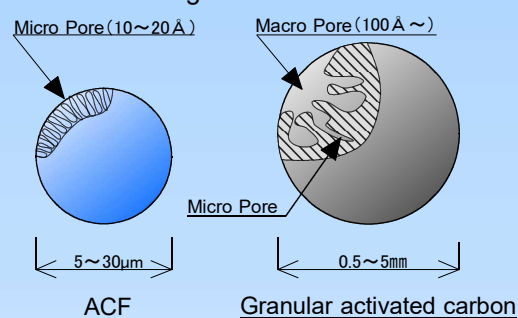
Activated CarbonFiber is fibriform activated carbon. It is a new advanced material that differs from granular or powder activated carbons. ACF diameter is about 5 to 30 μm. It's fine compared to granular activated carbon (grain diameter 500 to 5000 μm) and it has large surface. Because pore diameter of ACF is about 15 to 20 Å and most pores are micro pores, its speed of adsorption and desorption is fast. It's excellent for the adsorption in low concentration. ACF doesn't fly apart like powder activated carbon (grain diameter 5 to 30 μm) and it's easy to manufacture to many form such as paper, textile, and felt. We offer roll type or cut to any size of ACF.

Comparison between ACF and granular activated carbon

	ACF	Granular activated carbon
Size	5~30μm, Fiber form	0.5~5mm
Specific Surface	700~2500 (m ² /g)	900~1200 (m ² /g)
Outer Surface	0.2~2.0 (m ² /g)	~0.001 (m ² /g)
Pore size	Less than 20 (Å)	—

*1μm=1/1000mm, 1Å=10⁻¹⁰m=1/10⁻⁷mm=0.1nm=100pm

Pore of ACF and granular activated carbon



● Characteristics

◆ Specific Surface Area

Diameter is 5 to 30μm, it has large outer surface. Area is 200 times larger than granular activated carbon. It has many fine pore, smaller than 20Å around surface. Thus its large surface area can effectively function. It also has its faster absorption-desorption speed and larger adsorption capacity.

◆ Workability

ACF is light and it has flexible workability. Since its powder doesn't spread, it's easy to change form.

◆ Conductivity

Because it's carbon material, electric resistance is small so that it has high conductivity.

● Specification

Model Number	ACFNW-EM1	ACFNW-EM2	ACFNW-EM3	ACFNW-EM5
Thickness (mm)	1	2	3	5
Unit Weight (g/m ²)	90~100	100~140	210~250	350~400
Length/Roll (m)	83~92	59~83	33~40	21~24
Weight/Roll (kg)	10			
Width (m)	1.2			

* Standard product is cellulose ACF 100% non-woven fabric.

* We can provide lot unit production such as ACF content or form, so please consult us.

● Usage

◆ Gas-phase treatment

1. Collecting OS 【Collecting OS system】
2. Bad gas, Tobacco 【Deodorization system】
3. NOx · SOx remove 【Waste gas equipment】
4. Virus, matter remove 【High function mask】

◆ Liquid-phase treatment

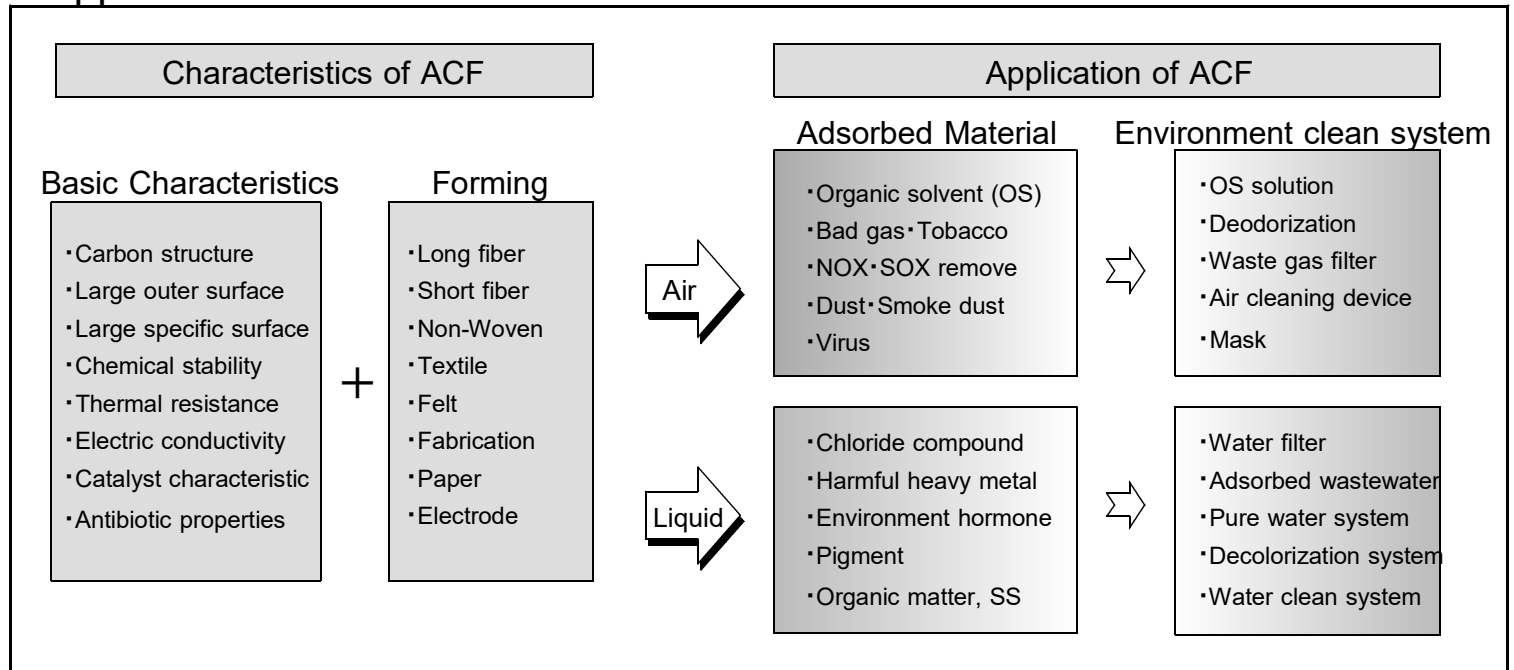
1. Chloride compound 【Water clean system】
2. Bad heavy metal ions 【Absorption system】
3. Pigment remove 【Decolorization】
4. Biotreatment carrier 【Contact media】
5. Fuel cell electrode 【Microbial fuel cell】

● Performance

Item		Performance
Specific Surface (BED)	(m ² /g)	1,000~1,800
Iodine adsorption amount	(mg/g)	1,200
Benzene adsorption amount	(wt%)	41~43
Methyleneblue adsorption amount	(ml/g)	>180
Carbon Content	(%)	100

*Harmful heavy metals does not contain. (ND)

Application of ACF



ACF Related Products

● Activated Carbon Granular Sheet 【Activated Carbon Granular Non-Woven Fabric】

Model Number	Media	Thickness	Unit Weight	Carbon Content	Air permeability
CB600A	Impregnated AC Sheet: PET	2.5mm ± 10%	850g/m ² ± 10%	600g/m ² ± 10%	—
CB600B	Impregnated AC Sheet: PET	2.5mm ± 10%	850g/m ² ± 10%	600g/m ² ± 10%	—
CB600C	Impregnated AC Sheet: PET	2.5mm ± 10%	850g/m ² ± 10%	600g/m ² ± 10%	—
GE120CLL	Granular AC Coconut Shell: PE	0.7mm ± 10%	250g/m ² ± 10%	120g/m ² ± 10%	130cc/cm ² /s
GE300CLS	Granular AC Coconut Shell: PET	1.2mm ± 10%	500g/m ² ± 10%	300g/m ² ± 10%	110cc/cm ² /s
Useage	<ul style="list-style-type: none"> • Chemical filter (MAU/FFU) • Industrial contamination filter • HVAC filter • Air filter • Panel filter • Water clean adsorption 	Function (CB600A)			

● Activated Carbon Powder Sheet 【Activated Carbon Powder Non-Woven Fabric】

Model Number	Media	Thickness	Unit Weight	Carbon Content	Air permeability
CF3180	Powder AC Coconut Shell: PET	3.0mm ± 10%	180g/m ² ± 10%	90g/m ² ± 10%	295-310cc/cm ² /s
CF5300	Powder AC Coconut Shell: PET	5.0mm ± 10%	300g/m ² ± 10%	190g/m ² ± 10%	295-310cc/cm ² /s
CF10400	Powder AC Coconut Shell: PET	10.0mm ± 10%	400g/m ² ± 10%	135g/m ² ± 10%	221-240cc/cm ² /s
Useage	<ul style="list-style-type: none"> • Chemical filter (MAU/FFU) • Air clean filter • HVAC filter • De-humidifier • Air conditioner filter • Water clean adsorp, filter 	Function (CF3180)			

Cat. NO. EA001 2018.10	<p>■ Manufacture</p> <p style="text-align: center;">so-en think earth</p> <p style="text-align: right;">SO-EN CO., LTD 1665-1 Shinbo-machi Takasaki Gunma Japan TEL +81-27-352-4857 FAX +81-27-352-4875 e-mail: soen.net@gmail.com info@so-en.net URL http://so-en.net/index-e.html</p>
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