



AKTIVKOHLE  
FILTERSYSTEME  
WECHSELSERVICE

# Structure:

1. Doped Activated Carbon (doped AC)
2. Laboratory
3. Production of Industrial Filters
4. Logistic & Certification
5. Production & Advantages of doped AC

# Impressions – Production of activated carbon



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## *Activated Carbon and Filter Plant*

### 1. Doped Activated Carbon

- Production of doped activated carbon from different raw materials  
(wood-based AC with renewable resources & stone coal based AC)
- Specialization in the purification of gas streams
- Doping of activated carbon – in cooperation with Fraunhofer  
developed and patented method for modifying  
properties of activated carbons



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## *Activated Carbon and Filter Plant*

### 1. Doped Activated Carbon

- Doped activated carbon – the most efficient means of desulphurization
- Ca. 1/3 share in the German biogas market
- Desulphurisation/Cleaning of biogas, waste-water-treatment plants and landfills, reduction of odor emissions from industrial and municipal applications (e.g. canalisation, other)

dopetac  
**sulfo100**<sup>®</sup>

AFA 4-  
**dot S**

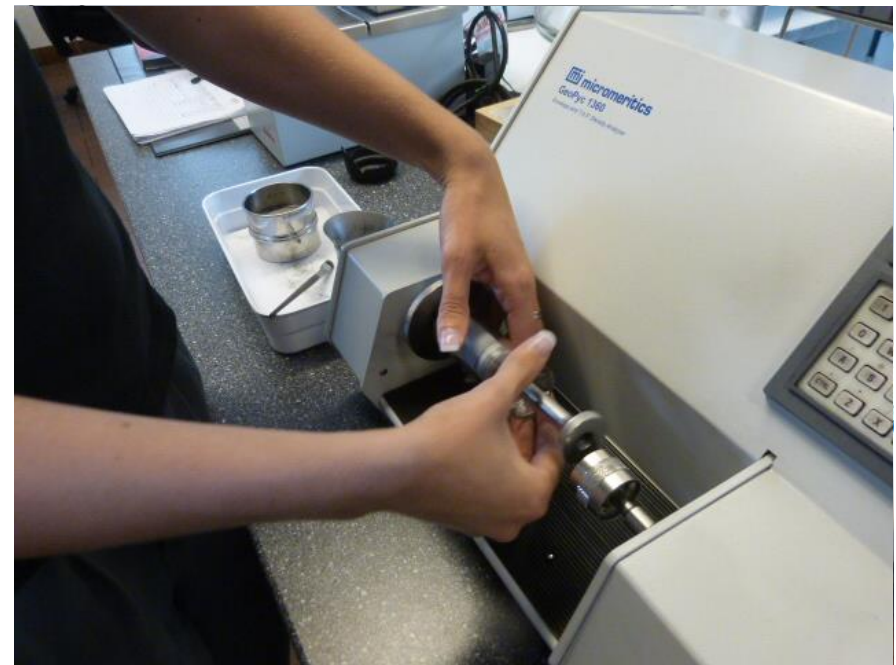
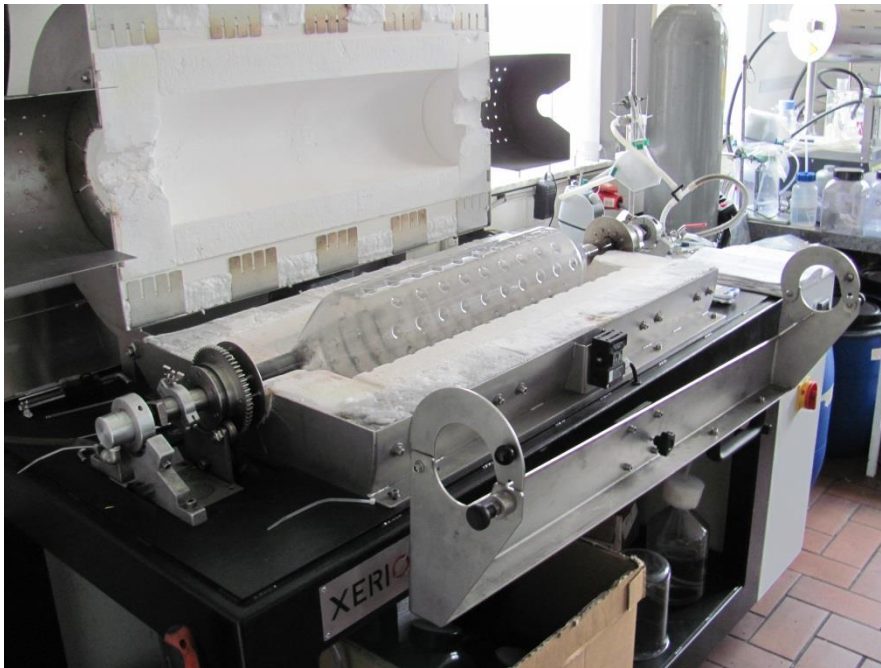


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## Activated Carbon and Filter Plant

### 2. Laboratory

*“Production accompanying, analysis and development of new activated carbons”*

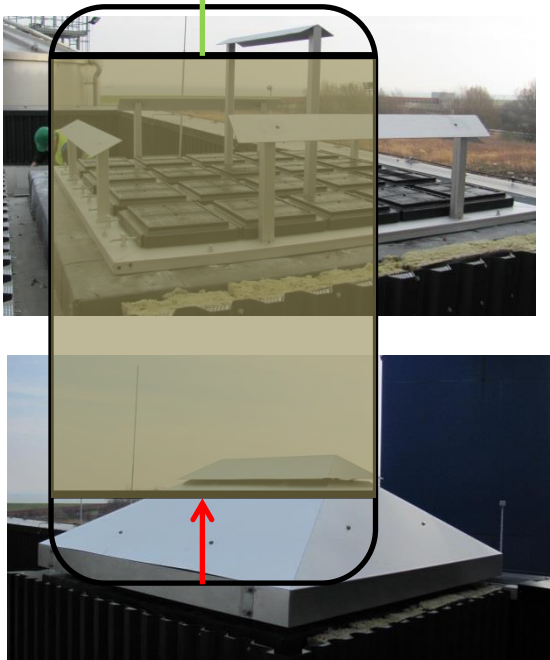


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## Activated Carbon and Filter Plant

### 3. Production of industrial filters

- Adsorption systems
- Special constructions

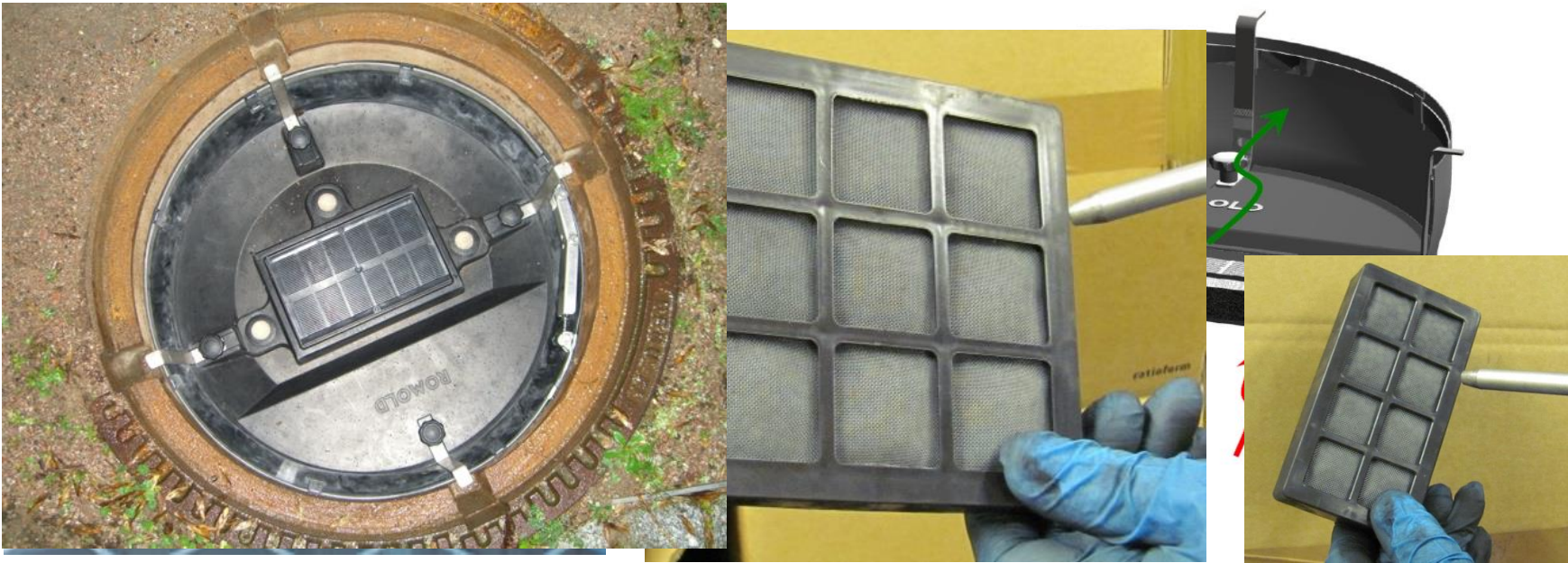


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## Activated Carbon and Filter Plant

### 3. Production of industrial filters

→ ~~Water Filter~~ **Tube Filter** (e.g. Canalisation)





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## Activated Carbon and Filter Plant

### 4. Logistic & Certification

*Customised logistics,  
flexible pack sizes, range order...*

→ Standard package sizes of doped AC:

- in Bigbags: 205kg, 300kg, 320kg, 365kg,  
410kg, 450-460kg, 500kg, 550kg

- in paperbags: 20kg → = 1,00 m<sup>3</sup>

→ Delivery as general cargo, complete trucks or containers

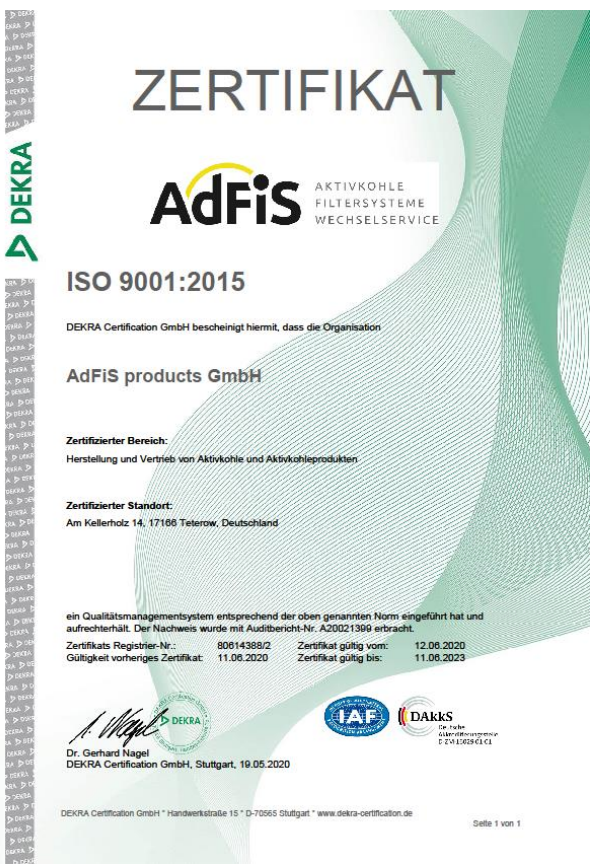
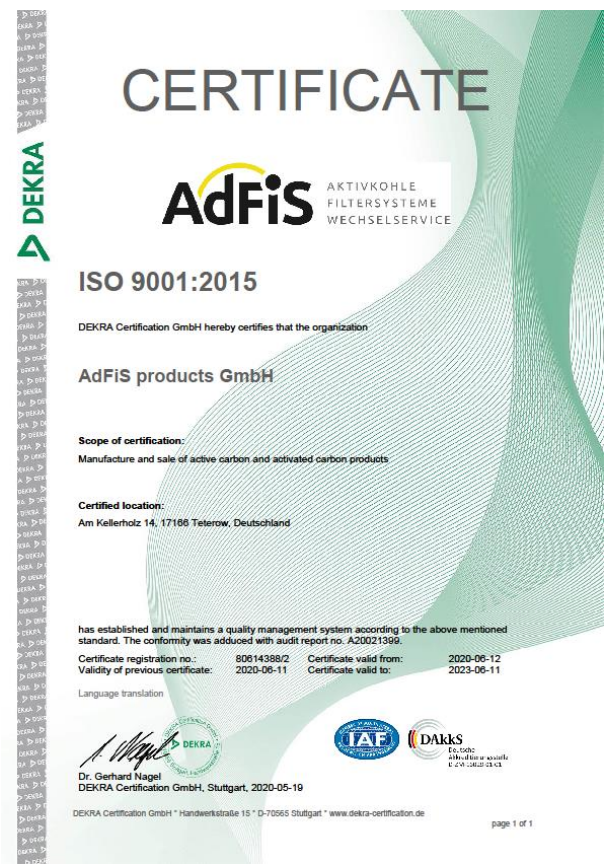
→ Delivery in third-party order as neutral shipping is possible



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## Aktivkohleherstellung & Aktivkohlefilter

### 4. Logistic & Certification



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Aktivkohleherstellung & Aktivkohlefilter

5. Production & Advantages of doped AC

Explanation *DOPING* of activated carbon: *Baking a cake!*

Raw materials:

charcoal/stone-coal

sugar-based binder

doping agents



Comparison materials:

Flour, meal

eggs

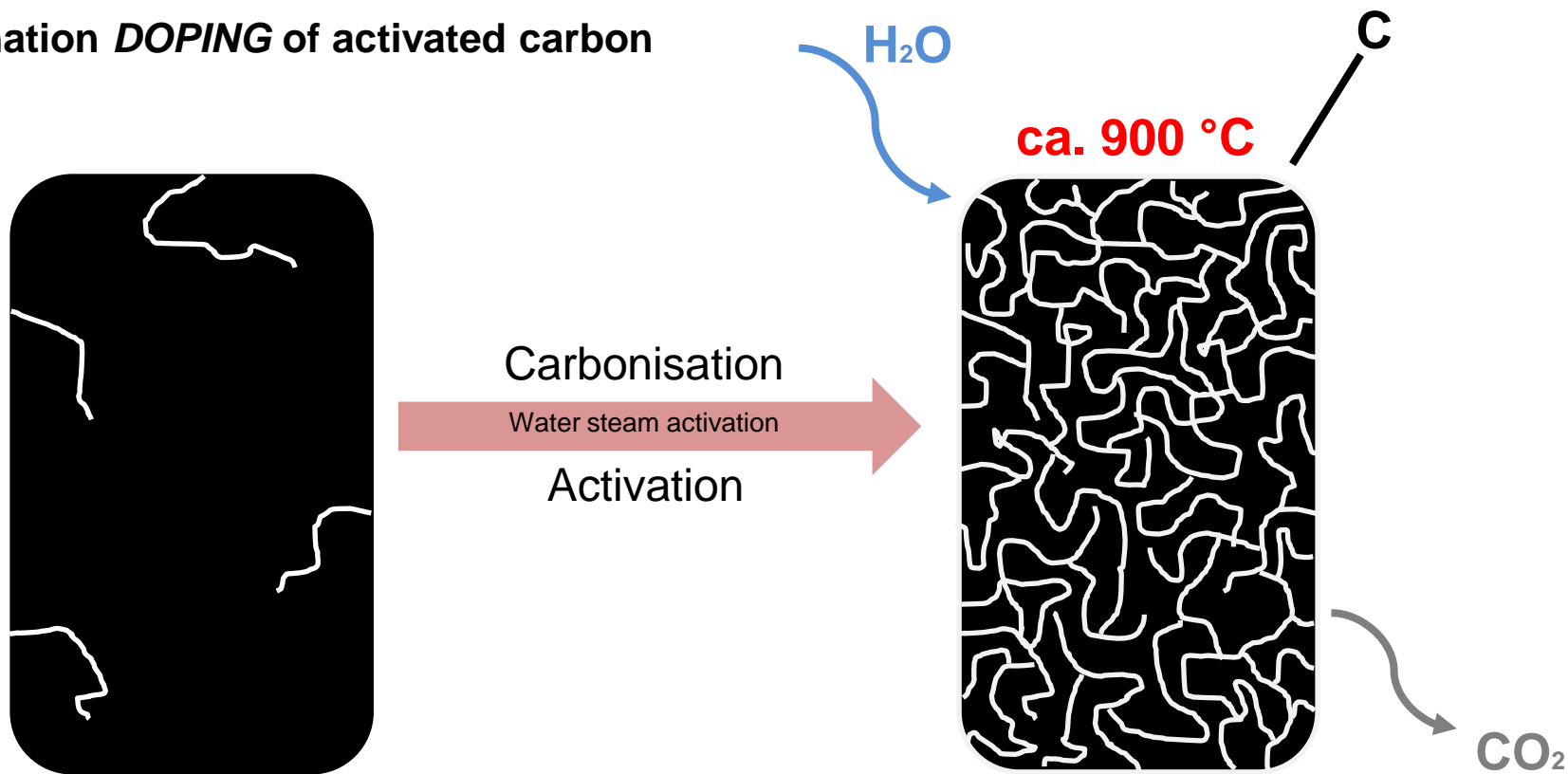
chocolate splits

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## Aktivkohleherstellung & Aktivkohlefilter

### 5. Production & Advantages of doped AC

Explanation *DOPING* of activated carbon



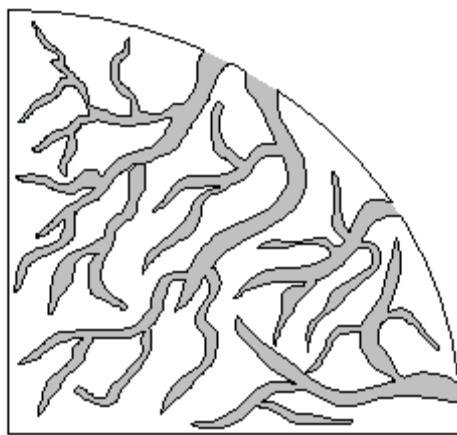


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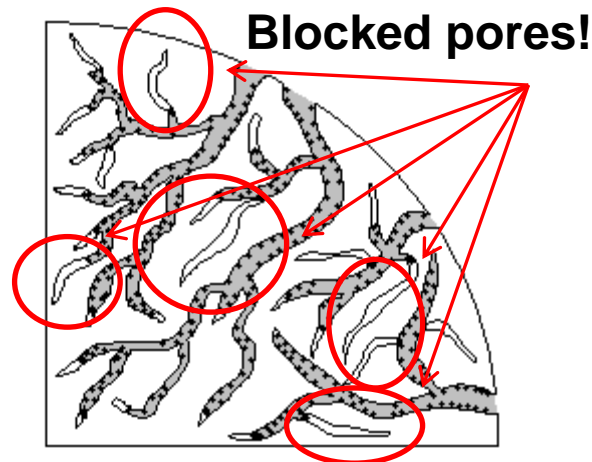
## *Activated Carbon and Filter Plant*

### 5. Production & Advantages of doped AC

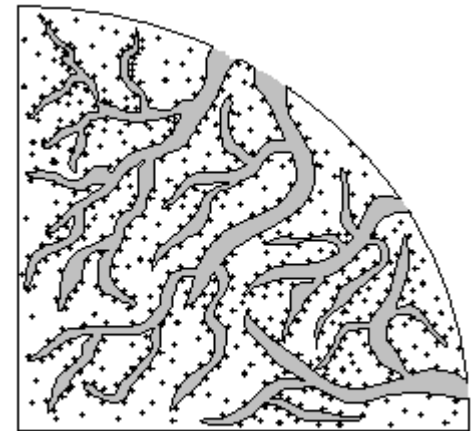
- A chemical modification (e.g. impregnation) of the carbon is required to enhance the efficiency of desulfurization



*untreated*  
< 10 wt.%



*impregnated*  
15-30 wt.%  
+ Adsorption capacity  
- Blocked pores



*doped*  
**45-60 wt.%**  
**Doped activated carbon**

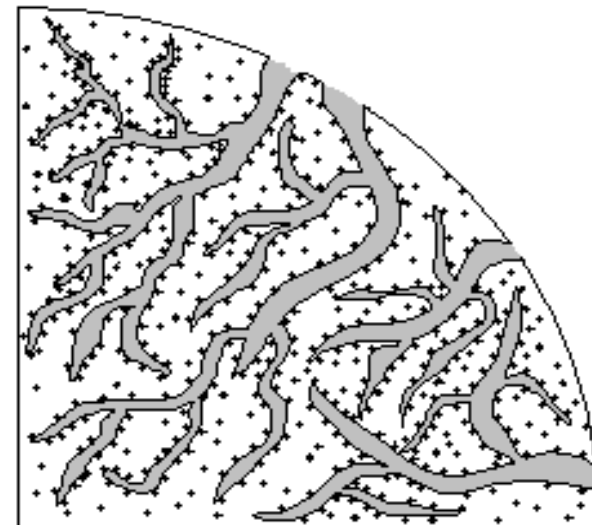
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## Aktivkohleherstellung & Aktivkohlefilter

### 5. Production & Advantages of doped AC

#### Conclusion:

- Last step of production: creating of pore-system (NO impregnation)
- More chemical reaction partners for the  $H_2S$   
→ Longer life time & higher capacity
- All pores are open, free and available for the gas stream



***Doped AC***

**Impregnated AC:** 1. Pore-system 2. Chemical modification → Partly blocked pores

**Doped AC:** 1. Chemical modification 2. Pore-system → Open pore-system

# Thank you for your time!

## Any further questions?

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