

# Why Carbon for Gas Treater Liquids

Several processes are known for the removal of acidic gases such as H<sub>2</sub>S and CO<sub>2</sub> from neutral industrial gases, most of which are based on adsorption of the acidic gases by alkaline liquids.

Basically two important groups of chemical absorbents can be distinguished:

- Organic alkanolamines such as mono- ethanolamine (MEA), di- ethanolamine (DEA) and di-iso-propanolamine (DIPA).
- In organic potassium carbonate (K2CO3) solutions.

A related process is the dehydration of process gases in which glycol is used as an absorbent.

During repeated re circulation of the adsorbent, organic impurities accumulate in the absorbent. The organic impurities are usually degradation products having a corrosive nature. Generally the absorbent becomes corrosive to an extent, which is proportional to its age, and in addition becomes less effective for adsorption of acid gases. Further, accumulation of higher hydrocarbons may give foaming problems in time.



In many systems, the gas treater liquid is purified with granular activated carbon (GAC) to remove the organic impurities to such an extent that the absorption system runs well.

## **PRODUCT BULLETIN**



#### Activated Carbon Process

The GAC system usually consists of one adsorption column placed in a bypass designed to treat 10–15% of the main steam.

In the lean stream after the regenerator, after the heat exchanger and before the adsorption



### **Critical GAC Properties**

If foaming problems are present, a meso porous carbon is preferred. Since the superficial flows are relatively high, a relative low hydro dynamic pressure drop is beneficial. On the other hand, the GAC should not be too coarse with respect to the required adsorption rate. Usually 8x30 mesh carbons are recommended.

### **Process Conditions**

The Empty Bed Contact Time (EBCT) is typically 20-40min. Operating temperature typically 90°C and typical service life is in the range of 6 months till 3 years. The service life of the GAC bed is strongly depending on the nature and concentration of the impurities involved.

# **PRODUCT BULLETIN**



Recommended Active Char Products Pvt. Ltd. Granular Carbon Grades

AC Carb 830 CS/ AC Carb CB AC Carb product range has high abrasion resistance. It is a multipurpose carbon suitable for all types of absorption process systems.

### Packaging

55lb./110lb. (25/50 kg) poly bag 1,100 lb.(500/550 kg) Bulk bag





For more information on the product, please contact our application specialists at the below mentioned address

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