

C-Air Filtration Carbon Filter Range



Carbon filters are ideal for removing unpleasant or even dangerous odours and gases from a wide variety of places. The awareness of this problem from public health authorities and environmentalists has resulted in an increase in the use of the unique properties of activated carbon filtration. Carbon will adsorb chemical molecules in the airstream in varying degrees according to the type of contaminant and the period of time the air remains resident in the carbon.

Typical applications for carbon include:

- _ incoming air in industrial plants**
- _ airports**
- _ art galleries etc. or**
- _ outgoing air in kitchens**
- _ industrial processes**
- _ sewage plants etc.**



CA/BCP Bonded Carbon Panel



Applications

The unique bonding method of this product eradicates any problems of granules abrading one another thus leading to carbon particles breaking into the atmosphere. The carbon bonded panel is a stable biscuit of consistent quality and stability that produces an even resistance.

Operational Criteria

In order to ensure a carbon filter operates satisfactorily certain criteria need to be met which do not apply to particulate filters. The most important aspect is the "dwell time" (the period of time the air is in contact with the carbon). The minimum dwell time used is 0.1 seconds, this relates to 0.19m/sec through a 25mm nominal thickness panel. The dwell time may vary considerably according to the contaminant to be removed. In order to be able to present adequate surface area to the airstream, the panels will normally need to be mounted in 'V' formation within a casing or housing. As far as possible, water vapour should be eradicated from the air-stream to eliminate condensation within the filter that could cause porous blockage causing a dramatic increase in resistance. This also applies to loose carbon. However, humidity levels as high as 80% RH are normally acceptable providing no interstitial condensation takes place. Air-stream temperatures entering the filter in excess of 40°C should be avoided. In the case of anticipating temperatures above this level, steps should be taken to reduce the temperature to an acceptable level by fresh air bleed, cooling coil or heat

exchanger. In catering and food preparation applications, smoke and grease must be removed from the air-stream prior to entry in to the carbon. The product is available either unframed or framed in Aluminium, Galvanised or Stainless steel channel.



CA/LFCP LOOSE-FILL CARBON PANELS



Applications

Ca/Loose Fill panel is ideal for removing unpleasant odours from a wide variety of sources. The carbon will adsorb chemical molecules in the airstream in varying degrees according to the type of contaminant and the period of time the air remains resident in the carbon. Furthermore, the adsorption of gases can be enhanced by the impregnation of the carbon with suitable catalysts. Typical applications for this product include: incoming air in industrial plants, airports, art galleries or discharge air in kitchens, industrial processes, etc.

System Design

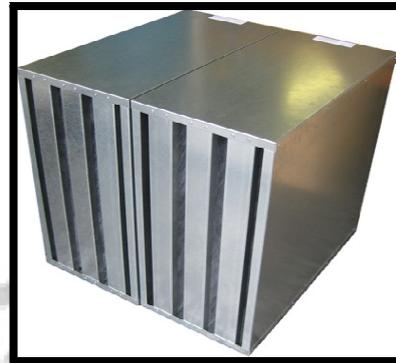
In order to ensure a carbon filter operates satisfactorily, certain criteria need to be met which do not apply to particulate filters. The most important aspect is the "dwell time" (the period of time the air is in contact with the carbon). The minimum dwell time used is 0.1 seconds; this relates to 0.19m/sec through a 25mm nominal thickness panel. The dwell time may vary considerably according to the contaminant to be removed. In order to be able to present adequate surface area to the airstream, the panels will normally need to be mounted in 'V' formation within a casing or housing. As far as possible, water vapour should be eradicated from the air-stream to eliminate condensation within the filter as this would cause porous blockage creating a dramatic increase in resistance. However, humidity levels as high as 80% RH are normally acceptable providing no interstitial condensation takes place. Air-stream temperatures entering the filter in excess of 40°C should be avoided. In the case of anticipating temperatures above this level, steps should be taken to reduce the temperature to an acceptable level by fresh air bleed, cooling coil or heat exchanger. In catering and food preparation applications, smoke and grease must be removed from the air-stream prior to entry into the carbon.

Construction

The standard loose-fill panels are manufactured throughout in galvanised mild steel and provided with rigid internal braces. The durable cell will easily accept the forces necessary to ensure a suitable carbon fill without bellying or distortion. The panel is provided with a removable end channel located by machine screws into threaded bushes that are simply removed for filter replenishment using a standard cross-head screwdriver.



CA/DC CELL -DISCARB CELL



CA/DC Discarb filters are our bonded carbon biscuit panels that are then bonded in 'V' formation into its own rigid galvanised steel casing.

Applications

Typical applications for carbon include:

- _ incoming air in industrial plants
- _ airports
- _ art galleries etc. or
- _ outgoing air in kitchens
- _ industrial processes
- _ sewage plants etc.

Operational Criteria

In order to ensure a carbon filter operates satisfactorily, certain criteria need to be met which do not apply to particulate filters. The most important aspect is the "dwell time" (the period of time the air is in contact with the carbon). The minimum dwell time used is 0.1 seconds and this is shown below as maximum permissible airflow. The dwell time may vary considerably according to the contaminant to be removed. As far as possible water vapour should be eradicated from the air-stream to eliminate condensation within the filter that could cause porous blockage causing a dramatic increase in resistance. This also applies to loose carbon. However, humidity levels as high as 80% RH are normally acceptable providing no interstitial condensation takes place. Air-stream temperatures entering the filter in excess of 40°C should be avoided. In the case of anticipating temperatures above this level steps should be taken to reduce the temperature to an acceptable level by fresh air bleed, cooling coil or heat exchanger. In catering and food preparation applications, smoke and grease must be removed from the air-stream prior to entry into the carbon.



CA/CPP CARBON PLEATED PANEL



The CA/CPP panel filter provides a low cost but effective solution to removing airborne molecular contamination at levels of less than one particle per million. It provides low resistance to air with uniform dispersion of carbon throughout the media. Being fully incinerable, the product is particularly suited for application where this form of disposal of the spent filter is anticipated.

Construction

This filter contains a dual layer core of pleated carbon impregnated Media that is so stiff, it is self supporting and requires no additional metal supporting wire. The pre-filter layer of the media also provides G4 efficiency to EN779. The media is loaded with 220g/m² of 60x50 mesh activated carbon making it both highly effective and long lasting. Adhesive is not used in the media, with the carbon granules thermally bonded into the media; this ensures that 95% of the carbon's surface is utilized in use. The aerodynamic pack is then fully bonded into a moisture resistant rigid white lined card frame and fitted with an airflow indicator.

Applications

The filter is suitable for most applications to remove airborne molecular contamination at levels of less than one particle Per million, typically, furnaces, heating vents, air purifiers and ozone removal devices.



Carbon Info Continued

C- Air filtration carbon range is available in a large range of STD and non STD sizes to suit most application requirements. The key attributes of our carbon range are consistent efficiency, robust construction and long life combined with low replacement costs.

Due to the complex nature of adsorption, carbon filters are generally designed to suit the application, further data such as air flow grades and carbon types can be obtained by calling our dedicated technical dept. on 01706 220373.

