

## ENVIROCARB™ STIX 4MM

### DESCRIPTION

**ENVIROCARB™ STIX 4 mm** is a high quality impregnated coal based pellet designed for the removal of acid gases and odour compounds from air. It will also function to remove hydrogen sulphide from carbon dioxide in the presence of greater than 1.8 stoichiometric ratio of oxygen.

The base carbon is made from selected grades of bituminous coal and suitable binders to create the unique pore structure and superior hardness necessary for the intended service. Activation is controlled to impart a pore structure that will both accept substantial quantities of impregnant and maintain rapid access to the extensive internal surface area for the gas to be treated. The base carbon precursors are impregnated with an alkaline solution to give a product with enhanced adsorption characteristics for odorous organics and acid gases including hydrogen sulphide mercaptans (thiols), sulphur dioxide, chlorine, hydrogen chloride etc.

**ENVIROCARB™ STIX 4 mm** has been specially developed to meet the increasingly stringent demands of air pollution legislation. The product has proven performance for many odour control applications including laboratory hoods, industrial processes, sewage treatment plants, pulp and paper mills and indoor air filtration.

### FEATURES

**ENVIROCARB™ STIX 4 mm** carbon has several properties that justifies its performance in a wide range of applications.

- Carefully formulated chemical composition and pore structure for enhanced uptake and rapid adsorption characteristics.
- Use of a 4 mm pellet allows for lower pressure drop and decreased energy requirements compared with traditional granular materials.
- Selected additives and controlled manufacture process to raise ignition temperature and reduce risk bed exotherm compared with standard alkaline impregnated products.
- Effective operation under low or high relative humidity applications.
- High hardness ensures excellent durability and low dusting.
- Excellent filling characteristics.

### APPLICATIONS

**ENVIROCARB™ STIX 4 mm** is used in a range of different applications including:

- Sewage Treatment
- Chemical Processing
- Laboratory Fume Hoods
- Carbon Dioxide Purification
- Food Industry – (for removal flavour and dairy product odours)
- Acid Gas Leakage

### PROPERTIES

SPECIFICATIONS	ENVIROCARB™ STIX 4 mm
Moisture content, as packed, max., %	10 - 20
Carbon tetrachloride activity (base), min., % w/w	50
Apparent Density (max), kg/m <sup>3</sup>	760
Impregnant <sup>1</sup> , min., % w/w	7
Mesh size, US sieve series, % w/w > 6 (3.35 mm) min.	95

(Please refer to the Sales Specification Sheets, which state the Chemviron Carbon test method used to define the above specifications. Copies are available upon request.)

TYPICAL PROPERTIES	ENVIROCARB™ STIX 4 mm
Bed Density <sup>2</sup> , kg/m <sup>3</sup>	670
Hardness number, %	95
Pellet diameter, mm	4
Pellet length, mm	9
Ignition Temperature <sup>3</sup> , min. °C, ASTM D3466	230
Dust Index <sup>4</sup> , max.	5

<sup>1</sup> Proprietary Information.

<sup>2</sup> Bed Density is used for adsorber / filter sizing.

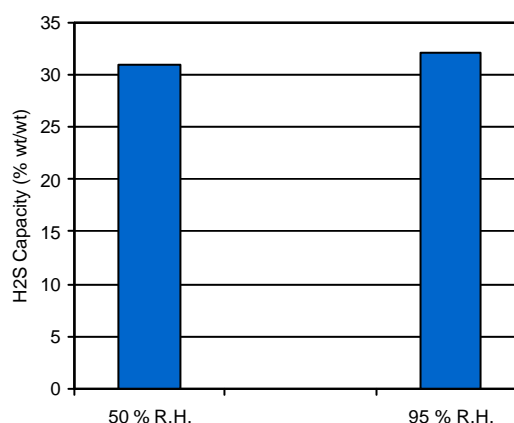
<sup>3</sup> Under conditions of ASTM D3466. Ignition temperature will vary in practice according to specific conditions for which carbon is utilised.

<sup>4</sup> Chemviron test method SSC 230 (available on request).

### EXAMPLE

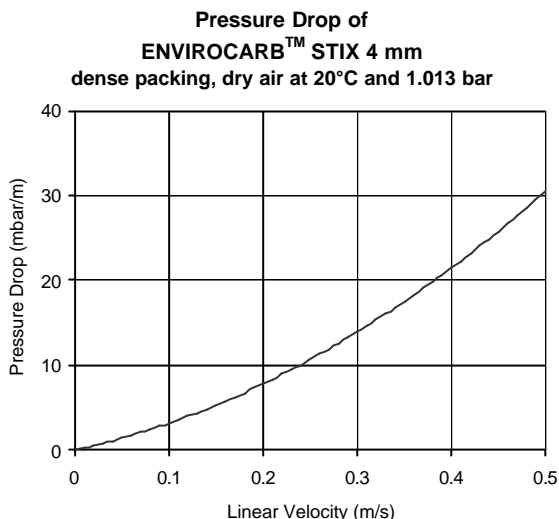
Adsorption capacity for hydrogen sulphide at ambient atmospheric pressure and 20°C are shown at different relative humidities in the graph below.

**Typical Hydrogen Sulphide Adsorption Capacities of ENVIROCARB™ STIX 4 mm**



## PRESSURE DROP CURVE

Pressure drop in air at 20°C is shown on the graph below. The data was obtained with dense packaging arrangements and should be considered a maximum for design purposes.



## DESIGN INFORMATION

The following are typical design parameters for **ENVIROCARB™ STIX** installed in air treatment filters.

- Bed Contact 2 – 5 Seconds
- Bed Depth 0.05 – 3 m
- Linear Velocity up to 0.5 m/s

To achieve maximum uptake the gas stream must contain a minimum 1.8 stoichiometric ratio of homogeneously mixed oxygen and a relative humidity greater than 10 % is recommended.

For applications in air where an extended bed life is required and potable quality water is available the use of **CENTAUR®** catalytic carbon should be considered as an alternative to **ENVIROCARB™ STIX**. **CENTAUR®** can be regenerated in situ for continuous hydrogen sulphide removal by washing with water.

## PACKAGING

25 kg bags

## SAFETY MESSAGE

Wet activated carbon preferentially removes oxygen from air. In closed or partially closed containers and vessels, oxygen depletion may reach hazardous levels. If workers are to enter a vessel containing carbon, appropriate sampling and work procedures for potentially low-oxygen spaces should be followed.

## QUALITY

Each of our worldwide operations has achieved **ISO 9001** certification for their quality management system related to activated carbon. **Chemviron Carbon** guarantees the specifications against representative sampling.

## CHEMVIRON CARBON

**Chemviron Carbon**, the European operation of Calgon Carbon Corporation, is a global manufacturer, supplier, and developer of granular activated carbon, innovative treatment systems; value added technologies, and services for optimising production processes and safely purifying the environment.

With our experience developed since the early years of the twentieth century, facilities around the world and a world-class team of over 1,200 employees, Calgon Carbon Corporation can provide the solutions to your most difficult purification challenges.

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Visit our website at [www.chemvironcarbon.com](http://www.chemvironcarbon.com)

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**Corporate Headquarters**  
400 Calgon Carbon Drive  
Pittsburgh, PA 15205, USA  
Tel.: +1 (0) 412 787-6700  
Fax: +1 (0) 412 787-6713

**Chemviron  
Carbon**

**European Operations of  
Calgon Carbon Corporation**  
Zoning Industriel C de Feluy  
B - 7181 Feluy, Belgium  
Tél.: +32 (0) 64 51 18 11  
Fax: +32 (0) 64 54 15 91

Your local office

