

**CENTAUR HSV ACTIVATED CARBON – PRODUCT SPECIFICATION**

- A. TYPE: Product shall be Calgon Carbon Corporation **CENTAUR HSV** type carbon, or equal.
- B. Product Qualifications
  - 1. The activated carbon shall be manufactured in the United States of America.
  - 2. The activated carbon shall be manufactured by a producer certified for ISO 9001:2000 quality standards and at the specific plant or site holding such certification.
  - 3. The activated carbon shall be of a granular, non-impregnated, agglomerated bituminous coal base. Direct activated, broken pellet, pelleted, and mixed media carbon shall not be acceptable.
- C. Sufficient activated carbon shall be provided to fill each adsorber unit with up to \_\_\_\_ pounds. The activated carbon shall be virgin granular activated carbon, derived from bituminous coal. The activated carbon shall be suitable for the vapor phase adsorption of sewage treatment odors. No chemical impregnation of the activated carbon is permitted. The activated carbon shall have the following specifications:

1.	Iodine No., mg/g	800 min
2.	Butane Activity, weight %	15.6 min
3.	Ash, weight %	7 max
4.	Moisture, weight % as packed	4 max
5.	Hardness No.	97 min
6.	Apparent Density, g/ml	0.56 min
7.	Mean Particle Diameter, mm	3.7 min
8.	Initial H2S Breakthrough Capacity, g H2S removed/cc Carbon <sup>1</sup>	0.09 min
9.	Ultimate H2S Breakthrough Capacity, g H2S removed/cc Carbon <sup>2</sup>	0.69 min

<sup>1</sup> The determination of H2S breakthrough capacity will be made by passing a moist ( 85% R.H. ) air stream containing 1% H2S at a rate of 1,450 cc/min. through a 1 inch diameter by 9 inch deep bed of uniformly packed activated carbon and monitored to 50 ppm breakthrough. Results are expressed in grams H2S removed per cc of carbon. Test shall be performed per ASTM Test method D-6646, without modification or addition.

<sup>2</sup> The determination of ultimate H2S breakthrough capacity based upon ability to be regenerated 10 times.

**The carbon supplied shall be of a type that does not require chemicals to be regenerated in-place. Carbons which require hydroxide, permanganate, chlorine, organic, or other solutions, *except clean water* (see Table I), to regenerate the material, will not be accepted.**

**TABLE I WATER QUALITY SPECIFICATIONS**

Potable water with the following additional restrictions:

- Iron Spec < .3 mg/l
- Manganese Spec < 1 mg/l
- Langelier index < 0.3 units on the scaling side or alternatively pH between 6.5 and 8.5 with a TDS<500 (recommended maximum) to1000 (permissible maximum) mg/l.
- Turbidity < .5 NTU
- Non-biofouling
- Less than 5 microns of particulate
- Less than 5 ppmv TOC
- Less than 1 ppm free chlorine

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