Spunstrand INCORPORATED

Specification for Horizontal Airflow
Vertical Bed Carbon Scrubber
2 Vertical Beds, Single Pass (2X1)
(Typical)

Products

2.01 GENERAL

A. Fiberglass Reinforced Plastic Horizontal airflow split Vertical bed Scrubber Vessel as manufactured by Spunstrand, Inc. or pre-approved equal, and shall be used to scrub foul and VOC laden air, up to ____ PPM continuous H^2S, and other VOC's and identified environmental conditions as described in related specification sections.

2.02 Performance: Activated carbon absorber systems shall be designed as follows:

Air Flow (cfm)	800-23,000 cfm
Facial Velocity (fpm)	50-75 fpm
Vessel Dimensions	12”Ø -168”Ø
Bed Type	Single
Media Depth	18”-36”

2.03 Materials

A. FRP Vessel

1. Type: Filament wound rated at design pressures indicated in the drawings. Minimum wall thickness shall be ___ including the liner.

2. Grade: Type 1, Grade 2 RTRP, Class E per ASTM D2310 and D2996.

3. Vessel shall be designed for not less than 20 inches water column pressure and 12 inches water column vacuum. The design, applicable construction, and inspections shall be in accordance with NBS PS 15-69.

4. A minimum structural safety factor of 5 shall be used in the design of the Vessel.

5. The resin used shall be Hetron 992FR selected to meet the exposures and temperatures of the air to be exhausted. Fillers other than antimony trioxide added for flame retardance when required, shall **not** be allowed, and should not exceed 5% by weight. A thixotropic agent for viscosity control may be used as recommended by the resin manufacturer. No thixotropic agent is to be used in the corrosion liner or on surfaces to be in contact with the corrosive environment. Flame spread rating shall be 25 or less per ASTM E-84. Catalyst shall be DDM9 or High Point 90 as recommended by Ashland Chemicals.

6. Corrosion liner: Inner surface shall contain one (1) ply of a 10 mil thick minimum C-glass surfacing veil saturated with vinylester resin. The surface veil shall be overlapped a minimum of 1". Surface veil layers shall be followed by one (1) layer of 1-1/2 oz./sq. ft. chopped strand mat. Corrosion liner is to gel completely before proceeding with structural laminates. In no case shall the interruption exceed 12 hours. Total liner thickness to be 50 mils. No thixotropic agent or fire retardant additive is to be used in the liner resin. Corrosion liner shall contain not less than 20% nor more than 30% glass by weight. The liner shall pass inspection for ASME RTP-1 Table 6-1 visual acceptance criteria.

7. Structural layer shall be filament wound of Hetron 992FR premium grade vinylester resin and Type E 250 strand yield continuous glass roving. The band width is 2 1/4” using (7) strands per inch. Filament winding cycle thickness to be 0.06" maximum.