

Chimney, Scrubber & Ducting for Cement Kiln



Location / Year

Holcim Inc., Portland, CO
Installed 2001

Fabricator

- Ershigs, Inc., Bellingham, WA – structural design, onsite winding & installation
- MECS, St. Louis, MO - scrubber technology design

Fabrication

HETRON 980/35 – stack; HETRON 922 – scrubber vessel & internals; ducting

Stack was filament wound and erected at the jobsite. Scrubber, internals and ducting were filament wound in Ershigs shop.

Design / Comment

July 2009 - System has operated continuously since its 2001 start-up. The system is inspected every two years and is still structurally sound despite upset conditions that have pushed the equipment outside the thermal specifications. There have been no unplanned outages due to the scrubbing system.

Technical Data

- 294' high x 20' internal diameter stack (completed weight of 90 tons)
- 79' high x 34' internal diameter DynaWave® scrubber with FRP internals
- Interconnecting ductwork & bypass

Service Conditions

- Captures and scrubs gases coming from both fuel combustion and raw material calcification in a cement kiln
- Scrubber gas stream enters at temperatures ranging from 90- 165° C (195 – 330° F) with SO₂ concentrations of 1,000 ppm and chlorides in the vapor stream.
- No stack existed at facility. Entire stack was constructed of FRP and tied to the kiln tower for support.
- Stack designed for max continuous temp of 200° C (400° F) in bottom half and 177° C (350° F) in top half
- Seismic Zone 1
- Built to withstand 70 mph winds

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