



Case Study # 103

Foundry Amine Scrubbing

The emissions from foundry core boxes are highly odorous and include particulate in the form of sand. A major automotive supplier producing aluminum engine castings solved their core box emissions problem using a Verantis fiberglass SPT-72-120 countercurrent scrubber with inlet drop-out box.

This particular application requires high efficiency removal of odorous triethylamine which is a byproduct of the agents used to bind the core box sand. A carbon steel drop-out box was provided to remove the large sand particles prior to the scrubber. The scrubber was designed to exhaust up to 3 three core machines at a maximum volume of 19,000 ACFM containing up to 500 ppmv of TEA. Designed with high efficiency Tellerette® Tower Packing, the unit is achieving greater than 99.5% amine removal using a recycle solution of dilute sulfuric acid.



Product Literature: (click on links to take you to the literature)

[SPT Bulletin 12-2](#)

Application	Aluminum Casting Core Box
Exhaust Volume	19,000 ACFM
Exhaust Temperature	100° F
Contaminant	Triethylamine (TEA)
Removal Efficiency	99.5%
Scrubbing Solution	Dilute H ₂ SO ₄
Exhaust Pressure	1" W.C.
Materials of Construction	FRP