

Absorber Ducts

Client: Power Plant – Moscow, OH

Substrate: Absorber Ducts (stainless steel with carbon steel supports)

Product: Mascoat Industrial-DTI

Thickness: 120 mils (3 mm)

The client had previously insulated their absorber ducts with Fiberglass Reinforced Plastic. Gases inside the ducts will cool and condense regularly, which causes condensation on the interior.

Condensation in these ducts causes many problems, including;

- Decreased insulating ability of the fiberglass
- Inconstant interior temperatures, affecting processes
- Higher energy costs
- Corrosion Under Insulation (CUI)
- Loss of structural integrity of ducts, braces and insulation



The most dangerous problem, though, is that as the gasses inside the duct start to cool down, partially due to the drop in performance of the insulation, as it gets old and moist, condensation then forms. As the moisture forms, it starts to interact with the gasses in the duct, and Sulfuric Acid is formed. This acid then eats away at the duct, causing corrosion, as well as safety issues with the duct itself. This cycle continuously gets worse as time goes on until the duct becomes an extreme hazard. However, if the condensation is controlled, none of these issues arise.

The client contacted Mascoat because they had been told about the abilities of Mascoat Industrial-DTI Thermal Insulating Coating. The coating has the ability to effectively insulate up to 375°F without being hindered by moisture. Also, the coating prevents CUI from occurring.

120 mils were applied in 6 coats over a 3-mil primer coat of Carboline 2977. After the unit was placed back into service, the customer reported that all of this issues stemming from the moisture were completely abated and the internal temperature was at 320°F consistently.

The final way Mascoat helped the facility was that the metal lagging previously required to protect the fiberglass insulation was no longer needed. Mascoat Industrial-DTI does not need any sort of protection or topcoating unless requested by the customer for aesthetic reasons.