



Installation of PSP® coated Schedule 10 pipe.

## **Confidential API Client, Conshohocken, Pennsylvania, USA**

### **Cost effective corrosive fume exhaust system**

#### **Background:**

This confidential client is one of the world's leading suppliers of active pharmaceutical ingredients, chemical intermediates and biotechnology solutions to the pharmaceutical and agrochemical industries. Besides manufacturing under their own label, this client also does considerable contract manufacturing (tolling) for large Pharma firms. They operate manufacturing sites throughout Europe and the United States, including one along the Schuylkill River in Conshohocken, Pennsylvania.

The Pennsylvania plant had a situation that needed immediate attention. Several pinhole leaks had developed in the 8, 10, and 12 inch diameter corrosive fume piping system located on the roof of a process unit. The schedule 40 stainless steel pipe originally installed was not capable of handling the aggressive corrosive vent exhaust coming from 60 glass-lined steel and 20 Hastelloy reactors as well as various types of dryers inside the process building.

Occasional process excursions caused reactor rupture discs to "pop", resulting in a witch's brew of corrosive liquids and vapors being ejected into the vent relief system. The vent piping led to roof mounted scrubbers where the corrosive acid vapors would be treated and rendered harmless. But with several holes in the exhaust pipe, acid vapor and condensed liquid were leaking into the air and onto the unit's roof.

#### **Challenge:**

This site's engineers researched their options and immediately installed spare pipe that was in their storeroom. But a permanent, cost effective and high performance solution was needed for several additional sections of the failing stainless steel system that needed replacement. Plant engineers recalled investigating PermaShield Pipe (PSP®) months earlier at the New York City ChemShow. They remembered that Fab-Tech's fluoropolymer coated stainless steel pipe and duct had a proven history as the premier product for extreme corrosive fume applications in the semiconductor industry for over 15 years. So successful was PSP® in this market, Chemical and Life Science clients also sought PSP® as the solution to safely transport their corrosive liquids and vapors.

#### **Solution:**

Fab-Tech was contacted by this customer and after consultation with Fab-Tech engineers, it was determined that the chemicals being vented were easily within the operating envelope of the PermaShield fluoropolymer coating. In a competitive cost analysis, this customer also discovered that the Fab-Tech pipe actually cost less than PTFE lined carbon steel pipe, and had the added benefit of a corrosion resistant stainless steel exterior. Several lengths of schedule 10 304L stainless steel pipe coated with Fab-Tech's advanced fluoropolymer coating were ordered and quickly delivered to the Conshohocken site to coordinate with a scheduled August plant shutdown. The lightweight Fab-Tech piping arrived on schedule and was quickly and easily installed. Additional quantities of PSP® coated pipe were ordered over the next two years until all remaining uncoated stainless steel pipe was replaced, pre-empting any future possibility of pinhole leaks and environmental contamination.

This client's Mission Statement includes these words:

"The realization of economically and environmentally favorable solutions is an integrated process, which includes material selection, process development, product design, resource conservation and logistics optimization."

Fab-Tech is proud to be able to present a material selection that provided this valued client with an economically and environmentally favorable solution.



Completed installation of PSP® coated Schedule 10 pipe.



Aligning straight section of PSP® pipe.