Odor Control Case Study

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Background

Before wastewater can be safely returned to the environment, organic and chemical contaminants need to be removed to protect the integrity of our natural resources. During the treatment process, however, unpleasant odors can be released into the areas surrounding the treatment plant and waft into public spaces and neighborhoods, resulting in complaints from residents.

The source of these odors can vary, but they are frequently caused by the collection and treatment of solid waste, chemical sludge, decomposition of organic matter, and inadequate odor control of these processes in the wastewater treatment plant. Any treatment plant, whether physical, chemical or biological, with a poorly designed or operated aerobic or anaerobic process is susceptible to generating bad odors. A popular method for treating odors is chemical cross-current scrubbing. In this process, the odor substances are absorbed into a scrubbing liquid, which is then dosed with chemicals.

Problem

An expansion of a treatment plant in Bogotá, Colombia resulted in the need for a duct system for its scrubbing process.

The plant, which serves 2.3 million habitants in the northern and central parts of the capital city, will treat wastewater at a rate of seven cubic meters per second (160 million gallons per day) and prevent 450 tons of garbage from reaching the Bogotá River; therefore, an efficient and effective odor control system was required.

Solution

Asahi/America's distributor in Colombia introduced the Bogotá treatment plant to Asahi's Pro-Vent® duct system, which is designed specifically for ventilation and extraction of odorous and corrosive gases. Superior in performance to PVC, fiberglass and sheet metal due to its chemical resistance, mechanical properties, ease of installation and robust construction, Pro-Vent® was the ideal solution for this water treatment application.

Within the treatment plant's chemical cross-current scrubbing system, Pro-Vent® was used specifically for the collection of the gases in the tanks to the washing system.

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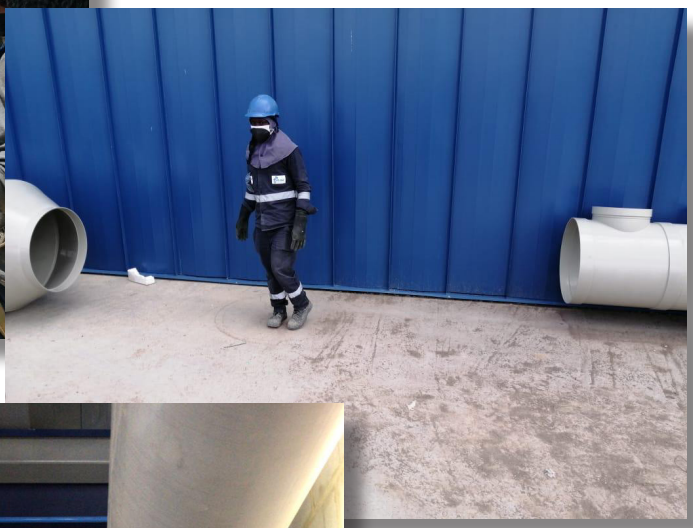

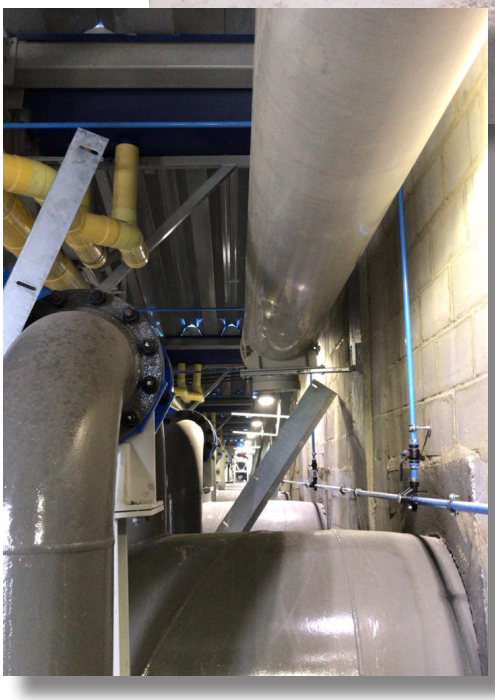

Another Corrosion Problem Solved.™

Applied Products

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Pro-Vent® Duct System

Features and Benefits

- Lightweight materials
- Chemical and corrosion resistant
- Environmentally safe
- Quick installation
- Low maintenance and operation costs
- Multiple installation methods - slip socket with hot air and/or extrusion welding

Pipe Materials & Sizes

- Polypropylene (PP): 63mm-1200mm (2”-48”)
- Polypropylene self extinguishing (PPs): 63-1200mm (2”-48”)
- Polypropylene self extinguishing - electroconductive (PPs-el) 90mm-400mm (3”-16”)
- Polyethylene (PE): 90-1200mm (3”-48”)
- Polyvinylidene fluoride (PVDF): 63mm-400mm (2”-16”)

Welding Methods

- Hot air, extrusion and butt welding

Pro-Vent® Ideal Applications

- Laboratories, hospital, universities
- Semiconductor manufacturing
- Metal finish processes
- Odor control

Asahi Advantage

- Custom fabrication options
- Onsite weld training
- Hot air and/or extrusion welding technology
- Start-to-finish project assistance

Pro-Vent® Duct System

Pro-Vent® piping is specifically designed and manufactured for ventilation and exhaust systems that transport corrosive fumes. It is superior in performance to PVC, fiberglass and sheet metal systems due to its chemical resistance, mechanical properties, solid construction, and ease of installation. It is perfect for applications as diverse as water treatment facilities, electroplating shops, semiconductor wet stations, and pharmaceutical processing.