

Job Story:

CHALLENGE:

Replacement of Styrofoam on glycol tanks & ammonia lines due to icing.

SOLUTION:

Armaflex Closed-cell Elastomeric Insulation

Project:
Budweiser

Location:
Jacksonville, Florida

Objectives:
Install high efficiency, fiber free, mold-retardant insulation for long-term reliability and easy maintenance

Builder/Contractor:
Insulation Specialties Inc.



AP Armaflex® Keeps Heat Exchangers FROST FREE at Budweiser Plant

When it comes to beer, frosty mugs may be desirable, but frosty process equipment is not acceptable.

That's what most concerned Jim Peterson, utilities engineer at Anheuser-Busch's Budweiser plant in Jacksonville, Florida when it came to four shell & tube heat exchangers at the brewery. The vessels, which are always in operation, use -20°F ammonia to cool glycol to 15° for various refrigeration processes at the plant. Given the extremely cold temperatures of the vessels and the warm Florida climate, the right insulation was critical – not only for efficiency, but also to prevent condensation from forming and then freezing on the equipment.

The heat exchangers had originally been insulated with Styrofoam, but this had to be stripped when the wooden cradles that support the large vessels started to deteriorate. The Styrofoam, due for replacement anyway, had to be removed to install new oak supports, then the tanks had to be reinsulated.

Looking for a quick, low-cost solution that would minimize downtime, plant engineers first tried spraying a ceramic coating on the tanks, but condensation quickly began to form and freeze. It was time to look for another solution.

No Moisture, No Ice

Jim Peterson had used closed-cell foam insulation on some other minor pieces of equipment in the past and appreciated its built-in vapor barrier. Based on this and the apparent performance of the material, he opted for AP Armaflex closed-cell elastomeric foam to insulate the vessels.



armacell®

Two-inch thick AP Armaflex was selected for all four heat exchangers at the Budweiser plant – the maximum of Armacell's standard AP Armaflex sheet thicknesses. The thickness of the insulation was calculated based on the temperatures of the vessels, which is considered extreme, but fall well within the AP Armaflex temperature usage range of -70 °F to +220 °F. Armacell recommends various calculated thicknesses to control condensation on the insulation outer surface. The snug, gap-free fit the AP Armaflex provides when properly installed helps insure that the metal surfaces are also protected from condensation or moisture entrapment, which would inevitably freeze and degrade equipment performance and life cycle.



The result was a clean-looking, reliable insulation that should last the plant a number of years. While Bob Mask of Insulation Specialties, the installation contractor admits that cutting the 2-inch foam required a certain amount of precision, the final product was worth the effort.

"I'm impressed," remarked Mr. Mask, "I think it looks real good, and the plant is very pleased."

Because the vessels are located outdoors and exposed to the elements, the plant also chose to install a PVC jacket over the insulation. A convenient, cost-effective alternative to this measure is Armacell's newly introduced ArmaTuff® laminated sheets and rolls. This line offers three levels of protection from harmful UV radiation, acid rain, and chemicals. ArmaTuff outdoor-use insulation has a heavy duty 12 mil cladding bonded to high-quality Armaflex sheets or rolls and doesn't require painting. Since ArmaTuff requires no additional protection, facilities are often able to save on installation labor while benefiting from its superior maintenance-free durability.

Available in tubes, sheets, rolls and patented duct liner, AP Armaflex is the most specified elastomeric foam for preventing moisture intrusion and condensation. The sheet and roll products are specifically engineered to insulate large pipes, tanks, and vessels. Their flexibility also make them ideal for a obtaining a snug, gap-free fit on rounded surfaces. The closed-cell structure of Armaflex insulation makes it impervious to moisture, thereby providing better protection against mold and mildew. It is the original elastomeric foam insulation and a recognized solution worldwide.

For more information about Armaflex Closed Cell Solutions, contact us or visit our website.

ARMACELL LLC

TEL: 1 800 866-5638
FAX: 919 304-3847
E-MAIL: info.us@armacell.com
INTERNET: www.armacell.us

