

## CASE STUDY

# International Airport

Partnering once again with the trusted team at Armacell was key to the successful insulation of the chilled water systems in a large chiller building supporting the Tocumen International Airport's most recent expansion project. Installing the reliable and proven solution of ArmaFlex® pipe insulation after previously working with Armacell helped Integ contractors soar to project completion with ease. **Armacell in action.**

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# Expanding Terminals and Partnerships in Panama

## PROJECT:

Tocumen International Airport Expansion Terminal Mechanical Room chilled water tanks, pumps and pipe insulation installation using ArmaFlex®.

## LOCATION:

Avenida Domingo Diaz, Panama City, Panama

## INSULATION CONTRACTOR:

INTEG

## ENGINEERING FIRM:

Foster + Partners

## CHALLENGE:

Finding a closed-cell, cold water application insulation material that met strict public fire and smoke regulations, while ensuring installation efficiency with low product waste.

## SOLUTION:

ArmaFlex insulation in roll form was the familiar and best choice for this chilled water systems project as Armacell provided hands-on insulation application and fabrication training for over 60 Integ technicians working on the 860,000 square foot South Terminal expansion project in 2017 at Tocumen International Airport.

Revisiting the same place twice can allow travelers to see different and exciting things each time. The same can apply to insulation contractors working at the same location over and over again. There is an ability to see new opportunities, improve logistical paths and witness very impressive progressions.

Armacell and Integ, an electromechanical contractor, traveled back to Panama after working together in 2017 during an expansion at Tocumen International Airport. The previous South Terminal project included insulating 60,000 linear feet of chilled water piping, all of which had to be fabricated and installed to cool the 860,000 sq. ft. building. This year's return project was a 125,000 sq. ft. expansion terminal designed by Foster + Partners including a unique stingray shape with two symmetrical piers extending east and west from the central concourse. This new building is also designed with an aerodynamic bronze roof and windows opening to the airfield and landscape beyond. Supporting this new architectural terminal is a chiller building containing the heart of the HVAC, water systems, and fire protection systems. This 14,000 sq. ft., two story building houses five 1,150 ton cold water chillers, each containing a condensing pump, primary chilled water pump and cooling tower. The chiller building also contains five in-line centrifuge secondary pumps, a non-chemical condensing water treatment tank, an air separator with

several expansion tanks and the fire protection equipment. These large scale expansion projects are rewarding challenges for Armacell and contractors that have positioned Tocumen Airport as the largest and most prestigious airport facility in Central America.

## PILOTING A SUCCESSFUL INSTALLATION

Integ contractors worked with Armacell previously and 60 technicians participated in Armacell's AQIP training sessions taught by an Armacell Application Specialist at the airport jobsite. This hands-on training included a curriculum covering cutting and sealing ArmaFlex® material as well as how to fabricate covers for fittings such as tees, elbows, and valves. By having dedicated training and support beforehand, Integ was able to quickly and efficiently insulate the 1" to 24" black steel chilled water piping with ArmaFlex 2" rolls on time as scheduled. Project Manager, José Galavis, was very impressed with the install. "We are most satisfied with the quality and workmanship of the installers. I was amazed by the talent from the training and certification. We were able use a really good product and managed to build tee joints and elbows, which were honestly slow going at first for the team. After a few tries and guidance from Armacell we learned quickly and were able to fabricate much faster." For added protection, Integ covered



the insulation with PVC jacketing, completing the install and creating great visual appeal. Armacell representatives stayed in communication and onsite to continue supporting Integ regarding any concern, field problem or need for advice. "We have been working with Integ for years – this was a special job that we all work hard on, hand in hand. We partnered together during a great experience to achieve top notch quality," explains Rafael Briceño, Sales and Marketing Manager, Latin America, Mexico and Florida.

#### TOP FLIGHT SUPPORT

With many insulation material options available, the original specification called for cellular glass. Integ had experience using cellular glass and were looking for a better alternative solution in order to reduce material breakage waste and decrease install time, while still meeting specification requirements. Polyurethane insulation was also considered as an alternative, but it did not meet the required fire and smoke regulations. The departure from the specified insulation product was a challenge, but one that Armacell and Integ were ready for when they discussed options with the client. Armacell challenged the specification with detailed product benefits to

support Integ with their superior product choice. Integ had examples from the previous 2017 expansion project which was a huge success and together convinced the client to use ArmaFlex in the chiller building making this project a true partnership. "It was a no brainer to use ArmaFlex, and we were very pleased to continue our positive relationship with the Armacell team," said Galavis.

#### FIRST CLASS SOLUTION

ArmaFlex pipe insulation is ideal for below ambient applications, especially in humid climates like Panama where high dew points increase the chances for condensation on chilled water piping. Low thermal conductivity and a built-in vapor retarder effectively prevents the formation of condensation and spread of moisture, which can lead to mold and significant losses of thermal efficiency. Specifying closed-cell elastomeric insulation, like ArmaFlex, at the sufficient thickness is the most effective means of providing a system for controlling condensation on the membrane surface and within the insulation system on cold piping, ducts, or chillers. Integ's confidence in the ArmaFlex brand was as much about Armacell's training and service as it was the superior performance characteristics of the product. ■



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## ABOUT ARMACELL

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As the inventors of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal, acoustic and mechanical solutions that create sustainable value for its customers. Armacell's products significantly contribute to global energy efficiency making a difference around the world every day. With 3,100 employees and 24 production plants in 16 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for high-tech and lightweight applications and next generation aerogel blanket technology.



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