

CASE STUDY

# Military Hospital

Armacell's ArmaFlex® insulation is the prescription for a military hospital suffering from pipe and chiller CUI caused by years of moisture ingress with fiberglass. Learn how easy-to-handle closed-cell foam is the answer to real-world applications. **Armacell in action.**

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ArmaFlex<sup>®</sup>

# Reviving Hospital Insulation

**Project:**

Chilled water piping insulation for a 30 year old, 8-story Navy hospital

**Location:**

Pacific Northwest

**Insulation Contractor:**

D&G Mechanical Insulation  
Dave Wells – Owner  
Cubby Culbertson – Project Manager

**Challenge:**

A small mechanical room containing outdated water chillers with pipe corrosion due to moisture under fiberglass insulation required relocation and new systems. The mechanical room also created a noise level requiring hearing protection for workers in the area.

**Solution:**

Move mechanical room to separate noise hazard from workers and install three new chilled water systems with Armacell ArmaFlex® insulation products to avoid future corrosion.



When a 30 year old Washington state military hospital had the need to relocate a loud, overcrowded and aging mechanical room due to acoustical concerns, they found out that the chilled water systems had developed corrosion under the insulation or CUI, and required replacement. This critical hospital serviced 25 in-patient beds and required below ambient chilled water to support the facility operations, so building a new mechanical room with acoustical properties and brand new chillers was no small feat. Insulation contractors, D&G Mechanical Insulation, were on the job and worked with Union Contractors from Local #7 and the Military/Navy Corps of Engineers for specification writing, installation and inspection.

The 60 ft x 100 ft mechanical room was relocated downstairs away from hospital areas to protect staff from mechanical noise that exceeded 85 decibels. The existing chiller equipment in the cramped room was insulated with fiberglass, which had degraded due to condensation and moisture buildup causing CUI and loss of thermal properties. "Fiberglass without a vapor barrier was used prior



and moisture ruined the pumps. There was condensation and corrosion; they were a mess," said Dave Wells, owner of D&G Mechanical Insulation.

The need to ensure that the efficiency and health of the new chilled water systems would be maintained and protected was the main focus for Dave and Cubby Culbertson, Project Manager.

The specification for insulation on the chillers included Armacell's ArmaFlex® or the use of cellular glass insulation. D&G Mechanical Insulation chose ArmaFlex because of the ease of use and installation. Cellular glass can crack, break and get damaged in shipping or on the jobsite, which equates to waste and cost. Cellular glass is also made in 2' sections, where ArmaFlex foam insulation ships in 4' rolls, so installers can insulate 4' sections instead of joints every 2 feet.

"Economically it just doesn't make sense," explained Cubby, "ArmaFlex ships intact and offers us installation and shipping cost savings. Cellular glass is very labor intensive and clean-up is a nightmare, where ArmaFlex is easier to install."

New chillers were installed and the 6" pipes and fittings were insulated

by D&G and the union contractors, giving great care to the layout of the equipment to allow for ease of access to systems for later maintenance. Over 30 rolls of 1" ArmaFlex were used which is the equivalent of 1050 linear feet of foam!

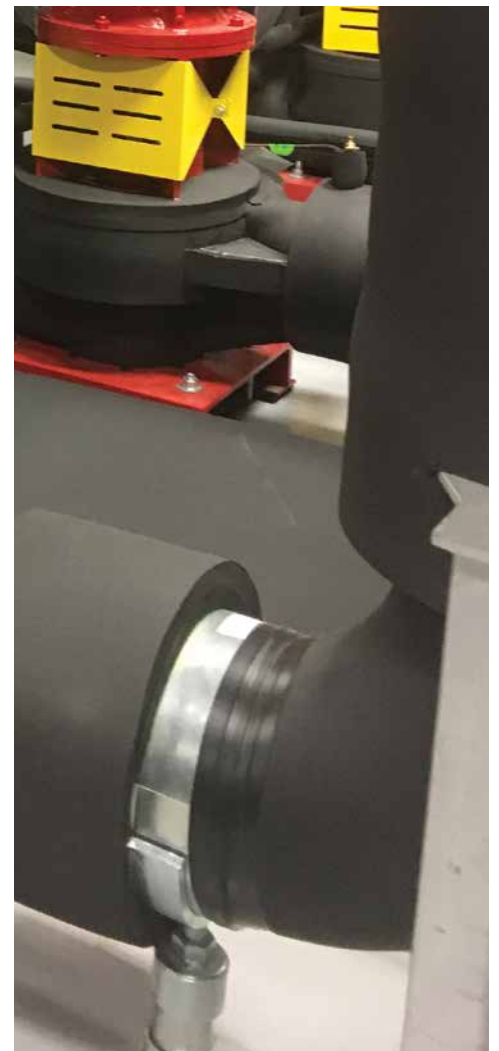
"No contest. ArmaFlex was the right choice." Dave Wells said, "Armacell's technical help was a factor in the project's success. We called Armacell's technical team several times for guidance. They were always responsive and helpful. We also used the hard copies of the North American Application Manual and videos to look up precise installation techniques."

ArmaFlex pipe insulation is ideally suited for cold water applications where chances for condensation are high. Low thermal conductivity and a built-in vapor barrier effectively prevent the formation of condensation and spread of moisture, which can lead to mold and significant losses of thermal efficiency.

"The ArmaFlex is doing exactly what it's designed to do," says Cubby. "Stay dry and look perfect." ■

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New chiller equipment insulated with ArmaFlex  
(installation not final)



All data and technical information are based on results achieved under typical application conditions. It is the customer's responsibility to verify if the product is suitable for the intended application. The responsibility for professional and correct installation and compliance with relevant building regulations lies with the customer. By ordering/receiving product you accept the Armacell General Terms and Conditions of Sale applicable in the region. Please request a copy if you have not received these

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00165 | ArmaFlex | Military Hospital | Case Study | 052019 | NA | EN-A | 511

## 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.

For more information, please visit:  
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