



CUI Protection at a Refinery

The service crew at a Washington state location put Cross-Flo® jacketing to use on a maintenance project, after first testing the product themselves. They're now hopeful it can be used regularly.

"Sure, it looks nice," the crew at Matrix Service in Washington state said about Johns Manville's Cross-Flo metal jacketing. But, they wondered, aesthetics aside, does it do its job and help keep water out of an insulation system?

They decided to put it to the test and find out. And were pleased with the results.

First, a Test Run

Jason Abel, Insulation Superintendent at Matrix Service, and his crew first learned about Cross-Flo from Distribution International, and upon seeing a sample were excited to learn more. Because Abel and his team are tasked with maintenance of the entire oil refinery in Washington, they wondered if Cross-Flo could be something new to add to their insulation system arsenal.

Cross-Flo is a protective metal jacketing system with a diamond-like pattern, designed to promote cross-directional flow. It provides a pathway both horizontally and vertically for unwanted water in an industrial insulation system to drain to a low point and escape via a weep hole or drainage port. Cross-Flo is an excellent tool in the fight against corrosion under insulation (CUI).

"Just the look of it, the aesthetics, that was appealing, and then you learn the idea of how it's supposed to function and what the pattern is for, and that was something different," Abel said. "We decided to do our due diligence with the product at our shop before we went to the client and asked to try it."

PRODUCT

Cross-Flo® Metal Jacketing

LOCATION

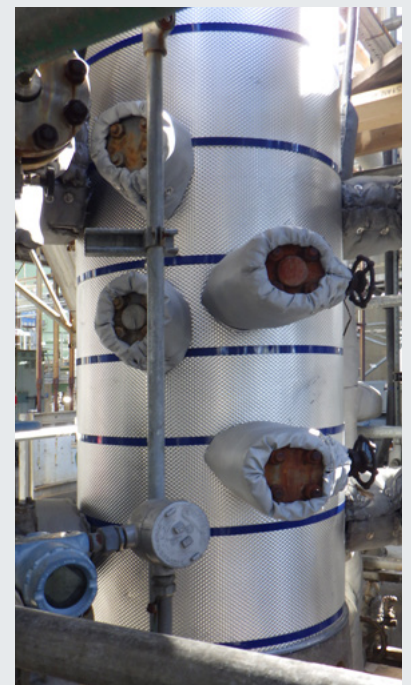
Washington State

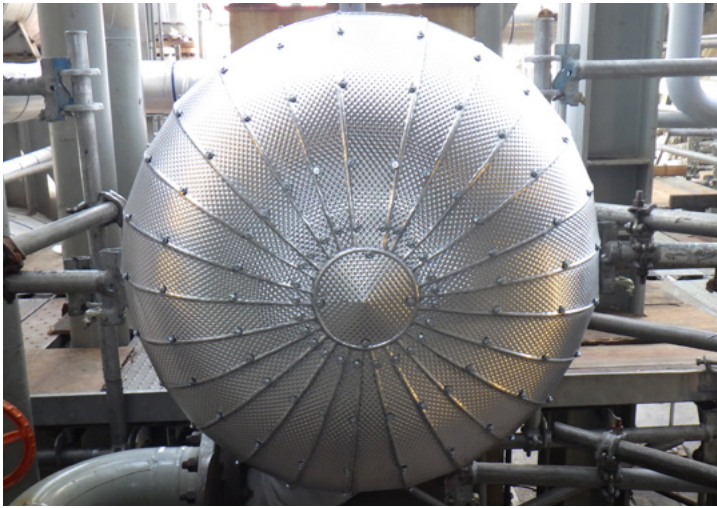
INSTALLER

Matrix Service

SUPPLIER

Bay Insulation Supply





The team insulated two pipes side by side with mineral wool, jacketing one with Cross-Flo and the other with stucco embossed metal jacketing, then left them out in the weather for about a month and a half. There was plenty of rain during that time, and Abel said they poured additional water on the pipes, also taking a hammer to each to test durability of the jacketing.

“We were really impressed with how well the Cross-Flo held up to the ‘damage’ from the hammer,” he said. “And, there was no water in the insulation.”

Armed with this information, they were ready to use the product on the job. When a section of the refinery system was stripped by inspectors looking for CUI, Abel said he suggested they put Cross-Flo to the test.

“We gave them all the info on it, since Cross-Flo is for CUI-related concerns, and let them mull it over,” he said.

The facility was originally built in the 1970s, so asbestos was removed from two vessels in the insulation system, and once everything was stripped and inspected and repainted, Matrix could step back in and give Cross-Flo a go.

Installing Cross-Flo

The client gave approval for Matrix to use Cross-Flo on an exchanger (horizontal) and a feed gas knock-out drum (vertical). The exchanger is about 20 feet long, and the drum about 11 feet long.

“I really liked that it was still easy to work with,” said Foreman Chris Crawford. “And as opposed to stucco embossed or smooth jacketing, it held a little stronger with its integrity or rigidity. It also seems harder to dent in comparison to other things we traditionally use.”

Crawford noted that, like using any new product, there was a small learning curve in fine-tuning the installation technique, specifically on the horizontal overlaps so that the indentations of Cross-Flo would nest inside each other.

“On a long stretch of pipe, measurements might need to change a little bit to make sure the pattern lined up, accounting for that little bit of extra,” Crawford said. “But it went fairly smoothly for us.”

He said the crew “did just about everything” with the metal jacketing including crimping and making head gores and caps. Everything went as expected.

“I liked that you could flatten and reroll the Cross-Flo and it didn’t affect its design – it didn’t flatten at all,” Crawford said. “So, if you have a big pattern to lay out, it was nice and easy.”

“And it looks neat, plus the concept is very cool,” he added. “The benefit of it with the CUI mitigation is good.”

Abel said Cross-Flo’s future at the refinery is now in the hands of the engineers. Matrix hopes it can be added to their STP (site technical practices) so that it can be used on future maintenance projects without extra or specific permissions.



[Visit our website](#) to learn more about Cross-Flo, see test results, watch videos and request a sample.

About Matrix Service

Matrix Service provides construction, maintenance and fabrication to the energy and industrial markets across North America. Beginning as a petroleum tank provider in 1984, the company has evolved to become a full-service provider.

For JM customer support or technical assistance, call 1-800-293-3393.



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