

Controls Southeast, Inc.



ControTrace Bolt-On Jackets make a believer out of a True Skeptic

Controls Southeast, Inc. (CSI) solves the problem of asphalt piping temperature maintenance at a roofing plant with its Bolt-On Heating products. The Bolt-On system has more than adequate melt-out capacity when compared to the traditional integrally jacketed systems with a bonus of faster delivery times. Further, it eliminates the problem of cross-contamination between product and heating medium normally associated with double wall construction. The result is a high-performance thermal maintenance solution with a comparatively lower installation cost.

Situation

Manufacturing with heated processes requires consistent thermal maintenance. One example, an asphalt shingle plant, needed a reliable, cost efficient heating method for process pipes, pumps, valves and tanks. "Our plants had traditionally used methods that could be characterized as "overkill and underkill". An overkill method is to fully jacket pipes with hot oil as the heating medium", explains the, VP of Engineering at the plant. "That worked great but it was very expensive. It also had the possible problems of internal leakage. The oil might leak into the asphalt resulting in contamination of the asphalt and the loss of very expensive oil. The underkill case was using 1/2" tube tracing on the outside of the heated components. That solved the contamination problems and reduced the cost, but it was generally inadequate. If the plant was down and the asphalt solidified, the tube tracing took unacceptable time to warm up."

Solution

Recognizing a need for a new system that was comparable in cost to tube tracing but much more efficient, CSI developed ControTrace Bolt-On Heating Elements for pipes and ControHeat Bolt-On Jackets for pumps, valves and other components.

The heating elements of ControTrace are strategically positioned after heat dynamics in the operating pipe system are modeled using a patented CSI software program. CSI offers complete service of design, fabrication and installation of Bolt-On heating systems.



Fig. 1 Photo: ControTrace on 26' d tank at the Myerstown, PA roofing plant.

Solution Overview

Customer Profile

This plant produces premium laminated fiberglass shingles. Shingles are coated with asphalt and crushed rock aggregate.

Business Situation

To provide a less costly thermal maintenance system for maintaining molten asphalt temperature without the risk of cross contamination between product and heating medium.

Solution

Benefits of Bolt-On Jackets

- Double wall design does not allow contamination of asphalt with hot oil in the event of leaks.
- 25% cost savings over jacketed pipe.
- Effective heat transfer during start up of production lines.

Products and Services

- ControTrace and ControHeat Bolt-On thermal maintenance jackets
- Engineering, fabrication, and installation

But convincing, the designer of the new roofing plant in Myerstown, PA, that ControTrace would perform, yet be cost effective was not easy. He had 20 years of experience with the company including plant manager and Corporate Troubleshooter. He had considerable experience in the roofing industry. He also had a skeptical opinion of claims by vendors and salespeople. So when Alan Crump, CSI Applications Engineer, and Jim Lewis of Dean Oliver Engineering, Atlanta, GA, proposed using a product called ControTrace instead of fully jacketed pipe to maintain the asphalt temperature in the new roofing facility, he balked until after exhaustive and thorough investigations. "But we knew ControTrace would be a winner for the customer. Dean Oliver Engineering feels a responsibility to introduce new technology to our clients that will lower life cycle costs", explains Lewis. "He wasn't totally convinced it would work as claimed until the day we let the hot oil flow through the ControTrace and the asphalt came up to temperature", says Crump. But now everyone from the design team to the plant operators are very pleased with the performance of ControTrace.

ControTrace was installed on 3000 linear ft of 2, 3 and 4 " pipe. A dozen operator control valves and 2 asphalt gear pumps were heated with ControHeat jackets, which are cast aluminum jackets with a pressure chamber embedded for the heating medium. There were 9 tanks fitted with ControTrace that ranged in diameter from 10 to 30 ft. The asphalt comes back up to temperature in 3-4 hours, while tube tracing, can take up to 24 or more hours. Temperatures in PA in winter can be as low as -20°F and ControTrace keeps the asphalt well above 425°F.

ControTrace Bolt-On thermal heating systems works on many heated processes in addition to asphalt, such as sulphur, polymers, caprolactam, DMT, and more.



For More Information

For more information about CSI products and services, call CSI in Charlotte, NC at (704)588-3030(USA), WEB: www.csiheat.com

“ControTrace really works well! It is the most efficient, cost effective way to maintain the temperature in the molten asphalt transfer process.”

Vice President
of Engineering at the
roofing plant

“Flexible metal jumper hoses between ControTrace segments save time in field installation. A well-designed compression hydraulic fitting provides a good seal and limits the chance for leaks.”

Alan Crump
CSI Applications
Engineer

Fig. 2 Photo-Close up of tank and pipe at the plant with ControTrace Bolt-On Jackets installed.