



Steam Piping Insulation Project at University of Virginia

Unique challenges of piping insulation project overcome with good planning



Project Description

Over the past several years the underground water and steam piping system at the University of Virginia (UVA) has been upgraded by section. The system runs through a 6 ft. x 6 ft. underground tunnel located throughout the campus. This particular project involved insulating a 1,000 linear foot section of 12 inch steam piping.

A double layer of calcium silicate insulation (2 inch thick) was used to insulate the pipes. Because the insulation comes in 3 foot sections, a double layer was applied in a staggered way to mitigate heat loss from between the sections of the insulation, resulting in 4 inch thick insulation barrier. A layer of 30 lb. felt paper was applied on top of the calcium silicate insulation for waterproofing.

Unique Project Challenges

- 1 This complex water system had many valves, unions, ball joints and other apparatus, which required the creation of several custom removable insulation blankets for heat protection to 1,000 degrees. These removable insulation blankets facilitate easy and cost effective ongoing maintenance of the steam piping system.
- 2 The underground tunnels in which the work was done presented unique challenges to those working on the project. Since the project was completed during the summer months, heat exhaustion was a serious threat. Special efforts had to be made for ventilating the space and managing the temperature to avoid injuries and heat exhaustion. Close attention to worker safety and work schedules was critical to get the project completed on time, and to avoid any OSHA related issues.
- 3 The combination of the weight of the insulation and the distances it had to travel in a tight underground environment presented a real challenge. In order to complete the project on time in an economical way, unique methods and equipment were applied to deal with the logistics of delivering and installing the heavy insulation.

Project Scale

1,200 man hours over a 2-month period

Approximately 2,000 linear feet of calcium silicate insulation

Approximately 5,300 sf of 30lb. felt paper for waterproofing

Why UVACHose Waco Inc. – Project expertise and attractive economics

- Waco's insulation division operates with precision and proven methods that result in high productivity on complex projects like this one. As such Waco's bid was the most attractive to the university.
- UVA had worked with Waco on prior projects and had confidence this project would get done on time and on budget with exceptional worker safety practices.

Summary of Results

Bobby Taylor, Waco's project manager, and Waco's insulation team completed the project on time and at the approved budget. Even under very challenging conditions, there were no worker injuries. The unique logistics challenges and working environment for this particular project required very precise planning and on-site coordination with suppliers to achieve UVA's objectives.

Corporate Office

5450 Lewis Road
Sandston, VA 23150
Phone: (804) 222-8440

38592 Brett Way, Suite 7
Mechanicsville, MD 20659
Phone: (301) 290-1333
Fax: (301) 290-5222
Toll Free: (888) 742-7219

844 Cottontail Trail
Mt. Crawford, VA 22841
Phone: (540) 434-7390

1326 Cavalier Blvd.
Chesapeake, VA 23323
Phone: (757) 558-3100

11839-A Canon Blvd.
Newport News, VA 23606
Phone: (757) 873-2205

1520 West Main Street
Radford, Virginia 24141
Phone: (540) 633-6311
Fax: (540) 633-6411

1554 Bladen Loop Rd
Bladenboro, NC 28320
Phone: (910) 648-5468

703 West Main Street
Covington, VA 24426
Phone: (540) 962-5161

Other Locations

