

Urethane foam for insulated piping

CASE STUDY

Challenge

Rovanco Piping Systems manufactures urethane pre-insulated piping systems made from materials such as steel, PVC, and stainless to transfer materials like drinking water, waste water, gas, and chemicals. The customer wanted to improve heat control, obtain a more robust pump line, and have a more user friendly interface. A Gusmer® H-2000 Proportioner and Graco Reactor® H-20/35 Pro with AR-C guns were being used for small pipe sections. A Cannon RIM system was used for large pipe sections. Manufacturing of pipes required pour shots lasting up to three minutes, with 10 to 20 shots per day on small pipe sections.

Solution

A Graco HFR Metering System™ and Graco EP™ Pour Gun with 1/4 in (6.3 mm) purge rod were installed. The final configuration had a 1:2 ratio, a T2 transfer pump and a circulation kit. The system operated in pressure mode at approximately 10.3 MPa (103 bar) (1500 psi) with a 50 ft (15 m) hose configuration of 3/8 in (9.5 mm) heated hose for side A, and 1/4 in (6.3 mm) heated hose for side B. Shots were made with an A side orifice of 0.047 and a B side orifice of 0.028. Primary heat on both sides was set at 125°F (52°C) with hose heat of 110°F (43°C).

Results

The Graco HFR Metering System produced very rigid foam with good cell structure. The customer felt the foam looked and acted like what they were accustomed to with a cream time of roughly 13 seconds and liked the foam mix produced by the Graco EP Pour Gun. They also reported good up-time since they were spending much less time rebuilding the gun. Poor quality in-plant power had been an issue for their 240VAC machine. This was eliminated with the new system. Overall, Rovanco is satisfied with the performance and accuracy of the Graco HFR Metering System.



*Rovanco Piping Systems Inc.
like the foam mix produced by
the Graco EP Pour Gun.*

SPECIFICATIONS

END USER

Rovanco Piping Systems, Inc.

DISTRIBUTOR

Thomas Spray Equipment

INDUSTRY

Insulating piping

APPLICATION

- Pouring urethane foam

Typical Properties

- Ratio (B:A) by volume: 1:2
- Cream time: 13 secs

GRACO EQUIPMENT

- Graco HFR Metering System
- Graco EP Pour Gun

CONFIGURATION

- Part number: HFRA-14AMAJDBCNNN
- Blue pump (B): 80 cc
- Red pump (A): 160 cc
- Heat zones: 4 heat zones
(two in-line heaters and two hoses)
- Hoses:
 - 50 ft (15 m), 3/8 in (9.5 mm)
A (heated), 10 ft (3 m) 1/4 in
(6.3 mm) whip
 - 50 ft (15 m), 1/4 in (6.3 mm)
B (heated), 10 ft (3 m) 1/4 in
(6.3 mm) whip
- PSI dispense pressure:
10.3 MPa (103 bar) (1500 psi)
- Primary heat - 125°F (52°C)
- Hose heat - 110°F (43°C)

Accessories:

- Casters

Delivery Method

- Graco EP Pour Gun with 1/4 in
(6.3 mm) purge rod



GRACO HFR METERING SYSTEM

Operators definitely like the way the machine dispensed material and commented that it worked better than what they were previously using.