

Aerogel Insulation Stops Pipe Heat Loss, Improves Safety in Tight Spaces



Thin insulation avoids damage during pipe installation without cladding

CASE STUDY

DETAILS

Location: Italy
Installation Partner: Agosti Isolazioni

CHALLENGES

- Insulate piping that has a process temperature of 120°C (248°F).
- The insulation objectives were to:
 1. Eliminate heat dispersion from the piping into the surrounding hall.
 2. Allow operators to unscrew the bolts without removing nor damaging the insulation.
 3. Reduce the surface touch temperature to a safe level using the thinnest possible insulation.
 4. Provide a finished surface that didn't require metallic cladding.



SOLUTIONS

- Agosti Isolazioni Termiche installed an aerogel solution of two layers of 4 mm Pyrogel® 4250 using a specifically chosen adhesive that was tested prior to installation.
- The external surface was covered with layers of varnish that were tested prior to installation.

BENEFITS

- The end user observed a dramatic reduction of the external surface temperature with only an 8 mm insulation thickness, reducing heat loss and energy consumption significantly.
- The insulation was thin enough to avoid damage during pipe mounting/dismounting, with no metallic cladding required.
- The insulation was applied directly on the pipes, saving valuable time during mounting and dismounting.
- The insulation noticeably improved operator working conditions near the hot pipes.



LEFT: Operators work continuously in the web of pipes, often coming into contact with them. Aerogel insulation reduced the touch temperature to safe levels, dramatically reducing the risk of injuries.

ABOVE: The Pyrogel insulation was easily painted — gray for gas, green for hot water — to identify the fluid in the piping.

RIGHT: Thermal imaging shows a safe surface touch temperature after Pyrogel 4250 is applied.

FAR RIGHT: The finished, painted surface protects the insulation during standard operations with no metallic cladding required.

