

6 mm Aerogel Dramatically Reduces External Surface Temperature of Piping

Safe touch temperature reached with minimal amount of aerogel insulation



CASE STUDY

DETAILS

Location: Italy
Installation Partner: Agosti Isolazioni Termiche

CHALLENGES

- Insulate piping with 274 mm diameter and 120°C (248°F) process temperature.
- The insulation objectives were to:
 1. Eliminate heat dispersion from the piping into the surrounding room.
 2. Balance cost and thickness to achieve a safe surface touch temperature of 60°C (140°F).
 3. Provide a finished surface that didn't require metallic cladding.
 4. Keep the overall diameter of the insulated piping small so more piping can fit in the space later.

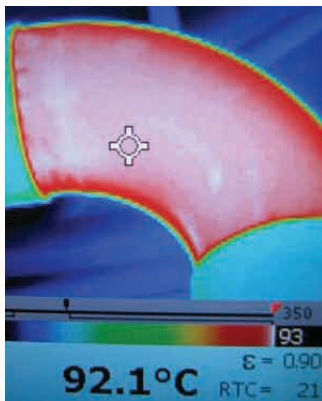


SOLUTIONS

- Agosti Isolazioni Termiche installed an aerogel solution of **Pyrogel® 6350 (6 mm)** 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.
- Piping was colored in green to identify the fluid in the pipe.

BENEFITS

- The end user observed a dramatic reduction of the external surface temperature with only a 6 mm insulation thickness.
- No metal cladding was required.
- The finished surface was easily painted to identify the fluid being processed in the piping.



Thermal imaging shows the surface temperature of uninsulated piping (left) reduced by about half with 6 mm of Pyrogel® 6350 aerogel insulation (center). Photo at right shows fully insulated section of piping with elbows.



Aerogel insulation was thin enough to use on all bends in the piping and in the most confined areas. Green finish was easily applied to identify fluid inside.