

2 mm Aerogel Insulation Cuts Surface Temperature of Reactor in Half

Working conditions near reactor
improve, energy consumption drops



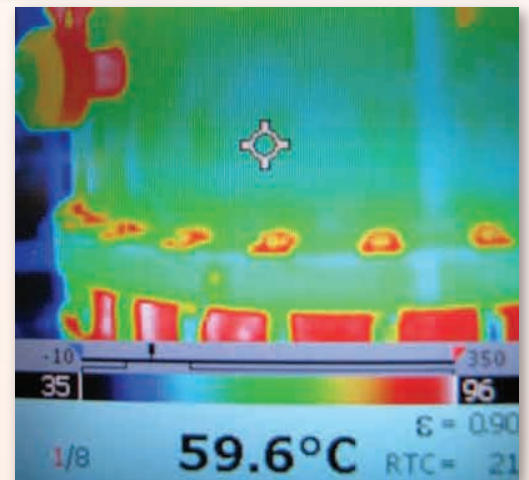
CASE STUDY

DETAILS

Installation Partner: Agosti Isolazioni
Location: Italy

CHALLENGES

- Insulate the external part of a reactor that has a process temperature of 120°C (248°F).
- The insulation objectives were to:
 1. Eliminate heat dispersion from the reactor into the surrounding room.
 2. Allow operators to unscrew the bolts without removing or damaging the insulation.
 3. Achieve a safe surface touch temperature minimum insulation thickness.
 4. Provide a finished surface that didn't require metallic cladding.
 5. Allow mounting/dismounting operations without losing time.



Safe surface touch temperature after 2 mm Pyrogel 2250 applied

SOLUTIONS

- Agosti Isolazioni Termiche installed an aerogel solution of **Pyrogel® 2250 (2 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. The end user chose from seven colors for the external surface.

BENEFITS

- The end user observed a reduction by almost half of the external surface temperature with only a 2 mm insulation thickness.
- The insulation was applied directly on the reactor, saving valuable time during numerous mounting and dismounting of the reactor.
- The insulation noticeably improved operator working conditions near the reactor and reduced energy consumption significantly.



The 2 mm insulation thickness was the maximum that could be used given the space required to screw the bolts using a pneumatic gun.



An additional layer of EPDM rubber was applied to protect the insulation where the pneumatic gun was used.



The finished surface protects the insulation during standard operations with no metallic cladding required.