

Aerogel Insulation Installs Faster and Saves Costs on Large Vessel

Thinner aerogel is easier to store, handle, and install than cellular glass — with equal thermal performance



CASE STUDY

CHALLENGES

- Replace specified cellular glass insulation with Aspen Aerogels insulation on one complete vessel including heads.
- Vessel was 20 ft (6.1 m) by 12 ft (3.7 m).
- Work was executed outdoors on an elevated equipment platform within a chemical facility.
- Weather conditions were overcast with intermittent light rain.



SOLUTIONS

- A single 0.24 in (6 mm) layer of **Pyrogel® 6350** was used instead of the specified 1.5 in (38 mm) thick cellular glass.
- Large sections of Pyrogel 6350 blanket were wrapped completely around the vessel, instead of small cellular glass blocks.
- The installation required only a tape measure, box cutter knife, and straight edge.

BENEFITS

- The vessel was insulated with Pyrogel 6350 in less time as cellular glass.
- Because installing aerogel blankets doesn't require access to the entire vessel, scaffolding costs were reduced.
- Installers did not need any shop equipment; all aerogel sections were cut from a roll on the vessel platform.
- Pyrogel 6350's compact roll reduced shipping, handling, waste, and storage costs compared to boxes of cellular glass.
- Rain did not halt work, since aerogel insulation is hydrophobic and did not have to be covered.

How the Vessel Was Insulated

1. Less than one roll of Pyrogel 6350 was needed to insulate the entire vessel. All work was done on the vessel platform.



2. The material was cut to the outside circumference of the vessel and wrapped around in one complete blanket.



3. The material was secured at the bottom only with the adhesive insulation pins.



4. For the vessel heads, the material was cut into pie sections and attached with adhesive insulation pins at each end.



5. After the large pie sections were installed, smaller sections were made to accommodate the ends.



6. Completed insulated vessel with Pyrogel 6350 aerogel thermal insulation.

