

At Brown Univ., Aerogel Prevents Corrosion, Saves Money and Energy on Underground Hot and Chilled Water Lines

Project costs less than
using Cellular Glass



CASE STUDY

DETAILS

Location: Brown University
Insulation Contractor: Anchor Insulation

CHALLENGES

- High-pressure hot water and chilled water lines in dark, cramped underground tunnels at Brown University (Providence, RI).
- Remove existing fiberglass insulation damaged from moisture, inspect piping for corrosion, then re-insulate.
- Four 6"-8" pipe runs accessible only through manholes: two 345°F high-pressure hot water lines and two 40°F chilled water lines.

SOLUTIONS

- New Cellular Glass insulation was specified. Due to the tight spaces and limited access, the contractor had the project respecified with Aspen Aerogels' Pyrogel and Cryogel insulations.
- The contractor used **Pyrogel® XT** for the high temperature hot water lines and **Cryogel® Z** with integral foil vapor barrier for the chilled water lines.
- These offered flexibility for installing on any pipe size in cramped conditions, while meeting thermal performance and corrosion prevention requirements.

BENEFITS

- Cryogel Z and Pyrogel XT were easily field-cut to accommodate all situations including straight piping, complex elbows, valves, and connections. This also simplified purchasing.
- Final insulated pipes were significantly thinner in profile than the original Cellular Glass specification, useful for tight clearances in tunnel pipe racks.
- According to the contractor, the total project costs were reduced 16% by switching to aerogel insulation.

Two views of the piping before and after Cellular Glass was replaced with Pyrogel XT and Cryogel Z. Note increased spacing between pipes and improved view and available room for routine maintenance.

Anchor Insulation won the ABC Excellence in Construction Award for Rhode Island for this project.

