

Rapid-Installing Aerogel Insulation Replaces Calcium Silicate on Distillation Towers

Pre-insulated section expands one tower, all work completed on time



CASE STUDY

DETAILS

Owner: Petrobras
Project: REPLAN Refinery Shutdown
Location: Paulinia (Sao Paulo), Brazil

CHALLENGES

- Install new insulation on distillation towers during plant shutdown for on-time completion.
- Allow for pre-insulation of expansion module for one tower.

SOLUTIONS

- Petrobras selected **Pyrogel® XT (10 mm)** to replace existing calcium silicate insulation on the units.
- Existing insulation was removed from the towers and replaced with Pyrogel XT.
- An additional tower section had been constructed off-site and was pre-insulated with Pyrogel XT prior to placing on top of one of the towers.
- Associated piping and equipment throughout the unit was refurbished and insulated with Pyrogel XT.

BENEFITS

- Pyrogel XT permitted an accelerated installation schedule, ensuring an on-time completion of the works.
- Flexible and highly resistant to damage, Pyrogel XT allowed the shutdown team to pre-insulate the tower expansion section without risk of damage as the section was lifted into place.
- No alterations of existing support rings, nozzles, or manholes were required in the change to Pyrogel XT.
- With Pyrogel XT's proven rapid installation on the two towers, use of the Pyrogel XT was expanded to include additional equipment including four horizontal bullet tanks.



Background

During a recent shutdown at the Petrobras REPLAN refinery in Paulinia (Sao Paulo) Brazil, new insulation was installed on two distillation towers. One tower (unit U-200) also was expanded. The distillation tower had a daily output of 27,200 m³. Following expansion of the tower and refurbishment of the unit, target daily output will increase to 33,000 m³, allowing for additional refined output of 396,000 barrels per day.

Sixty-three days were scheduled for the shutdown, with over 2,500 Petrobras employees and contractors involved in the work.

