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 Pyrogel XT allowed the shutdown team to pre-insulate the tower expansion section without risk of damage as the section was lifted into place.
- Minimal alterations of existing support rings, nozzles, or manholes were required in the change to Pyrogel XT.
- Following 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. Sixty-three days were scheduled for the shutdown, with over 2,500 Petrobras employees and contractors involved in the work.