



## Abreu e Lima, Brazil



### Key facts about the plant

- Refinery
- Contractor: Alusa Engenharia SA
- Owner: Petróleo Brasileiro SA (Petrobras Brasil)



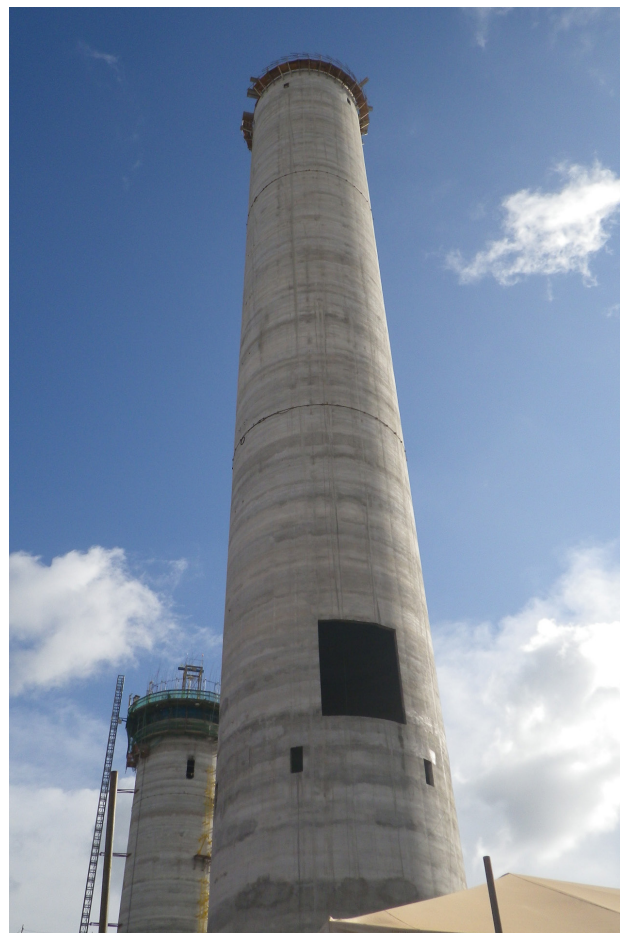
### Key facts about the chimney

- Completed in 2014
- Concrete chimney
- Twin cylinder shape
- H 82m
- Outer  $\varnothing = 10\text{m}$
- 2 antacid bricks liners,  $\varnothing = 5,500\text{mm}$  each

The Abreu e Lima Refinery (RNEST) is a refining unit located in Ipojuca, state of Pernambuco, in the Suape Port Industrial Complex, 45 km away from Recife. It is the most modern refinery Petroleo Brasileiro (Petrobras) has ever built, the 5th largest unit in refining capacity (230,000 barrels per day - bpd) and the one with the highest crude oil conversion rate in diesel (70%), a fuel that is essential for moving goods and the Brazilian's wealth.

This new refinery's main objective is to produce diesel fuel and meet the demand for oil products in Northern and Northeastern Brazil and reduce imports. It is fitted with advanced refining technologies, designed to meet world-class guidelines, and has technologies that respect the environment, with the limelight on its high level of reliability and performance, meeting product quality, low maintenance cost, low power consumption, optimized water use, and maximum operational security standards.

FERBECK has been awarded an EPC contract for two 82 meter-high-concrete chimneys by Alusa.

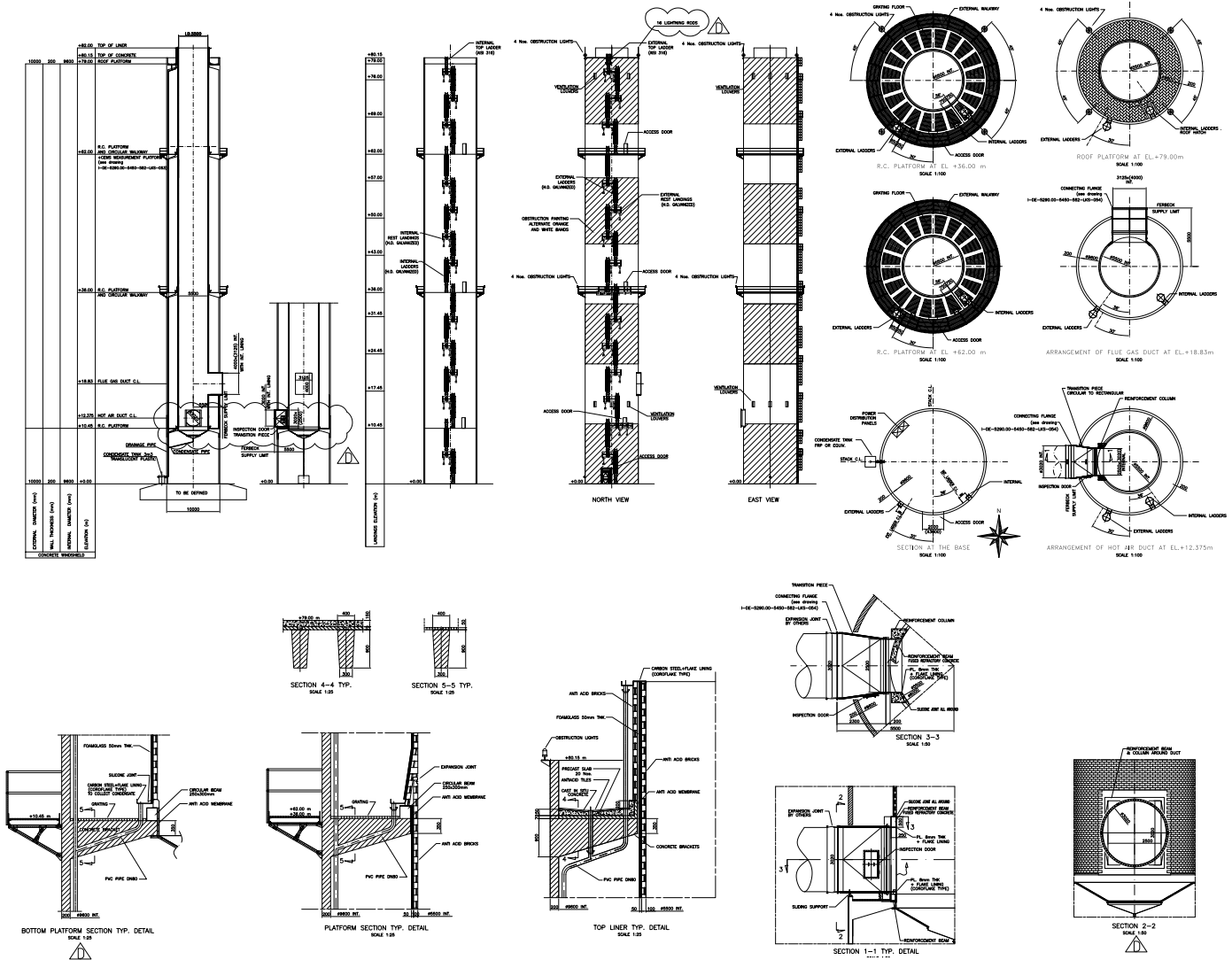




# Concrete chimney

FERBECK's scope of work includes:

- concrete shell
- outer shell coat
- steel platforms and walkways
- all other steel elements (doors, windows...)
- access lift and ladders
- electric system (lighting, inner power supply, aircraft signalization lamps...)
- lightning protection system





## Concrete shell

The outer concrete shells are made of 1,010m<sup>3</sup> of concrete with the following size:

- 10m each of external diameter
- h 82m each

The casting is performed with a slipform operating 24/7.



## Platforms

4 platforms and 2 walkways are installed in each structure:

- roof and AWL platform at EL.+79.0m
- CEMS measurement platform and external circular walkway at EL.+62.0m
- AWL platform and external circular walkway at EL.+36.0m
- platform at EL.+10.45m

