

Redstone, South Africa



Key facts about the plant

- Solar thermal power station
- Owner: ACWA, Saudi Arabia
- Contractor: SEPCOIII, China



Key facts about the tower

- Completed in 2023
- Solar tower
- Cylindrical and conical shape
- H 211,60m
- Top outer $\varnothing = 18\text{m}$
- Bottom outer $\varnothing = 23\text{m}$

Redstone concentrated solar thermal power (CSP) project is a solar power plant with molten salt energy storage, located in Postmasburg, near Kimberley, in the Northern Cape Region of South Africa.

ACWA Power, the top tier global power developer, has been awarded the contract by The South Africa Department of Energy (DOE) to develop the project along with the consortium of Solar Reserve. SEPCOIII, China is in charge of the engineering, procurement, and construction of the plant.

FERBECK INTERNATIONAL SA has been awarded a civil construction contract for one 211,60 meters-height solar tower by SEPCOIII, China.

The scope of work includes:

- foundation
- concrete tower
- installation of 853 embedded plates





Foundation

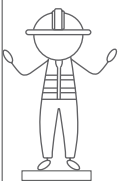
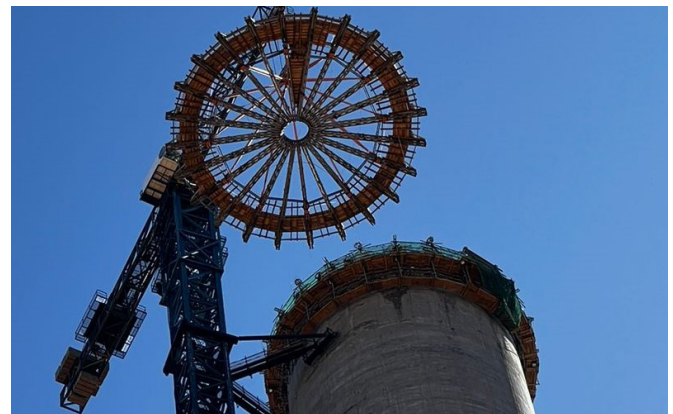
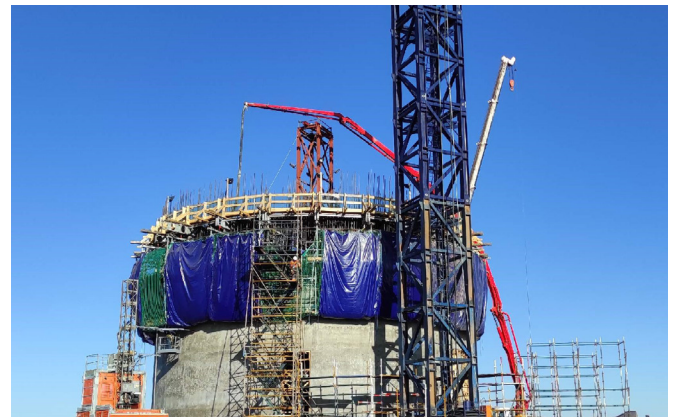
Single pour of 4000m³ reinforced concrete, dimension 3m high and 42m wide.

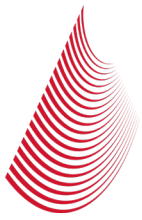
A smaller foundation on the top of the main one was poured for the tower crane that is used during the civil and mechanical works.



Concrete tower

Continuous concrete pouring with slipform equipment is performed on double shifts, installing 853 embedded plates and 6 tower crane bracings while sliding. We successfully dealt with typical strong wind and thermal stock of South Africa's winter season. The main structure of the slipform is designed to be safely and quickly dismantled using the tower crane, after the total height is reached.





Overview of the plant

Redstone has the capacity of 100 megawatts to deliver power to 200,000 people and it is capable of storing thermal energy for a period of 12 hours, which enables the plant to generate electricity through the night in addition to day time operations.

