

Sydney Tower, Sydney NSW Australia



The tallest freestanding structure in Sydney, NSW is the Sydney Tower (formerly AMP tower, AMP Centrepoint Tower, Centerpoint Tower) standing 305 metres above the CBD of Sydney. It is also the second tallest observation tower in the Southern Hemisphere.

Constructed between 1970 – 1981 and opening officially on 23 September 1981, the tower is constructed on top of a sixteen level reinforced concrete building with the tower serving as both a communication and tourist facility with observation platforms and restaurants in the turret at the top of the tower.

As the tower was constructed on top of a multi-level building, lightness and minimum frontal areas which are exposed to wind loading needed to be achieved.

Designers used steel consisting of a central column 6.8 metres in Diameter and made up of 46 barrel units composed from 56 x 250mm x 250mm universal columns. Each barrel unit weighed 27tonnes and was completed with lift rails, stairwells and hydraulic risers before being hoisted into place.

Sydney Tower is uniquely braced by 56 closely spaced steel cables. Each cable composed of 235x7mm diameter high-tensile wires which have been protected against corrosion by hot dipped galvanizing.

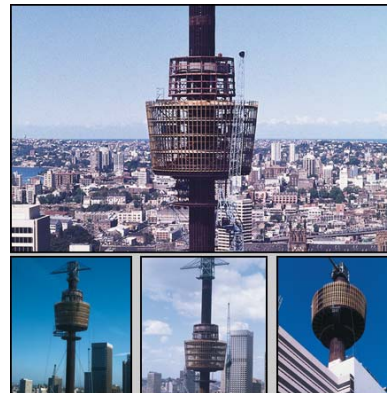
The turret is a 4 level welded steel frame structure which was constructed at the base of the tower and raised up the tower as work on the shaft progressed.

There is also a 162,000 litre water tank located at the top of the tower which is used as the tower's primary dampening system.

Sydney Tower is ranked as one of the safest towers in the world, capable of withstanding earthquakes and extreme wind conditions.

The tower is serviced by three double decker lifts. At full speed, the lifts take 40 seconds to reach the Observation Deck, which is determined by wind conditions at the time.

There are 1,504 steps from street level providing emergency exists from the top of the tower. These stairs are also used annually as part of the Sydney Tower Run.



Technical Details

Design:	Cable-stayed tower
Original Structure Cost:	\$36 Million, AUD
Start/Completion Date:	1970 – 1981
Height:	305 Metres above street level
Shaft Diameter:	6.7 metres
Depth of tower below ground:	74.4 metres
Maximum Design Wind Speed:	172km/h - deflection 1.1m
Total weight of tower:	40,000 tonnes
No of steps:	1504
References:	www.sydneytower.com.au www.austec.unimelb.edu.au www.great-towers.com www.wikipedia.org/wiki/sydney_tower

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