

INTRODUCTION

TNEB has 4 Thermal Power Stations as below:

1. Ennore Thermal Power Station
2. Tuticorin Thermal Power Station
3. Mettur Thermal Power Station
4. North Chennai Thermal Power Station

Ball Mills are used in Ennore Thermal Power Station and Bowl Mills are used in TTPS, MTPS and NCTPS.

There are 5 Units available in Ennore Thermal Power Station with a total capacity of 450 MW.

1. 60 MW	2 Units	120 MW
2. 110 MW	3 Units	330 MW
	<hr/>	<hr/>
	5 Units	450 MW

The Generation of Thermal Power Station depend on Oil & Coal. For initial lighting up of boiler, oil is used. On reaching 40 MW, the oil burning is changed to coal burning. For burning coal, coal fine particle is necessary. For getting fine particle of coal, pulverisation is necessary. For making pulverisation ball mills are used in Ennore Thermal Power Station. For grinding purpose, balls are required inside the mills with Armour Plates. The dashing of balls with the Armour Plates makes pulverisation of coal. Dashing of balls also makes pulverisation

Pulverisation is made in the form of fine powder, 0.2 sieve, 0.9 sieve. The 0.2 sieve and 0.9 sieve were returned to ball mills for making as fine powder.

The drum of the ball mill is rotated at 360 RPM. For rotating the drum, 6.6kv motors are used. The Armour Plates fixed inside the drum rotates along with the drum. The charging of ball is made through a manhole. Coal is fed from coal chute. For drying the coal, the hot air is fed inside the drum. This hot air is also used to carry coal and air mixture to the boiler furnace. This mixture burns inside the boiler, which is used to raise the steam temperature inside the boiler.

Two numbers of ball mills are available for 60 MW unit and three numbers for 110 MW units. So, ETPS has totally 13 ball mills. The design and performance of ball mills for each unit will be discussed here.