

Much Power And Steam Needed To Make Paper

BOILER, TURBINE ROOMS PROVIDE POWER & STEAM

Both Rooms Well Equipped. Details Of Operations Are Given

Much power and steam are used in the manufacture of cigarette paper.

To provide for them, Ecusta has a modern Boiler Room and Turbine Room. Ordinarily these two are housed in the same building. However, at Ecusta the necessity for the utmost in cleanliness in the process caused the Boiler Room to be located well away from the manufacturing buildings to prevent contamination by fly ash and coal dust. The Turbine Room, on the other hand, is located in a building of its own closeby.

All told there are four large boilers in the Boiler Room capable of producing a total of 138,000 pounds of steam per hour at a pressure of 425 pounds per square inch gauge and a temperature of 700 degrees F.

To produce this amount of steam requires close to 7½ tons of bituminous coal per hour—175 tons per day. This coal is received via railroad in cars containing from 50 to 60 tons each. They are spotted on the coal trestle alongside the Boiler Room, over a hopper into which the coal is dropped. From the hopper, it is conveyed by moving belt to a bucket elevator which carries it up about 70 feet and deposits it in the two silos, each of which can hold 100 tons. Thirty tons can be handled in this manner per hour. Ground coal storage facilities are also provided to guard against failure in coal deliveries. A drag line and large traxcavator are used here for handling. Coal so stored must be well packed and temperatures of the pile taken weekly to guard against spontaneous combustion.

From the silos the coal flows by gravity into automatic weighing scales and thence by screw conveyor to the individual boiler hoppers. The equipment is in duplicate and the operation entirely automatic.

The boilers are of the four drum bent tube type, multiple retort stoker fired and with inclined side water walls along and above the stoker line. Two have a capacity of 27,500 pounds per hour each and the other two 41,500 pounds per hour each. Combustion control is bailey automatic.

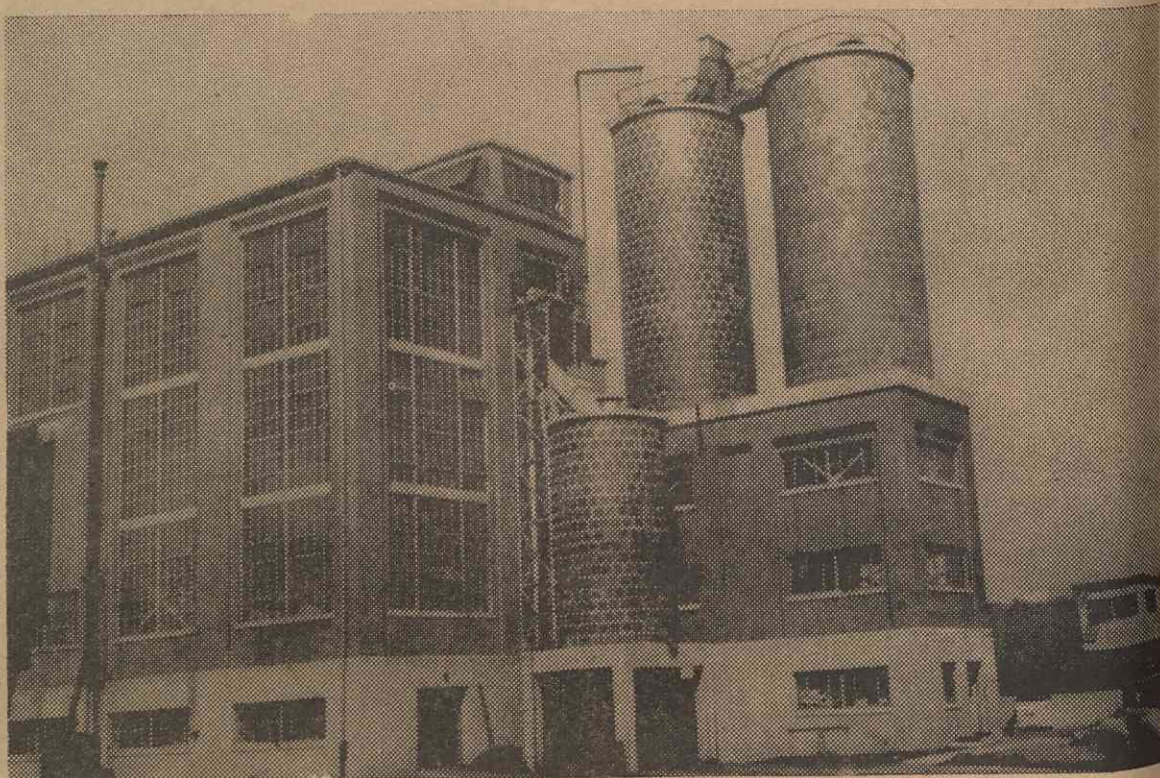
From the boiler hoppers the coal is pushed into the furnace by circular rams to a depth of about 18 inches and thence to the rear by a series of secondary rams. As it progresses, combustion takes place and by the time it reaches the dump grates only ashes remain. These are dumped from time to time into wheeled carts from where they are transferred to the ash silo by means of a skip hoist. Twenty-five tons of ashes can be stored in the silo at one time. It is set at an elevation that permits bottom dumping into auto trucks.

With controlled, accelerated combustion such as is required in these modern boilers, forced draft must be resorted to and each boiler is therefore equipped with a forced draft fan.

Water presents specific problems

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COMBINATION OF WATER AND COAL PRODUCE POWER



Shown above is the Boiler House and the two large coal silos. The photo in the center is a view of the mezzanine floor under the coal silos, showing the coal scales and screw conveyors. At bottom is a view of the water softeners through which all fresh water makeup must pass.

Note the coal elevator in the top picture. The small silo with skip hoist is for ashes. The elevated track to the coal trestle and the drag line house are in the rear. The scale on which the coal is weighed, in the center, is a huge one. A lot of water and coal are needed to produce power.

