

SUPERHEATED STEAM.

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In these days of strenuous competition in all lines of manufacturing, the cost of power for factories and the cost of steam used in many manufacturing processes has become a vital point to all concerned. This applies not only to the manufacturer, but also the superintendent, the foreman, and various employees having charge or control of different departments, and more especially the engineer and his staff—consequently any project that will reduce power costs, including installation and maintenance charges should be carefully considered. This applies more particularly in localities within reasonable distance from the many Hydro-Electric plants now in operation and being erected, and, perhaps, more particularly in this portion of Ontario.

In all steam power plants that are modern, that are well-equipped and intelligently operated, and in which the conditions are such that exhaust steam from the engine can be utilized for heating buildings, dry kilns or any other process of manufacture, the cost of operation can be reduced to such a figure that electricity cannot successfully compete.

Steam engine builders are steadily improving the construction of engines and thereby reducing the amount of steam required per h.p. hour. There are also many improvements in the setting and construction of steam boilers, thus increasing the amount of water evaporated per lb. of coal. While the engine and boiler manufacturers in Canada and the United States have made rapid strides along these lines, there is still room for further improvements. One reason for our slowness is most likely the fact that our fuel is cheaper than it is in some of the European countries where their engines and boilers are giving power at a much lower cost, than we have as yet reached.

One of the most marked savings can be made by superheating the steam, which can be done at a small cost in already existing plants. Now the first question is: What is superheated steam? It is steam that has heat added to it without increasing the pressure. We call steam as generated in our boilers dry saturated steam, and any steam that carries 2 per cent. or less of moisture or water in it is called dry or steam saturated with dryness, hence the name dry saturated steam.