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How to Burn Soft Coal in the Heating Plant



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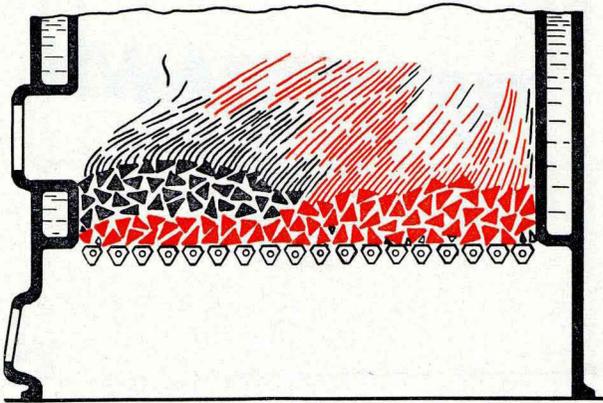
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How to Burn Soft Coal in the Heating Plant

To burn soft coal in the heating plant with economy, small amounts should be fired at regular intervals, rather than large charges at long intervals, although the latter method is usually the more convenient. If lump coal is used, the best results will be secured if the large lumps are broken to fist size.

In firing, the coking method should be used; that is, the



The Coking Method of Firing Should be Used

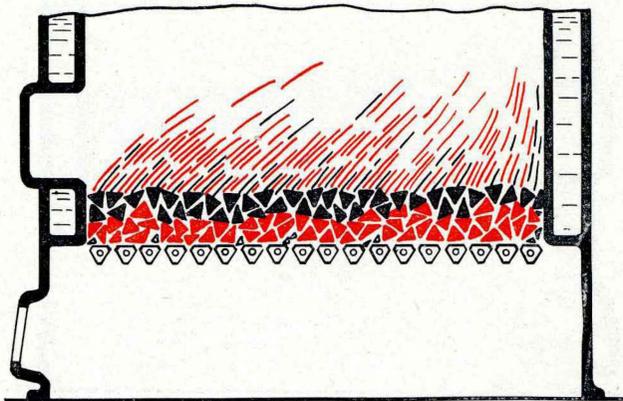
bed of live coal should never be covered entirely with fresh fuel. The fresh charge should be placed in front so that a considerable area of red coal is left uncovered at the back of the furnace. The gas from the fresh charge, in passing over the red hot coal at the back, will be burned if enough air is admitted to the furnace during the time the gas is being driven off. In order to admit the air required right after firing, in addition to opening the ash pit damper, the fire door damper should be opened for a short time. The

fire door damper should not be left open longer than necessary to burn the gas, or the furnace will be cooled off and heat wasted.

After the coal is coked, it should be spread evenly over the entire fuel bed, where it will burn with little smoke.

The fire should be checked by closing the ash pit damper to cut off the air through the fire and by opening the check damper in the pipe if necessary, before it becomes so hot that the furnace can only be cooled by opening the fire door. A great deal of fuel is wasted through overheating, which is entirely unnecessary if care is used.

A steady fire is the most economical, and such a fire can be kept by anticipating the demand for heat and regulat-



After the Coal is Coked, it Should be Spread Evenly Over the Entire Fuel Bed.

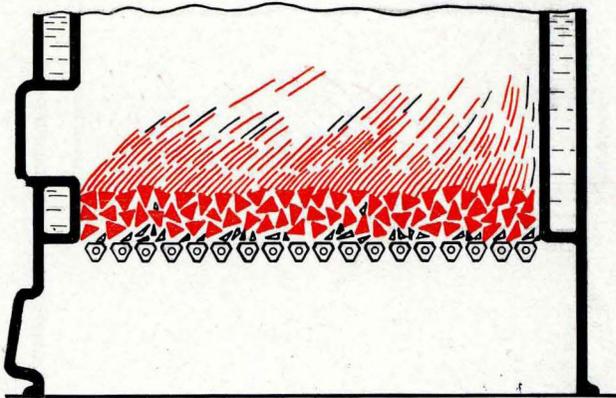
ing the fire accordingly. The fire should not be allowed to get so low that heavy firing is necessary to make up for lost time as this is not only a wasteful method of firing, but it is usually followed by overheating.

A level fire should be carried over the entire grate, except immediately after firing, and its thickness should be varied according to the weather. It is a good plan to keep the top of the fire as nearly level with the bottom of the firing door as possible at all times, except in very mild



weather. In mild weather, ashes should be allowed to accumulate on top of (not under) the grates. In cold weather, the fire should be well shaken and only a thin layer of ashes left on the grates. In other words, the thickness of the fire is to be varied chiefly by raising and lowering the bottom and not by raising or lowering the top of the fuel bed.

In banking the fire for the night, the fresh charge should be placed on the fuel bed and the draft opened for a short time—five to fifteen minutes—then the check damper should be opened and the ash pit and fire door dampers closed. In this way, the gas is burned off and its heat



A Level Fire Should be Carried Over the Entire Grate.

utilized. This heat would be lost if the furnace were closed at once after firing. In order to handle a fire in this way, the furnace must be tight. A furnace with loose fitting doors and dampers will admit so much air that the fire cannot be effectively checked after once being started.

The heating surfaces should be kept clean and free from soot and ash deposits, as such deposits cut down the furnace efficiency.

Ashes should not be allowed to accumulate in the ash pit, or the grates may be ruined due to overheating.