

Coal Moisture Control (CMC)

Features

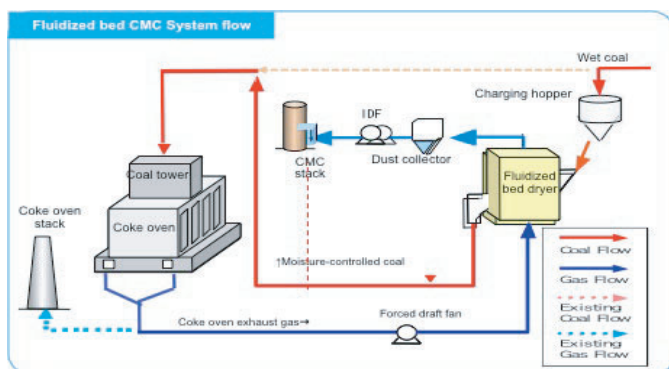
What is CMC?

- CMC is a system that dries the coal, which generally has a moisture content of 10% or more, to around a level of 6% before it is charged into coke ovens. By drying the coal, various benefits are brought about.
- NSC has installed CMC in all steelworks it operates. The most modern type employs a fluidized bed and was first introduced to the Muroran Works (Hokkai Iron & Coke Corporation) in 1996. Since then, it has been in smooth operation, continuously producing various benefits.

Features

- 1 Low investment cost:**
 - The fluidized bed that employs a direct heat exchanging method helps realize a compact and low-cost equipment configuration.
- 2 Low running cost:**
 - Exhaust gas from coke ovens is used as a heat source for drying, eliminating the need for additional fuel (NSC-patented process).
 - Less driving sections lead to simple equipment configuration and easy maintenance.
- 3 Abundant operation result:**
 - Based on the operation result spanning many years, an operational guideline for controlling the coal moisture has already been firmly established.
 - Abundant expertise has also been accumulated with regard to associated environmental control systems.

Basic Concept or Summary



Effects or Remarks

Benefits obtained by introducing fluidized bed CMC

More than 20 million yuan per year

(Experimental calculation at treatment volume 180 t-dry and 5% drying)

<p>10% productivity increase</p> <p>By the increase of the coal bulk density, the production capacity of a coke oven is significantly increased.</p>	<p>10% energy saving</p> <p>By the reduction of the coal moisture, heat energy required for carbonization is reduced.</p>	<p>Increase of coke strength</p> <p>By the increase of the coal bulk density, the fusion bonding force of coal is increased and hence, the coke strength is increased.</p>	<p>More stable operation</p> <p>As the variation in coal moisture is suppressed, the coke quality is stabilized.</p>
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Installation in Practice or Schedule

Domestic Nippon Steel Corporation Muroran Works (Hokkai Iron & Coke Corporation)

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