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Short Term Revamping Techniques of Blast Furnace

Eiji Akimoto, Teruaki Morimoto, Teruo Katsuna, Masao Fujita, Hiroataka Kojima,
Jun-ichi Furuya

Synopsis :

No. 3 blast furnace (BF) at Mizushima Works and No. 5 BF at Chiba Works of Kawasaki Steel Corp. were relined in 1990 and 1991. The revamping were performed in the shortest period possible, with required times of 111 and 98 days, respectively. To complete the relining work in such short periods, several methods and techniques were developed and employed. Work on the BF proper, which was the critical part of the relining, was carried out as follows: (1) simultaneous work on separate multiple stages, (2) prefabrication of the BF shell, (3) thin wall construction of the shaft refractory material, and (4) mono-construction of the stove cooler and refractory material. Work for the material charging equipment at the BF top, which also affected the relining period, was carried out as follows: (1) large-block construction method, and (2) light weight supporting structure for hoppers. In addition, a well-organized administration system was developed and employed to ensure effective control of the relining work and manpower. As a result, the relining work was performed in the shortest possible period as planned and lost in production of both BFs was minimized.

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The body can be viewed from the next page.

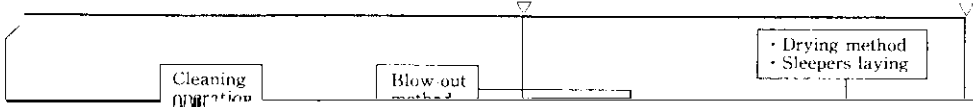
Short Term Revamping Techniques of Blast Furnace*



Synopsis:

No. 3 blast furnace (BF) at Mizushima Works and No. 5 BF at Chiba Works of Kawasaki Steel Corp. were relined in 1990 and 1991. The revampings were performed in the shortest period possible, with required times of 111 and 100 days respectively. To complete the revamping work

← Planning·Design·Fabrication → Blow-out ← Revamping work → Blow-in



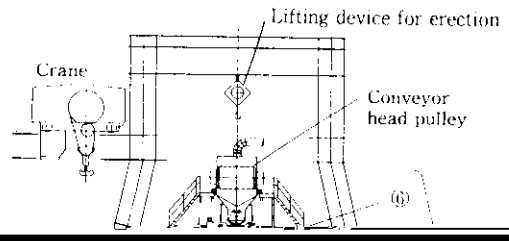
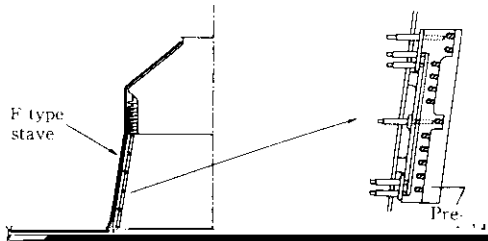
Cleaning operation

Blow-out method

· Drying method
· Sleepers laying



staves, so that the revamping period was shortened by five days for the complete stave installation process.⁴⁾



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