

Title (en)
LIQUID-COOLED SIDE WALLS FOR ELECTRIC-ARC FURNACES

Publication
EP 0085461 B1 19860416 (DE)

Application
EP 83200125 A 19830126

Priority
CH 55282 A 19820129

Abstract (en)
[origin: US4435814A] An electric furnace including a furnace vessel having modular thermally stressed wall parts, wherein in order to lengthen the service life of the thermally stressed wall parts of furnaces, cooling pipe layers are provided with the cooling pipes of the inner layer located in a fireproof construction material (35). These cooling pipes form the reinforcement for the fireproof construction material. The inner layer of cooling pipes face the inside of the vessel and are made in one piece, U-shaped at the upper and the lower and lead into the outer layer of cooling pipes. The outer layer of cooling pipes empty into a liquid distributing conduit provided with at least one integrated bypass openings whereby cooling liquid is at least partially short-circuited between pipes in the outer layer. The cooling pipe is thermally stressed and relieved in a homogeneous manner by the one-piece construction of the cooling pipes facing the inside of the vessel, by U-shaped transitions to the outer cooling pipe and by the avoidance of welding seams and other material connections in the cooling pipe, so that thermal stresses in the cooling system are almost excluded and the cooling system is largely freed from the effects of alternating temperature stresses.

IPC 1-7
F27B 3/24; **F27D 1/12**

IPC 8 full level
F27B 3/24 (2006.01); **F27D 1/12** (2006.01); **F27D 9/00** (2006.01)

CPC (source: EP US)
F27B 3/24 (2013.01 - EP US); **F27D 1/12** (2013.01 - EP US); **F27D 9/00** (2013.01 - EP US); **F27D 2009/0021** (2013.01 - EP US)

Cited by
CN112284137A; EP0152849A3; EP0805325A1; US5923697A

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