Title (en)

Cooling panel for shaft furnace

Title (de)

Wandkühlelement für Schachtöfen

Title (fr)

Panneau de refroidissement pour four à cuve

Publication

EP 0837144 A1 19980422 (DE)

Application

EP 97115379 A 19970905

Priority

DE 29616509 U 19960923

Abstract (en)

The cooling element (1) for the wall of a shaft furnace is a hollow body forming at least one chamber (2,3). The hollow body of the cooling element (1) is fitted to the steel jacket of the furnace by suspension hooks. The cooling element (1) forms two adjacent chambers (2,3), as a unit, with an inner and outer chamber (2,3), each with water feed and outlet (7,8). Flow bodies (9) in the chambers (2,3) equalise the water flow. The flow guides (9) are guide plates, to form water channels, alternating at the opposite sides of the element (1). The water inlet (7) is at the start of the water channels and the outlet (8) is at their end. The flow guides (9) can have a teardrop shape, or they can be at an angle between the base and cover of a chamber (2,3). The cooling element (1) has upper and lower hooks to engage matching hooks at the furnace steel jacket. The connections for the water feeds and outlet (7,8) toward the steel jacket at the element (1) are threaded for the water tubes through the jacket to be screwed home. The cooling element (1) is a casting of cast iron or copper, or is produced by welding steel or copper plates. The flow bodies (9) can be profiles, at least at the base zone of the cooling element (1). The cooling element (1) has profiles on the side towards the furnace.

Abstract (de)

Wandkühlelemente für Schachtöfen, insbesondere für Hochöfen, beispielsweise aus Graugruß oder Kupfer, bestehen im wesentlichen aus ofenseitig am Hochofenpanzer (6) befestigbaren, und im Inneren einen kammerartigen Hohlraum aufweisenden, kastenartigen flachen Kühlelementen (1), wobei der Hohlraum am unteren Ende mit einem Kühlmittelzu- (7) und am oberen Ende mit einem Kühlmittelauslauf (8) versehen ist, und zwischen Zulauf und Auslauf eine Kühlmittelführung vorgesehen ist. Zur herstellungstechnischen und wirtschaftlichen Vereinfachung sind in dem Hohlraum eines Kühlelementes (1) zwischen Boden (19) und Decke (20) das Kühlmittel in der Breite und Höhe gleichmäßig verteilende Strömungskörper (9; 21) angeordnet und das kastenartige Kühlelement (1) ist über mindestens am oberen und unteren Ende bodenseitig vorgesehene Hakenelemente (4) und mit diesen am Ofenpanzer (6) korrespondierende Hakenelemente (5) befestigbar ausgebildet. <IMAGE>

IPC 1-7

C21B 7/10; F27D 1/12

IPC 8 full level

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