

Title (en)

METHOD OF AND DEVICE FOR THERMO-MECHANICAL REGENERATION OF BULK GOODS ESPECIALLY FOUNDRY RETURNED SAND

Publication

EP 0265707 B1 19920603 (DE)

Application

EP 87114398 A 19871002

Priority

DE 3636479 A 19861027

Abstract (en)

[origin: US4821654A] In order to rationalize the operation of foundries and to avoid environmental stresses, it is endeavored so to rework used molding sand accruing as black sand and to free it from binder residue, so that this sand can be used without restriction like new sand. To achieve this aim through thermo-mechanical regeneration the black sand is heated in predetermined, relative low height layer in a fluidized bed furnace to a temperature exceeding 500 DEG C., preferably 750 DEG C. Through the swirling motions of the heated black sand, preferably supported through strong vibrations of the supporting base, the thermal destruction of the enveloping binder particles and a mechanical liberation of the sand grains from their enveloping binder remains is achieved. By means of a forced throughput (e.g. through appropriate vibrations or by means of a scraper conveyor) a uniform throughput with constant layer height is achieved which can be stabilized by means of additionally installed webs so that the desired mode of operation is ensured. By means of pre and post-treatment heat exchangers, the energy requirement can be kept low, while an appropriately high combustion temperature ensures at the same time the creation of environmentally safe oxidation products.

IPC 1-7

B22C 5/08; **B22C 5/18**; **F27B 15/14**

IPC 8 full level

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CPC (source: EP US)

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Cited by

GB2399528A; EP0505722A1; EP0465778A3; EP0512236A1; FR2730653A1; DE4126976C1; EP0343272A1; US5045090A; WO03061873A1

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