

Title (en)
Process and installation for manufacturing lightweight concrete

Title (de)
Verfahren und Installation zur Herstellung von Leichtbeton

Title (fr)
Procédé et installation pour la fabrication de béton léger

Publication
EP 2543487 A2 20130109 (EN)

Application
EP 11464006 A 20110629

Priority
RO 201100429 A 20110505

Abstract (en)
The invention relates to a process and an installation for manufacturing lightweight concrete for masonry and insulations used for civil engineering and industrial constructions. The process consists in mixing for homogenizing the dry components of the concrete at a mixing pressure (P1) higher than the atmospheric pressure (P0), introducing some fluid mixture components, such as water, air entrainers and additives, at a pressure (P2) higher than the mixing pressure (P1), homogenizing mixing for a mixing period (T1), thereafter the mixer (1) is depressurized at the atmospheric environment pressure (P0) in order to expand the mixture. The pressure is lowered to a slight vacuumatic pressure (P3) and a slow mixing is carried out for the duration (T2) for homogenously expanding the mixture and extracting the big defective air bubbles from the mixture. The expanded mixture is discharged with a uniform flow controlled by means of the vacuuming pressure (P3) concomitantly with injecting adhesives and latices (24) into the mixture, in a mould (4) subjected to a slight vibration for a duration (T3), for uniformly dispersing the injected products in the mixture. In the mould (4) there is completed the concrete setting and maturation process. The installation consists of a bitruncated cone shaped mixer (1) with tapered ends (10), wherein there are secured two semiaxes, in one of the semiaxes (5) there being mounted a distributor (2) for feeding some fluid components. An opening (12) for feeding the solid components and discharging the mixture is machined inside a threaded nozzle (13) provided with a thread plug (14). A discharge device (17) is coupled with the mixer (1) through a sleeve joint (18). The discharge device (17) is equipped with an installation for injecting adhesives and latices (24) into the raw mixture (22) during the discharge into a mould (4) which is moved on a system of rollers (23).

IPC 8 full level
B28C 5/00 (2006.01); **B28C 5/20** (2006.01); **B28C 5/38** (2006.01); **B28C 5/46** (2006.01)

CPC (source: EP)
B28C 5/003 (2013.01); **B28C 5/2072** (2013.01); **B28C 5/381** (2013.01); **B28C 5/462** (2013.01)

Citation (applicant)
• RO 120632 B1 20060530 - S C GRUP PROIECT SRL [RO]
• RO 122189 B1 20090227 - PROFIR CONSTANTIN [RO]
• RO 2004000019 W 20041221
• WO 2006068528 A2 20060629 - PROFIR CONSTANTIN [RO]

Cited by
CN109822753A; CN115446978A

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 2543487 A2 20130109; RO 128098 A2 20130130; RO 128098 B1 20161129

DOCDB simple family (application)
EP 11464006 A 20110629; RO 201100429 A 20110505