Title (en)

METHOD AND DEVICE FOR THERMAL DECOMPOSITION OF RUBBER AND/OR PLASTIC

Title (de)

VERFAHREN UND VORRICHTUNG FÜR DIE THERMISCHE ZERSETZUNG VON KAUTSCHUK UND/ODER KUNSTSTOFF

Title (fr)

PROCÉDÉ ET DISPOSITIF DESTINÉS À LA DÉCOMPOSITION THERMIQUE DE CAOUTCHOUC ET/OU PLASTIQUE

Publication

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Application

**EP 10766215 A 20100719**

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Abstract (en)

[origin: WO2011009419A1] The charge containing rubber and/or plastic is subjected to temperature 100 up to 600°C in the environment separated from ambient atmosphere, whereas a part of released gases is heated and is repeatedly inducted to the vicinity of the charge. Excess of released gases is drawn off from the reaction zone and is cooled down up to liquefaction of at least a part of liquefiable fraction. Not liquefied residue is processed in the cogeneration unit or is collected in the reservoir. For quicker finishing of pyrolysis actions it is advantageous in cooling phase to induct not liquefied residue of pyrolytic gases into the reaction zone. The device contains the working chamber (1), the walls of which are provided with the thermal insulation. Inside the working chamber (1) there is located the reaction zone (3) for placing of the charge (9), which is partially surrounded with heating elements (4) and slats for directing of gas flow. Above the reaction zone (3) there is further located the fan (5) for assuring of gas circulation inside the working chamber (1). A part of the working chamber (1) is also the cooling zone (7), separated from the reaction zone (3). The working chamber (1) is further provided with the inlet (16) of gas and with the outlet (11, 15) of pyrolytic gases, which is connected with the inlet (73) of at least one first cooler (79). The first cooler (79) is provided with the outlet (72) of the first cooler (79) for the first part of liquid fraction and the gas fraction outlet (77). The gas fraction outlet (77) is connected with the inlet (24) of at least one second cooler (29), which is provided with the first outlet (23) of the second cooler (29) for the second part of part liquid fraction and at least one second outlet (22) of second cooler (29) for not liquefied residue. The second outlet (22) of the second cooler (29) for not liquefied residue can be through the auxiliary cooler (42) and/or desludger with the inlet (16) of gas connected into the working chamber (1) and with the inlet (311) of the suction pump (31), the outlet (312) of which is connected with the cogeneration unit (41) and/or with the reservoir of not liquefied residue. The first outlet (23) of the second cooler (29) for second part of liquid fraction can be inducted under level of the second part of liquid fraction, which is located in the sedimentation tank (52), which is advantageously connected through the overflow (53) with the reservoir (62) and the outlet (72) of the first cooler (79) for the first part of liquid fraction can be inducted under the level of the first part of liquid fraction, which is located in the settler (82). It is also advantageous, if the cooling medium inlet (13) of cooling zone (7) is connected to the outlet of cooling unit (100), namely with advantage through the third fan (132).

IPC 8 full level

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