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RECOVERY OF WASTE GAS BY COMBUSTION IN AN ORIGINALLY DESIGNED PLANT

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Abstract

This work presents an original method and an automated installation to recover by combustion the waste gas obtained in the ignition process of xylites in rotary kiln. The flue gas resulting from the combustion of waste gas, with light fuel support are used in the technological processes of obtaining activated carbon, satisfying the conditions where the oxygen content does not exceed 0.3 % vol. and the temperature is above 1200°C, conditions imposed by the Project Manager of the European project LIFE 02. Our automated installation consists in a combustion chamber and a heat exchanger, which along with a rotary kiln and an activation reactor build the technological installation called "ENVACTCARB" of this project. The design of our automated installation was done by running a computer program in order to calculate the combustion parameters and based on material and energy balances. The experiments were carried out in two stages: preliminarily, to characterize the liquid fuel combustion in the pilot installation and secondary, in the technological installation. The preliminary experimental results, presented as a comparison between the variants of light fuel burning, with and without using additives, show getting a complete combustion having low emission of pollutants and the oxygen content not exceeding 0.3% volumes. The experimental results performed in the technological installation certified the use of the automated installation for waste gas recovery through combustion.

Key words: burning installation, clean technology, waste gas, xylite

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