

Title (en)

IMPROVEMENTS IN AND RELATING TO A METHOD AND APPARATUS FOR COMBUSTION OF MATERIALS

Publication

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Application

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Abstract (en)

[origin: EP0126619A2] A method and apparatus is disclosed for combustion of diverse materials, particularly combustible solids, liquids or gases, and mixtures thereof. Organic waste materials or hydrocarbon-containing materials such as sewage sludge, refuse, coal, refinery sludge, tar sands, coal shale, coal tailings, spend foundry sand, and many other materials, may be incinerated. The rotary combustion apparatus consists of a cylindrical drum (2), or other similar regularly shaped chamber, with a substantially horizontal axis of rotation. The apparatus preferably has a series of internal zones including an ignition zone (6), a principal combustion zone (19), a falling temperature zone (20) and a spent solids removal zone (21). The apparatus further includes solids transport chutes (89, 91) for forward and backward circulation of solids, arranged for the transfer of solids to or from one or more points. Particulate combustible solids, gases or liquids feedstock may also be heated by recycled hot solids material to preheat, condition or otherwise treat the feedstock. The method employs direct solids-to-gas contact established by lifting and cascading combustible solids through a hot gas stream such that high combustion efficiency, rapid throughput and low pressure drop across the combustion zone are obtained. In particular, the method and apparatus is especially suitable for burning coal and utilization of the by-product heat of combustion for generating steam. Incineration of refinery sludge, spend foundry and sand and oily mill scale are also disclosed and all processes provide environmental advantages.

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Cited by

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