

Research Facility Assessment for Biomass Combustion in Moving Grate Furnaces

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Abstract : The paper deals with the experimental activities on a biomass combustion test-bed. More in detail, experimental campaigns have been devoted to investigate the operation of a biomass moving grate furnace. A research-oriented facility based on a moving grate furnace (350kW) has been set up in order to perform experimental activities in a wide range of test configurations. The paper reports the description of the complete biomass-plant and the assessment of the system operation. As the first step, the chemical and physical properties of the used wooden biomass have been preliminarily investigated. Once the biomass fuel has been characterized, investigations have been devoted to point out the operation of the furnace. It has been operated at full load, highlighting the influence of biomass combustion parameters on particulate matter and gaseous emission.

Keywords : biomass, combustion, experimental, pollutants

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020