

A Study on a Technology to Produce Inorganic Fibers by Melting Coal Ash

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In Japan, 8.5 million tons of coal ash is produced every year as by-products by coal fired power plants. The proportion of utilized coal ash to the total production has reached approx. 80%. The volume of produced coal ash is expected to increase with the construction of new coal fired power plants or the extension of existing ones. It is thought that this situation has made it an urgent task to develop a new technology to utilize coal ash.

The “coal ash-based fiber” refers to an inorganic fiber material, which is produced by melting coal ash at high temperature, and processing it into fibers using centrifugal force or compressed air. This material has been produced in China and other countries for use as a heat insulating material. In Japan, however, the material has not yet been commercialized; only several research projects on this subject have been carried out in the country.

The scope of the present study includes the determination of the basic physical properties of the coal ash-based fiber; the technology to produce the fiber; and the marketability and economic advantages of the fiber as product. This report describes the basic physical properties of the fly ash fiber, as well as study results on the technology to produce the fiber and the method of utilizing it.

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