

Simultaneous Resin and Coal Recovery From Coal Bearing Resin

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Abstract

Coal is a combustible black or brownish rock with high amount of carbon and hydrocarbons. The evidence of each coal build-up is controlled by home grown species from which the coal emanated. The fossil resins are organic material with polymeric nature, very similar in appearance to artificial or natural plant resin . Hence, the fossil resins are often adulterated with the modern resin. Fossil resins are the most valuable material associated with coal. Resin has a decorative appearance and is used in jewellery . It is also used as a healing agent in folk medicine. According to Market insider the market value of resin is R17.61 per kg and coal price is 0.85c per kg. Low recovery of resin from coal has led to resin being discarded with tailing which is not economic for the coal industry. While coal may be recovered as a by-product when coal bearing resins is processed with microwaves (in multi- mode as well as in single mode) through selective heating, microwave radiation was used as an effective way of extracting resin from resin bearing coal. The paper discusses the dual optimisation of resin and coal recovery.

Keywords

Resin bearing coal, fossil resin, microwave radiation, resin and coal market value