Effects of Hydrothermally Pretreated Sewage Sludge on the Slurry Stability

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Some research has been carried out on the disposal of sewage sludge by gasification technology. Most of it was based on separate grinding and drying processes for pretreatment, since raw sewage sludge contains considerable amounts of water and has extremely broad particle size distribution. In the present study, sewage sludge was hydrothermally pretreated rather than being energy-intensively dried and ground for coal-sludge-water-slurry(CSWS) preparation, which was assessed for suitability as a fluid fuel. Its apparent viscosity and solid concentration were compared with those of coal-water-slurry(CWS). Sewage sludge enhanced coal slurry rheological properties, such as stability and dispersibility. The viscosity and solid content of CSWS remained constant in CSWS samples after 72h stability testing, whereas those of CWS respectively decreased by ca. 1000cP and 3.3%.