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(57) Abstract :

Abstract Title: Gypsum-red mud composites for non-structural applications Red mud has been a serious environmental concern in the last few decades. A waste by product of the Bayer's process for production of aluminium, several thousand tonnes of this hazardous material is generated every year. Valorisation of red mud has been an important topic of research and present invention contributes to this area providing gypsum-red mud composites for non-structural applications. Present invention demonstrates that red mud to the tune of 10 weight percent reinforces natural gypsum and causes an increase in compressive strength of gypsum by 10%. The addition of red mud however causes an increase in the setting time of hemihydrate of gypsum and also introduces a reddish tinge to the gypsum-red mud composite. Considering that setting time can be tailored through suitable accelerators and retarders and color is not a major influencer for plasterboard applications, the gypsum-red mud composites can be a novel and significant way of utilizing red mud.

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