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用阜新煤矸石制备阿利特一硫铝酸盐水泥的试验研究 点此下载全文

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摘要:

我国大量堆存和正在排放的煤矸石,既是一种矿业排量最大的废弃物,又可以被认为是一种可利用的巨型资源。阜新煤矸石主要由石英、长石、伊利石等矿物组成,化学成分含60~67 Si Oz,13~18 Al zOs,具有高硅低铝特征,属于目前难以利用煤矸石。本文实验采用了c。s—c A。S—czs—c4AF体系,利用煤矸石的Al zO。煅烧成无水硫铝酸钙而不是铝酸三钙。添加Baso 、CaFz和铬渣,使硅酸三钙和无水硫铝酸钙能在13 00 1360-C共生,制备出了阿利特一硫铝酸盐水泥。水泥熟料在1360℃ ,保温1小时烧成。研制的煤矸石水泥3天和28天抗压强度分别达到了34.7~36.8 MPa和52.2~54.4 MPa,达到了525 早强型高性能水泥指标。

关键词: <u>低铝煤矸石</u> <u>阜新</u> <u>c。s—C A g—C: S—C AF体系</u> <u>阿利特—硫铝酸盐水泥</u>

Experim ent Study on Al ite—sul phoal uminate Cement Using Coal Gangues from Fuxing District, Liaoning Provence, China $\underline{\text{Download Fulltext}}$

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Abstract:

Voluminous wastes—coal gangues—have been discharged from innumerable coal mines in China, whichproduce a great deal of environm ent problem . The coal gangues from the coal mines of Fuxing district. Liaoning Provence, are mainly composed of quartz, illite, and feldspar, with a chemical composition of 6 0 9 / 5 \sim 70 SiOz, 13 \sim 18 A1203, belonging to the high—silica / low alumina type coal gangues. This type of coalgangue has been considered difficult to use as a raw material for high—quality cement. A system C3S—C4A3S—C2S—C4AF has been designed in which the alumina of gangue has been taken to form sulphoaluminate(C4A3S)other than aluminate (C3A) and thus form alite—sulphoaluminate cement. The C3S and C4A3S can be inparagenesis at 1300 \sim 1360 C in using BaSO4, CaF2, Cr2O3 in industrial waste as activating agent. The clinkershave been prepared at 1 360 C for 1 hour. The compressive strength of the prepared alite—sulphoaluminatecement has been measured up to 34. $7\sim$ 36. 8 M Pa and 52. $2\sim$ 54. 4 M Pa for 3 and 28 days $_{\circ}$ respectively.

Keywords: coal gangue Fuxing district system C3S—C4 A3S—C2S—C4AF alite—sulphoaluminate cement

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