

QUICK-SETTING ADMIXTURE AND SPRAYING METHOD USING IT

ABSTRACT:

To provide a quick-setting admixture for spraying and a spraying method, which are effective to prevent solidification of a quick-setting admixture slurried in a quick-setting admixture-adding tool.

A slurry quick-setting admixture comprising an alkaline earth metal carbonate, a water-soluble acidic substance, calcium aluminate, an alkali metal sulfate, and water; and a quick-setting cement concrete comprising such a slurry quick-setting admixture and cement concrete. The slurry quick-setting admixture may further contain calcium sulfate, calcium hydroxide and/or aluminum hydroxide, a retarder, etc. The spraying method comprises mixing water and a powder quick-setting admixture comprising an alkaline earth metal carbonate, a water-soluble acidic substance, calcium aluminate and an alkali metal sulfate, to form a slurry quick-setting admixture, mixing this slurry quick-setting admixture with cement concrete to form a quick-setting cement concrete, and spraying this quick-setting cement concrete.

Further, a quick-setting admixture for spraying which comprises a liquid quick-setting admixture, and a powder admixture comprising a blowing agent such as an alkaline earth metal carbonate, and calcium aluminate, wherein the powder admixture further contains calcium sulfate or an alkali metal-containing substance, and wherein the liquid quick-setting admixture further contains an alkali metal element or a compound having a fluorine element. The quick-setting admixture for spraying wherein the liquid quick-setting admixture and the powder admixture are joined and mixed in a slurry form.

Fig. 2