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Metakaolin powder used for concrete and mortar

混凝土和砂浆用偏高岭土粉

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents". Drafting.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Building Materials Federation.

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Introduction

This document was developed under the "National Standardization Management Committee's Carbon Peak and Carbon Neutrality National Standard Plan Project".

Metakaolin powder is a special deep-processed product of kaolin ore. It is formed by crushing, calcining, and grinding the raw mineral, resulting in a product mainly composed of amorphous silicon.

A powdery substance composed of aluminum oxide particles. Years of experimental research and engineering applications both domestically and internationally have shown that metakaolin powder possesses cementing activity in alkaline environments.

This property is often used to improve the performance of freshly mixed cement concrete and mortar and enhance their product characteristics. It is a special, highly active concrete and mortar compound. Admixtures.

The carbon dioxide emissions from the production process of metakaolin powder are lower than those from silicate cement. Adding metakaolin to concrete and mortar...

Kaolin powder can reduce cement usage, resulting in a significant reduction in carbon dioxide emissions. The calculations of the effects of incorporating metakaolin powder on concrete and mortar...

When assessing carbon emission reduction effects, the design strength values of concrete and mortar can be kept constant. The unit strength of concrete and mortar with and without metakaolin powder should be calculated separately.

Carbon emissions of volumetric concrete and mortar; comparative analysis to obtain the carbon emission reduction value of adding metakaolin powder to concrete and mortar.

By ignoring all influencing factors other than the amount of cement and metakaolin powder, and using only the carbon content of cement and metakaolin powder, we can achieve the desired result.

The emission values are used to calculate the carbon emission reduction value brought to concrete and mortar by adding metakaolin powder.

Metakaolin powder for concrete and mortar

1 Scope

This document specifies the classification and labeling, technical requirements, test methods, inspection rules, marking, and packaging of metakaolin powder for concrete and mortar.

Packaging, storage and transportation.

This document applies to the production and application of metakaolin powder with cementitious activity for use in cement concrete and mortar.

2 Normative references

GB 175

GB/T 176-2017

GB/T 1345

GB/T 1346

GB/T 1914-2017

GB/T 5950

GB 6566-2010

GB/T 8075

GB 8076

GB/T 8170

GB/T 9774

GB/T 14563-2020

GB/T 17671

GB/T 18736-2017

GB/T 43309

3 Terms and Definitions

The terms and definitions defined in GB/T 8075 and the following terms and definitions apply to this document.

3.1 Metakaolin powder; CMP

Mineral raw materials containing kaolinite are calcined and ground at temperatures ranging from 600°C to 900°C to form a composition mainly of amorphous aluminum silicate particles.

It is a powder containing active alumina and silica, which exhibits cementitious activity in the alkaline environment of concrete and mortar. Material.