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Silica fume for use in concrete

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Silica Fume Technology Associates (JST)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14. Consequently **JIS A 6207:2011** is replaced with this Standard.

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Silica fume for use in concrete

Introduction

Silica fume is ultrafine particles collected from exhaust gas generated during production of metallic silicon or ferrosilicon in electric arc furnaces. The use of silica fume for an admixture for concrete has long been obscure in Japan because the silica fume production is limited due to high cost of electricity. However, as the remarkable effect of silica fume in enhancing the strength, durability and workability of concrete has been widely recognized, the use of imported silica fume has become increasingly common. This Standard was first established in 2000 for responding to the demand for a quality standard for silica fume. Since the last revision which was made in 2011, the applications of silica fume have diversified and the relevant technology advanced. This revision's aim is to revise some of the quality requirements and test procedures in order to accommodate and reflect these changes.

No corresponding International Standard has been established at this point. The comparison table between previous and current editions of this Standard on technically significant revisions is given in Annex G.

1 Scope

This Standard specifies the silica fume to be used as an admixture for concrete or mortar (hereafter referred to as silica fume).

NOTE : Silica fume is available in powdery, granular and slurry forms.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS A 1108 *Method of test for compressive strength of concrete*

JIS A 1110 *Method of test for unit mass and air content of fresh concrete by mass method*

JIS A 1123 *Method of test for air content of fresh concrete by pressure method*

JIS A 1132 *Method of making and curing concrete specimens*

JIS A 1171 *Test methods for polymer-modified mortar*

JIS A 5308 *Ready-mixed concrete*

JIS A 6204 *Chemical admixtures for concrete*

JIS H 6201 *Platinum crucibles for chemical analysis*

JIS K 0050 *General rules for chemical analysis*