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Classification for discrete polymer fibre for fibre-reinforced cementitious composites

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Foreword

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This document was prepared by Technical Committee ISO/TC 71, *Concrete, reinforced concrete and pre-stressed concrete*, Subcommittee SC 6, *Non-traditional reinforcing materials for concrete structures.*

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Classification for discrete polymer fibre for fibre-reinforced cementitious composites

1 Scope

This document specifies discrete polymer fibres with a nominal length of 80 mm or less mixed in concrete and mortar. The quality and performance specified in this standard are the raw material resin of discrete polymer fibres, nominal fibre diameter and its allowable range, nominal fibre length and its allowable range, fibre cross-sectional shape, fibre longitudinal shape, grade of fibre strength, and grade of fibre elasticity.

There are a wide variety of discrete polymer fibres used to reinforce cement composites. Currently, in discrete polymer fibres products distributed as industrial products, there are many types of raw material resins and various shapes. In addition, the applications that have been used in practical fields are so wide, from structural applications that require high mechanical reinforcement performance to crack control and peeling prevention that are easier to use. Therefore, to select an appropriate product from a wide variety of discrete polymer fibres, the characteristics of discrete polymer fibres need to be classified and revealed based on a unified evaluation method. This document allows manufacturers to ensure the performance of discrete polymer fibres are in accordance with an adequate standard in response to various user requests

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 23523, *Test methods for discrete polymer fibre for fibre-reinforced cementitious composites*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
fibre-reinforced cementitious composite (FRCC)
concrete or mortar containing short discrete fibres that are distributed in the matrix

4 Symbols

See Table 1.

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