INFORMATION ON THE PROGRESS OF NORMATIVE PROCESS FOR FIBRE-REINFORCED CONCRETE IN THE CZECH REPUBLIC

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Abstract

The paper will present activities of sub-committee Fibre Concrete (SC 10) at the National Technical Committee (NTC 36) Concrete Structures during last two years. It will inform the technical community about the personal cast of the committee and about its work on technical standards for fibre-reinforced concrete.

Keywords: fibre concrete, national technical committee, sub-committee

1. Introduction

This article links up to the article from the conference Fibre Concrete 2011 where we informed the professional community about initiation of the new subcommittee 10 for Fibre-Reinforced Concrete – SC 10 by the National Technical Committee – NTC 36.

The subcommittee works from May 2010. Members were delegated from range of producers of fibres, producers of fibre-reinforced concrete, peoples working on sites and from the academic sphere – CTU in Prague, Faculty of Civil Engineering, Department of Concrete and Masonry Structures and Klokner Institute.

The reasons which led to the creation of a subcommittee for fibre-reinforced concrete is to unify a wide range of available technical standards and regulations for testing of fibre-reinforced concrete, particularly in terms of its characteristics required for the design, and then unify the procedures for the design of fibre-reinforced concrete structures.

This article introduce the details from work of SC 10 for Fibre-Reinforced Concrete during last two years.

This year have been created the Task Group 2 (TG 2) for Fibre-Reinforced Concrete by the CEN/TC 250/SC 2, resolution 180. Through National Standards Institute was nominated in TG 2 one expert from each state of European Union. From Czech Republic was nominated the member SC 10 Ing. Petr Herka. This TG 2 started its work on standards for fibre-reinforced concrete.

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2. Subcommittee Objectives

Objectives of the subcommittee for Fibre Concrete were summarized by the members of subcommittee. Subcommittee will try to produce and to put into effect the technical regulations for fibre concrete that will be compatible with European standards for concrete structures, both for plain (unreinforced) fibre concrete as well as for fibre concrete reinforced by standard reinforcing steel and prestressing steel. The whole issue will be divided into the following basic areas:

- **Tests** - standard approach to testing of fibre concrete with a focus on design of fibre concrete bearing members (product standard).
- **Design** - standard practice of structural design (computational methods), taking into account the characteristics of fibre concrete (increased ductility, tensile strength after makrocracks,…).

The subcommittee worked up for the present so called Simplified Technical Conditions (SCT) - code of practise which give instructions how to test fibre-reinforced concrete specimens and how to classify the fibre-reinforced concrete in general (concrete with steel and other fibres) to strength classes.

2.1 Marking of Fibre-Reinforced Concrete

In European Union there are a lot of ways how to classify and mark the fibre-reinforced concrete. It is necessary to unify. To document the differences between states the article shows an example of the identical fibre-reinforced concrete marking tested on the standard beams in bending according to German Richtlinie and Simplified Technical Conditions (STC) which were developed in the Czech Republic.

2.2 Recommendation of SC 10

The Czech subcommittee SC 10 recommends compromise marking of fibre-reinforced concrete. The details on CD.

3. Conclusions

Fibre-reinforced concrete is a structural material of the future. The testing methods of fibre-reinforced concrete and design methods of fibre-reinforced concrete structures are not yet fully processed. This article shows process of standardization in the use of fibre-reinforced concrete structures in engineering practice. In the future, it is necessary to harmonize test methods and marking of fibre-reinforced concrete, subsequently with the design procedures of fibre-reinforced concrete structures.

Acknowledgements

Authors thank for the help the Czech Office for Standards, Metrology and Testing and the CTU in Prague, Faculty of Civil Engineering, Department of Concrete and Masonry Structures.

References