



SLOVENSKI STANDARD
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Preskušanje strjenega betona - 6. del: Natezna trdnost preskušancev

Testing hardened concrete - Part 6: Tensile splitting strength of test specimens

Prüfung von Festbeton - Teil 6: Spaltzugfestigkeit von Probekörpern

Essai pour béton durci - Partie 6: Détermination de la résistance en traction par fendage d'éprouvettes

Ta slovenski standard je istoveten z: FprEN 12390-6

ICS:

91.100.30 Beton in betonski izdelki Concrete and concrete products

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English Version

Testing hardened concrete - Part 6: Tensile splitting strength of test specimens

Essai pour béton durci - Partie 6: Détermination de la résistance en traction par fendage d'éprouvettes

Prüfung von Festbeton - Teil 6: Spaltzugfestigkeit von Probekörpern

This draft European Standard is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 104.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (FprEN 12390-6:2009) has been prepared by Technical Committee CEN/TC 104 “Concrete and related products”, the secretariat of which is held by DIN.

This document is currently submitted to the Unique Acceptance Procedure.

This standards will supersede EN 12390-6:2000.

This standard is one of a series concerned with testing concrete.

The series EN 12390 includes the following parts:

EN 12390 Testing hardened concrete –

Part 1: Shape, dimensions and other requirements of specimens and moulds;

Part 2: Making and curing specimens for strength tests;

Part 3: Compressive strength of test specimens;

Part 4: Compressive strength - Specification for testing machines;

Part 5: Flexural strength of test specimens;

Part 6: Tensile splitting strength of test specimens;

Part 7: Density of hardened concrete;

Part 8: Depth of penetration of water under pressure.

The main change from the previous edition of this Standards has been to provide an alternative specification for packing strips and requires the selected loading rate to be applied after the initial load does not exceed approx 20% of the anticipated failure load.

Introduction

This test method was one of a number examined in a Laboratory inter-comparison part-funded by the EC under Measurement and Testing programme, contract MAT1-CT94-0043. The programme and other references showed the following:

- a) Tensile splitting strengths measured between the normal plane platens of testing machines, gave the same results as those using the special curved platens, originally described in ISO 4018. Although, therefore these curved platens have been optionally retained in this standard, they are not necessary for the measurement.
- b) The material used for the packing strips affects the apparent tensile strength measured. This has led to the decision to standardize on hardboard strips, since they provided the lowest standard deviations.
- c) The apparent tensile strength measured depends upon the shape and size of the test specimen used:
 - 1) cubes gave higher measured tensile strengths than cylinders, by approximately 10 %;
 - 2) 150 mm cubes gave lower measured tensile strengths than 100 mm cubes;
 - 3) the effect of cylinder size on measured tensile strength was not found to be significant, possibly due to the variability of the data.

As a result of these conclusions from the laboratory programme, this standard restricts the measurement of tensile splitting strength to cylindrical specimens used with hardboard packing strips, which is the reference method. However, as some countries still test cubical or prismatic specimens, their use has been retained in a normative annex. In cases of dispute, the reference method is the use of cylinders of 150 mm diameter and 300 mm length.

It is recognized good practice to include measurement of density prior to the determination of tensile splitting strength, as a check on compaction.

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