SLOVENSKI STANDARD
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Visokotrdnostne strukturne vijačne zveze za prednapetje - 1. del: Splošne zahteve

High strength structural bolting assemblies for preloading - Part 1: General requirements

Hochfeste vorspannbare Garnituren für Schraubverbindungen im Metallbau - Teil 1: Allgemeine Anforderungen

Boulonnerie de construction métallique à haute résistance apte à la précontrainte - Partie 1: Exigences générales

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English Version

High strength structural bolting assemblies for preloading - Part 1: General requirements

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This draft European Standard is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 185.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (FprEN 14399-1:2014) has been prepared by Technical Committee CEN/TC 185 “Fasteners”, the secretariat of which is held by DIN.

This document is currently submitted to the Unique Acceptance Procedure.

This document will supersede EN 14399-1:2005.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports basic work requirements of Regulation (EU) No. 305/2011.

For relationship with Regulation (EU) No. 305/2011 see informative Annex ZA, which is an integral part of this document.

EN 14399 consists of the following parts, under the general title *High-strength structural bolting assemblies for preloading*:

— *Part 1: General requirements* (the present document);

— *Part 2: Suitability test for preloading*;

— *Part 3: System HR — Hexagon bolt and nut assemblies*;

— *Part 4: System HV — Hexagon bolt and nut assemblies*;

— *Part 5: Plain washers*;

— *Part 6: Plain chamfered washers*;

— *Part 7: System HR — Countersunk head bolt and nut assemblies*;

— *Part 8: System HV — Hexagon fit bolt and nut assemblies*;

— *Part 9: System HR or HV — Direct tension indicators for bolt and nut assemblies*;

— *Part 10: System HRC — Bolt and nut assemblies with calibrated preload*.

Introduction

This document on structural bolting assemblies reflects the situation in Europe where two technical solutions exist to achieve the necessary ductility of bolting assemblies. These solutions utilize different bolting assemblies (system HV or system HR and HRC). Both systems are well proven and it is the responsibility of the experts for structural connections whether they use the one or the other system.

It is however important for the performance of the bolting assembly to avoid mixing up the components of both systems. Therefore the bolts and nuts for both systems are standardized in one single part of this European Standard each and the marking of the components of the same system is consistent.

1 Scope

This European standard specifies the general requirements for bolt/nut/washer(s) assemblies for high-strength structural bolting, which are suitable for preloading.

High-strength structural bolting assemblies smaller than M12 are not designed to be preloaded.

High-strength structural bolting assemblies are not designed to be welded.

High-strength structural bolting assemblies used as railway rail fasteners are not covered by this standard.

The intended use of bolting assemblies in accordance with this European standard is structural metallic works.

NOTE 1 High-strength structural bolting assemblies in accordance with EN 14399–2 to EN 14399–10 are designed to fulfil the requirements of this standard.

NOTE 2 High-strength structural bolting assemblies are suitable for preloading in accordance with EN 1090–2 in steel structures.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1090-2:2008+A1:2011, *Execution of steel structures and aluminium structures — Part 2: Technical requirements for steel structures*

prEN 14399-2:2013, *High-strength structural bolting assemblies for preloading — Part 2: Suitability for preloading*

prEN 14399-3:2013, *High-strength structural bolting assemblies for preloading — Part 3: System HR — Hexagon bolt and nut assemblies*

prEN 14399-4:2013, *High-strength structural bolting assemblies for preloading — Part 4: System HV — Hexagon bolt and nut assemblies*

EN 14399-5, *High-strength structural bolting assemblies for preloading — Part 5: Plain washers*

EN 14399-6, *High-strength structural bolting assemblies for preloading — Part 6: Plain chamfered washers*

EN 14399-7:2007, *High-strength structural bolting assemblies for preloading — Part 7: System HR — Countersunk head bolt and nut assemblies*

EN 14399-8:2007, *High-strength structural bolting assemblies for preloading — Part 8: System HV — Hexagon fit bolt and nut assemblies*

EN 14399-9:2009, *High-strength structural bolting assemblies for preloading — Part 9: System HR or HV — Direct tension indicators for bolt and nut assemblies*

EN 14399-10:2009, *High-strength structural bolting assemblies for preloading — Part 10: System HRC — Bolt and nut assemblies with calibrated preload*

EN ISO 225, *Fasteners — Bolts, screws, studs and nuts — Symbols and descriptions of dimensions (ISO 225)*