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Terminations for steel wire ropes - Safety - Part 3: Ferrules and ferrule-securing

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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English Version

Terminations for steel wire ropes - Safety - Part 3: Ferrules and ferrule-securing

Terminaisons pour câbles en acier - Sécurité - Partie 3 : Manchons et boucles manchonnées

Endverbindungen für Drahtseile aus Stahldraht - Sicherheit - Teil 3: Pressklemmen und Verpressen

This European Standard was approved by CEN on 4 December 2022.

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European foreword

This document (EN 13411-3:2022) has been prepared by Technical Committee CEN/TC 168 “Chains, ropes, webbing, slings and accessories - Safety”, the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2023, and conflicting national standards shall be withdrawn at the latest by June 2023.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13411-3:2004+A1:2008.

This document has been modified by the removal of Annexes ZA and ZB in accordance with the standard being de-harmonized.

Annex A is informative.

EN 13411, *Terminations for steel wire ropes — Safety* consists of the following parts:

— *Part 1: Thimbles for steel wire rope slings*;

— *Part 2: Splicing of eyes for wire rope slings*;

— *Part 4: Metal and resin socketing*;

— *Part 5: U-bolt wire rope grips*;

— *Part 6: Asymmetric wedge socket*;

— *Part 7: Symmetric wedge socket*;

— *Part 8: Swage terminals and swaging*;

— *Part 9: Solid Thimbles*.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Introduction

This document is a Type C standard as stated in EN ISO 12100:2010.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this document.

It is understood that type testing of a ferrule-secured eye termination system is the responsibility of the ferrule-secured eye termination system designer.

It is also understood that the ferrule supplier is responsible for ensuring that the material, design, and quality of the ferrule is in accordance with the ferrule-secured eye system designer's specification.

Ferrule-secured eyes manufactured by the ferrule-secured eye termination producer in accordance with this document are permitted for use as rope terminations in the production of steel wire rope slings. They are also used as terminations for steel wire rope assemblies for raising, lowering, and supporting loads.

The steel wire rope terminations concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this document.

When provisions of this Type C standard are different from those which are stated in Type A or B standards, the provisions of this Type C standard take precedence over the provisions of the other standards, for steel wire rope terminations that have been designed and produced according to the provisions of this Type C standard.

1 Scope

This document deals with the requirements for the ferrule-securing of eyes and endless loops.

It also deals with the requirements for ferrules for the ferrule-securing of eyes and endless loops.

This document applies to the ferrule-securing of eye terminations formed either by a Flemish eye or turn-back eye and covers ferrules made of non-alloy carbon steel and aluminium.

This document applies to slings and assemblies using steel wire ropes for general lifting applications up to and including 60 mm diameter conforming to EN 12385-4, lift ropes conforming to EN 12385-5 and spiral strand ropes conforming to EN 12385-10.

Type testing of ferrule-secured systems and manufacturing quality control requirements are also specified.

This document deals with all significant hazards, hazardous situations, and events relevant to this particular steel wire rope termination when used as intended and under conditions of use which are foreseeable by the manufacturer.

This document applies to terminations of steel wire ropes with ferrules and ferrule-securing which are manufactured after the date of this publication.

NOTE One design of ferrule-secured turn-back eye termination using an oval aluminium ferule which satisfies the requirements of this document when securing ropes having rope grades up to and including 1960 is given for information in Annex A.

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.

EN 12385-2, *Steel wire ropes — Safety — Part 2: Definitions, designation and classification*

EN ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction (ISO 12100:2010)*