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Del 4: Wiresurrningar

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Safety –
Part 4: Lashing steel wire ropes

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Dispositifs d'arrimage des charges sur véhicules routiers -
Sécurité - Partie 4: Câbles d'arrimage en acier

Ladungssicherungseinrichtungen auf Straßenfahrzeugen -
Sicherheit - Teil 4: Zurrdrathseile

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

	page
Foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions.....	5
4 Hazards	9
5 Safety requirements	9
5.1 General.....	9
5.2 Construction of lashing steel wire ropes and flat lashing steel wire ropes	10
5.2.1 Wire ropes.....	10
5.2.2 Formation of eyes	10
5.2.3 Length	10
5.2.4 Lashing capacity (<i>LC</i>) for a single leg lashing steel wire rope	10
5.3 Tensioning devices.....	11
5.4 Connecting components.....	11
5.5 Tension force indicator (optional).....	11
5.6 Mechanical properties	11
5.6.1 Lashing capacity (<i>LC</i>).....	11
5.6.2 Proof force	12
5.6.3 Breaking force (<i>BF</i>).....	12
6 Verification of safety requirements and type testing	13
6.1 General.....	13
6.2 Test frequency.....	13
6.3 Tensile testing of a lashing steel wire rope and flat lashing steel wire rope	13
7 Instructions for use	14
8 Marking	14
9 Manufacturer's certificate	14
Annex A (normative) Hazards	15
Annex B (normative) Specification for information for use and maintenance to be provided by the manufacturer	17
Bibliography	19

Foreword

This document (EN 12195-4:2003) 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of an identical text or by endorsement, at the latest by June 2004, and conflicting national standards shall be withdrawn at the latest by June 2004.

The annexes A and B are normative.

The parts of EN 12195 "Load restraint assemblies on road vehicles — Safety" are:

Part 1: Calculation of lashing forces

Part 2: Web lashing made from man-made fibres

Part 3: Lashing chains

Part 4: Lashing steel wire ropes

This document includes a bibliography.

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EN 12195-4:2003 (E)

Introduction

This European Standard has been prepared to provide one means of conforming with the safety requirements on lashing steel wire ropes in the Common European Market and thus enabling the free movement of goods.

The extent to which hazards are covered is indicated in the scope of this standard. In addition, lashing steel wire ropes and flat lashing steel wire ropes for securing of loads on vehicles should conform as appropriate to EN 292 for hazards which are not covered by this standard.

1 Scope

This Part 4 of EN 12195

- specifies safety requirements for lashing steel wire ropes and flat lashing steel wire ropes and lashing combinations with lashing steel wire ropes for the safe surface transport of loads on load carriers, e.g. trucks and trailers which are used on roads or located on vessels or on rail wagons and/or combinations thereof;
- stipulates procedures for testing lashing steel wire ropes and flat lashing steel wire ropes;
- deals with hazards which could occur when lashing steel wire ropes and flat lashing steel wire ropes are in use as intended and under conditions foreseen by the manufacturer (see clause 4 and annex A).

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 292-1:1991, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology.*

EN 292-2:1991, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles and specifications.*

EN 1677-1, *Components for slings — Safety — Part 1: Forged steel components, Grade 8.*

EN 1677-2, *Components for slings — Safety — Part 2: Forged steel lifting hooks with latch, Grade 8.*

EN 1677-4, *Components for slings — Safety — Part 4: Links, Grade 8.*

EN 1677-5, *Components for slings — Safety — Part 5: Forged steel lifting hooks with latch, Grade 4.*

EN 1677-6, *Components for slings — Safety — Part 6: Links, Grade 4.*

EN 12195-1, *Load restraint assemblies on road vehicles — Safety — Part 1: Calculation of lashing forces.*

EN 12385-4, *Steel wire ropes — Safety — Part 4: Stranded ropes for general lifting applications.*

EN 13411-1, *Terminations for steel wire ropes — Safety — Part 1: Thimbles for steel wire rope slings.*

EN 13411-2, *Terminations for steel wire ropes — Safety — Part 2: Splicing of eyes for wire rope slings.*

prEN 13411-3, *Terminations for steel wire ropes — Safety — Part 3: Ferrules and ferrule securing.*

EN 13889, *Forged steel shackles for general lifting purposes — Dee shackles and bow shackles — Grade 6 — Safety.*

3 Terms and definitions

For the purposes of this European Standard the following terms and definitions apply (examples are given in Figure 1):

EN 12195-4:2003 (E)

- 3.1**
load restraint assembly
systems and devices for the securing of loads [EN 12195-1]
- 3.2**
lashing equipment
device designed to be attached to the lashing points in order to secure the cargo on a road vehicle. The lashing equipment consists of tensioning elements (e.g. webbing, chain, steel wire rope), tensioning devices and connecting components, if required (e.g. hook, terminal link)
- 3.3**
lashing steel wire rope
device for securing the load, consisting of a steel wire rope with or without connecting components and a tensioning device
- 3.4**
flat lashing steel wire rope
device for securing the load, consisting of a flat rope consisting of several steel wire ropes that are arranged side by side and are interconnected and a tensioning device
- 3.5**
tensioning device
device for tensioning (e.g. rope winch, ratchet lever hoist, spindle loadbinder) (see C in Figure 1)
- 3.6**
combined lashing
device for securing a load, consisting of a steel wire rope or a flat steel wire rope combined with web lashings or lashing chains, with or without connecting components and a tensioning device
- 3.7**
connecting component
device between the lashing steel wire rope or flat lashing steel wire rope and/or the tensioning device and the lashing point and/or the load (see D1 to D4 in Figure 1)
- 3.8**
tension force indicator
device which indicates the force in the lashing (see E1 in Figure 1)
- 3.9**
lashing point
securing device on a load carrier to which a lashing may be directly attached. A lashing point can be e.g. an oval link, a hook, a D-ring, a lashing rail [EN 12195-1]
- 3.10**
lashing capacity (LC)
maximum force for use in straight pull that a lashing is designed to sustain in use [EN 12195-1]
- 3.11**
breaking force (BF)
maximum force that the lashing can withstand, when tested in the form of a representative lashing, i.e. complete with connecting components and tensioning device
- 3.12**
coefficient of utilization
ratio of breaking force to lashing capacity (BF/LC)
- 3.13**
tension force
force in the lashing created by tensioning of a tensioning device [EN 12195-1]