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Load restraint assemblies on road vehicles – Safety – Part 3: Lashing chains

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Lastsäkringsutrustning på vägfordon – Säkerhet – Del 3: Kättingsurrningar

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English version

Load restraint assemblies on road vehicles - Safety - Part 3: Lashing chains

Dispositifs d'arrimage des charges à bord des véhicules routiers - Sécurité - Partie 3: Chaînes d'amarrage

Ladungssicherungseinrichtungen auf Straßenfahrzeugen - Sicherheit - Teil 3: Zurrketten

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Foreword

This European Standard 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of an identical text or by endorsement, at the latest by October 2001, and conflicting national standards shall be withdrawn at the latest by October 2001.

The annexes A and B are normative.

The Parts of EN 12195 – Load restraint assemblies on road vehicles are:

Part 1: Calculation of lashing forces

Part 2: Web lashings made from man-made fibres

Part 3: Lashing chains

Part 4: Wire lashing ropes

This is the first edition of this Part of EN 12195.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

This European Standard has been prepared to provide one means of conforming with the essential safety requirements on lashing chains 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 chains 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 of EN 12195 specifies safety requirements for lashing chains and lashing combinations with chain for the safe surface transport of goods on load carriers, e.g. trucks and trailers which are used on roads or located on vessels or on rail waggons and/or combinations thereof. The standard includes only tensioning devices to be hand driven with a maximum handforce of 500 N. It does not give requirements for multi-purpose lever blocks other than to the type of fine tolerance chain and the additional marking of the maximum hand-operating force .

This Part of EN 12195 deals with hazards which could occur when lashing chains 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 818-1:1996
Short link chain for lifting purposes – Safety – Part 1: General conditions of acceptance

EN 818-2:1996
Short link chain for lifting purposes – Safety – Part 2: Medium tolerance chain for chain slings – Grade 8

prEN 818-7:1998
Short link chain for lifting purposes – Safety – Part 7: Fine tolerance chain for hoists, Grade T (Types T, DAT and DT)

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

prEN 12195-1:2000
Load restraint assemblies on road vehicles – Safety – Part 1: Calculation of lashing forces

prEN 13157:1998
Cranes – Safety - Hand powered cranes

3 Terms and definitions

For the purposes of this Part of EN 12195 the following terms and definitions apply.

Examples are given in Figure 1.

3.1
load restraint assembly
systems and devices for the securing of loads [prEN 12195-1:2000].

3.2
lashing equipment
device designed to be attached to the lashing points in order to secure the cargo on a load carrier. The lashing equipment consists of tensioning elements (e.g. webbing, chain, wire rope), tensioning devices (e.g. wrench, ratchet, spanner, tension jack) and connecting components, if required (e.g. hook, terminal link).

3.3
lashing chain
device for securing the load, consisting of a tensioning device and a chain with or without connecting components.

3.4
connection and tensioning device
device for connection and tensioning (e.g. spindle loadbinders, multi-purpose lever blocks); see C in Figure 1.

3.5
combined lashing
device for securing a load, consisting of tensioning device and a chain combined with textile webbings or steel wire ropes, with or without connecting components.

3.6
connecting component
device between the chain and/or the tensioning device and the lashing point and/or the load.

3.7
tension force indicator
device which indicates the force in the lashing system (see E1 in Figure 1).

3.8
lashing point
securing device on a load carrier to which a lashing may be directly attached. A lashing point can be for example an oval link, a hook, a D-ring, a lashing rail.

3.9
lashing capacity (LC)
maximum force for use in straight pull that a lashing is designed to sustain in use [prEN 12195-1:2000].

3.10
breaking force (BF)
maximum force that the lashing chain can withstand, when tested in the form of a representative lashing, i.e. complete with load binder and connecting components.

3.11
tension force
force in the lashing chain created by tensioning of the tensioning device.

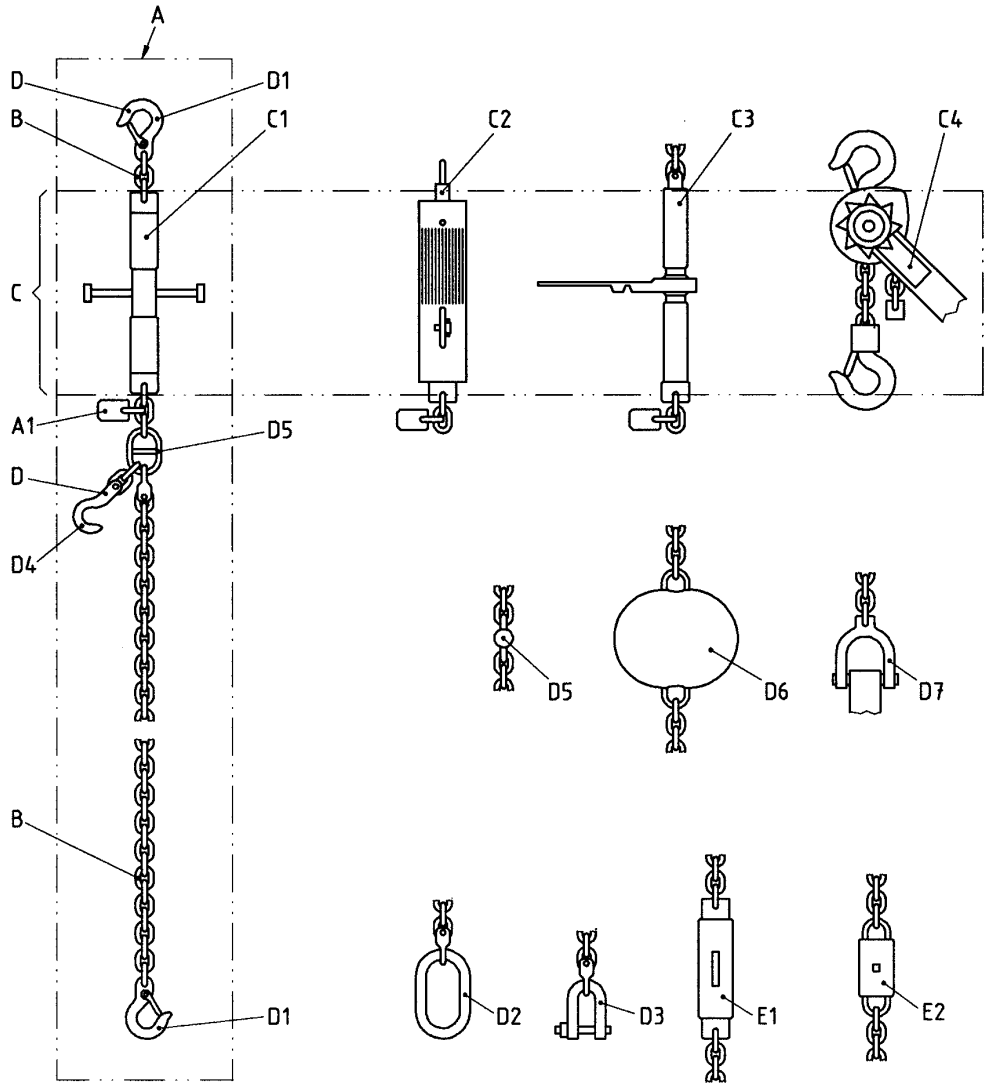
3.12
standard tension force (S_{TF})
residual force after physical release of the handle of the tensioning device.

3.13
hand-operating force (H_F)
force applied to the handle of the tensioning device which creates the tension force in the lashing.

3.14
standard hand force (S_{HF})
residual force at a standard hand force of 500 N or the maximal force at the labelled hand force given on the tensioning device.

3.15
competent person
designated person, suitably trained qualified by knowledge and practical experience and with the necessary instructions to enable the required tests and examinations to be carried out.

3.16
traceability code
series of letters and/or numbers marked on a component which enables its manufacturing history, including identity of the cast steel used, to be traced.



A	**Complete lashing equipment:** lashing chain	**D**	**Connecting components**
A1	Marking	D1	Lashing hook
		D2	Terminal link
B	**Tensioning element:** round steel link chain	D3	Shackle
		D4	Shortening component
C	**Tensioning devices**	D5	Connecting component
C1	Turnbuckle	D6	Damping component
C2	Short loadbinder/quick loadbinder	D7	Combination component
C3	Ratchet	E1	Tension force indicator
C4	Multi-purpose lever block	E2	Overload indicator

NOTE Only type of chain and marking of the maximum hand operated force are included in scope

Figure 1 - Examples of lashing chains, including tensioning devices C and connecting components D