SLOVENSKI STANDARD
SIST EN 818-5:2001+A1:2008

01-julij-2008

Kratkoļ lene okrogle verige za dvigovalne namene - Varnost - 5. del: Obesne verige - Kakovostni razred 4

Short link chain for lifting purposes - Safety - Part 5: Chain slings - Grade 4

Kurzgliedrige Rundstahlketten für Hebezwecke - Sicherheit - Teil 5: Anschlagketten - Güteklasse 4

Chaînes de levage à maillons courts - Sécurité - Partie 5: Elingues en chaînes - Classe 4

Ta slovenski standard je istoveten z: **EN 818-5:1999+A1:2008**

ICS:

53.020.30	Pribor za dvigalno opremo	Accessories for lifting equipment

SIST EN 818-5:2001+A1:2008 **en,fr**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 818-5:1999+A1

April 2008

ICS 53.020.30

Supersedes EN 818-5:1999

English Version

Short link chain for lifting purposes - Safety - Part 5: Chain slings - Grade 4

Chaînes de levage à maillons courts - Sécurité - Partie 5: Elingues en chaînes - Classe 4

Kurzgliedrige Rundstahlketten für Hebezwecke - Sicherheit - Teil 5: Anschlagketten - Güteklasse 4

This European Standard was approved by CEN on 16 April 1999 and includes Amendment 1 approved by CEN on 10 February 2008.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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

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

Contents

Page

Foreword

This document (EN 818-5:1999+A1:2008) 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 2008 and conflicting national standards shall be withdrawn at the latest by October 2008.

This document includes Amendment 1, approved by CEN on 2008-02-10.

This document supersedes EN 818-5:1999.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document.

The other Parts of EN 818 are:

Part 1: General conditions of acceptance
Part 2: Medium tolerance chain for chain slings - Grade 8
Part 3: Medium tolerance chain for chain slings - Grade 4
Part 4: Chain slings - Grade 8
Part 6: Chain slings - Specifications for information for use and maintenance to be provided by the manufacturer
Part 7: Fine tolerance chain for hoists, Grade T (types T, DAT, DT)

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

Introduction

This European Standard has been prepared to be a harmonized standard to provide one means of complying with the essential safety requirements of the Machinery Directive and associated EFTA regulations.

The extent to which hazards are covered is indicated in the scope. In addition, lifting equipment shall conform as appropriate to ▌A1⟩ EN ISO 12100 ⟨A1▌ for hazards which are not covered by this standard.

▌A1⟩ This standard is a Type C standard as stated in EN ISO 12100.

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 equipment that have been designed and built according to the provisions of this type C standard. ⟨A1▌

1 Scope

This Part of EN 818 specifies the requirements related to safety, methods of rating and testing of single-, two-, three-, four-leg and endless chain slings, assembled by welding, using short link grade 4 medium tolerance chain conforming to ▌A1⟩ EN 818-3:1999+A1 ⟨A1▌ together with the appropriate range of components of the same grade in accordance with ▌A1⟩ EN 1677-5:2001+A1 ⟨A1▌ and ▌A1⟩ -6:2001+A1 ⟨A1▌. These chain slings are intended for lifting objects, materials or goods.

NOTE Instructions for use and maintenance of chain slings are covered by ▌A1⟩ EN 818-6:2000+A1 ⟨A1▌.

The hazards covered by this Part of the standard are identified in clause 4.

Annex A gives an alternative method of rating and marking a chain sling for a specific lifting application.

Annex B contains the bases for calculation of working load limits.

Annex C gives an example of a designation system for chain slings.

Annex D gives an example of identification tags for chain slings.

▌A1⟩ Annexes ZA and ZB give ⟨A1▌ the relationship with EU Directives.

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.

▌A1⟩ *deleted text* ⟨A1▌

▌A1⟩ EN 818-1:1996+A1 ⟨A1▌, Short link chain for lifting purposes - Safety – Part 1: General conditions of acceptance

▌A1⟩ EN 818-3:1999+A1 ⟨A1▌, Short link chain for lifting purposes - Safety – Part 3: Medium tolerance chain for chain slings - Grade 4

[A1] EN 818-6:2000+A1 [A1], Short link chain for lifting purposes - Safety – Part 6: Chain slings - Specification for information for use and maintenance to be provided by the manufacturer

EN 1050:1996, *Safety of machinery - Principles for risk assessment*

[A1] EN 1677-5:2001+A1 [A1], Components for slings - Safety – Part 5: Forged steel lifting hooks with latch - Grade 4

[A1] EN 1677-6:2001+A1 [A1], Components for slings - Safety – Part 6: Links - Grade 4

[A1] *deleted text* [A1]

[A1] EN ISO 12100-1, *Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology (ISO 12100-1:2003)*

EN ISO 12100-2, *Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles (ISO 12100-2:2003)* [A1]

3 Terms and definitions

[A1] For the purposes of this document, the terms, definitions and symbols given in EN 818-1:1996+A1 and the following apply. [A1]

[A1] 3.1
chain sling
assembly consisting of a chain leg or chain legs joined to upper and lower terminals for attaching loads to the hook of a crane or other lifting machine

NOTE See Figures 1 to 4. [A1]

3.2
nominal size of chain sling
The nominal size of short link chain, in millimetres, used in the manufacture of the chain sling.

3.3
grade of chain sling
For the purpose of designation in accordance with annex C, is the same as the grade of the short link chain used in the manufacture of the chain sling i.e. 4.

3.4
master link
A link forming the upper terminal of a chain sling by means of which the chain sling is attached to the hook of a crane or other lifting machine. [A1] *deleted text* [A1].

[A1] NOTE See Figures 1 to 4. [A1]

3.5
length of [A1] *deleted text* [A1] chain sling
For a finished chain sling, the length from the lower bearing point of the lower terminal to the upper bearing point of the upper terminal [A1] *deleted text* [A1].

[A1] NOTE See Figures 1 to 4. [A1]

3.6
intermediate master link
A link used to connect one or two legs of a chain sling to a master link used during the assembly of a three- or four-leg chain sling [A1] *deleted text* [A1].

[A1] NOTE See Figures 3 and 4. [A1]

3.7
lower terminal
A link, hook or other device fitted at the end of a leg of a chain sling, remote from the master link or upper terminal.

3.8
joining link
A welded link fitted to the end of a chain to connect it either directly or through an intermediate link to an upper or lower terminal or intermediate master link [A1] *deleted text* [A1] or in the case of an endless chain sling to the other end of the chain.

[A1] NOTE See Figures 1 to 4. [A1]

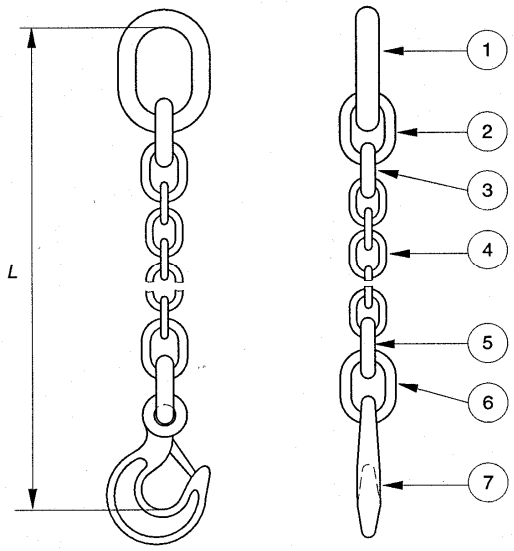
3.9
intermediate link
A welded link used to form a connection between the terminal and the joining link fitted to the chain [A1] *deleted text* [A1].

[A1] NOTE See Figures 1 to 4. [A1]

3.10
manufacturing proof force (MPF) of a chain sling
A force applied, during manufacture, as a test to the whole chain sling or a force applied as a test to a section of a chain sling.

3.11
Working load limit (WLL) of a chain sling
The maximum mass which a chain sling is authorized to sustain in general lifting service.

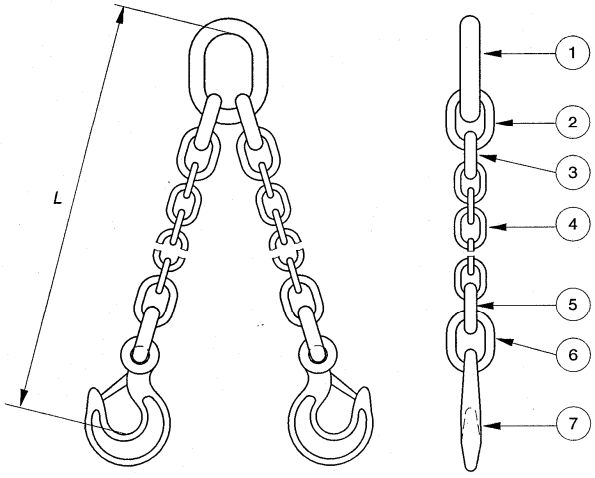
[A1] **3.12**
master link assembly
assembly consisting of a master link together with two intermediate master links [A1]



1. Master link
2. Intermediate link (if required)
3. Joining link
4. Chain
5. Joining link
6. Intermediate link (if required)
7. Hook or other lower terminal

NOTE *L* = length of chain sling

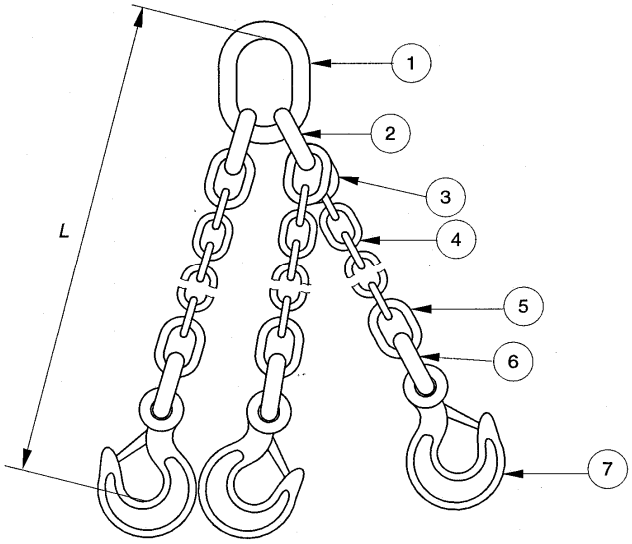
Figure 1 — Single-leg chain sling



1. Master link
2. Intermediate link (if required)
3. Joining link
4. Chain
5. Joining link
6. Intermediate link (if required)
7. Hook or other lower terminal

NOTE *L* = length of chain sling

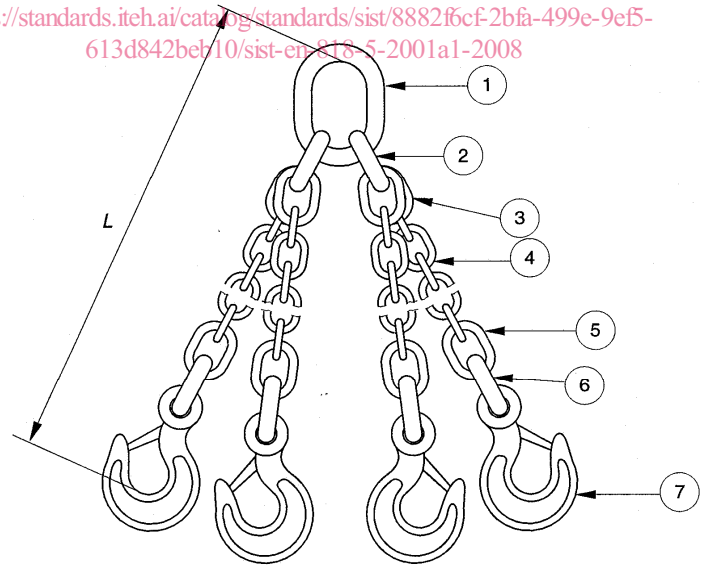
Figure 2 — Two-leg chain sling



1. Master link
2. Intermediate master link
3. Joining link
4. Chain
5. Joining link
6. Intermediate link (if required)
7. Hook or other lower terminal

NOTE *L* = length of chain sling

Figure 3 — Three-leg chain sling



1. Master link
2. Intermediate master link
3. Joining link
4. Chain
5. Joining link
6. Intermediate link (if required)
7. Hook or other lower terminal

NOTE *L* = length of chain sling

Figure 4 — Four-leg chain sling