



SLOVENSKI STANDARD

SIST EN 14330:2004

01-september-2004

Plovila za celinske vode – Gladka veriga za sidro – Okrogločlena jeklena veriga

Inland navigation vessels - Studless anchor chain - Round steel link chain

Fahrzeuge der Binnenschifffahrt - Steglose Ankerkette - Rundstahlkette

Bateaux de navigation intérieure - Chaînes d'ancre non étauçonnées - Chaînes en acier
à maillons ronds

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ICS:

47.020.50	Palubna oprema ter naprave	Deck equipment and installations
47.060	Jezerska in rečna plovila	Inland navigation vessels

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EUROPEAN STANDARD

EN 14330

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2003

ICS 47.060

English version

Inland navigation vessels - Studless anchor chain - Round steel link chain

Bateaux de navigation intérieure - Chaîne d'ancre sans pignon - Chaîne en acier ronde,

Fahrzeuge der Binnenschifffahrt - Steglose Ankerkette - Rundstahlkette

This European Standard was approved by CEN on 1 September 2003.

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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 Management Centre has the same status as the official versions.

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

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Contents

Page

Foreword.....	3
1 Scope.....	4
2 Normative references.....	4
3 Terms and definitions.....	4
4 Requirements.....	5
4.1 Dimensions.....	5
4.1.1 Diameter d	5
4.1.2 Tolerance on diameter.....	6
4.1.3 Weld diameter d_s	6
4.1.4 Weld section e	6
4.1.5 Pitch and gauge length.....	6
4.1.6 Widths.....	6
4.2.1 General.....	7
4.2.2 Steel grade.....	7
4.2.3 Deoxidation.....	7
4.2.4 Chemical composition.....	8
4.3 Heat treatment.....	8
4.4 Mechanical properties.....	8
4.4.1 Manufacturing proof force.....	8
4.4.2 Breaking force.....	8
4.4.3 Total ultimate elongation.....	8
4.4.4 Deflection.....	8
5 Testing.....	9
5.1 Manufacturing test.....	9
5.2 Size of lot and selection of samples.....	9
5.3 Verification of gauge length l	9
5.4 Breaking force and total ultimate elongation.....	9
5.4.1 Static tensile test.....	9
5.4.2 Breaking force and total ultimate elongation.....	9
5.5 Deflection.....	10
5.5.1 Bend test.....	10
6 Designation.....	10
7 Marking.....	11
Annex A (informative) Calculation of dimensions, tensile force and mechanical properties.....	12
A.1 Dimensions and tolerances.....	12
A.2 Tensile force and mechanical properties.....	13
A.2.1 General.....	13
A.2.2 Calculation values for tensile force WF	13
A.2.3 Calculation values for manufacturing proof force MPF	13
A.2.4 Calculation values for breaking force BF	13
A.2.5 Calculation values for deflection f	14
Annex B (informative) Relationship with other strength grades.....	15
Bibliography.....	16

Foreword

This document EN 14330:2003 has been prepared by Technical Committee CEN/TC 15 "Inland navigation vessels", the secretariat of which is held by DIN.

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 May 2004, and conflicting national standards shall be withdrawn at the latest by May 2004.

The standard specifies requirements for round steel link chains for studless anchor chains within the meaning of the Council Directive 82/714 EEC of 4 October 1982 laying down technical requirements for inland navigation vessels.

In inland navigation, round steel link chains with a pitch of $2,8 d$ have proven successful for studless anchor chains over several years.

Stud-link anchor chains, used particularly for sea-going vessels, are standardized in ISO 1704.

Accessories for the complete studless anchor chain, such as joining links, swivel shackles and swivels are covered in prEN 14606.

Annexes A and B are informative.

This document contains a bibliography.

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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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EN 14330:2003 (E)**1 Scope**

This standard applies to round steel link chains with a pitch of $2,8 d$ of strength grade 2 from which studless anchor chains for inland navigation vessels are made with the relevant accessories, e.g. joining links, swivel shackles and swivels.

This standard specifies dimensions, mechanical properties, data for designation, marking and test conditions.

NOTE For relationship with other strength grades, see annex B.

2 Normative references

This 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 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 818-1, *Short-link chain for lifting — Safety — Part 1: General conditions of acceptance.*

EN 10025, *Hot-rolled products of non-alloy structural steels — Technical delivery conditions.*

ISO 643, *Steels — Micrographic determination of the apparent grain size.*

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3 Terms and definitions

For the purposes of this European Standard, the following definitions apply.

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3.1**anchor chain**

chain strand between anchor and chain locker

3.2**studless anchor chain**

anchor chain consisting of round steel link chain, joining links, swivel shackles and swivels

3.3**round steel link chain**

studless chain (metre ware), consisting of chain links having no reinforcing stud

3.4**nominal size**

$d \times p$

diameter and pitch of the round steel link chain

3.5**diameter**

d

material diameter of the chain link leg opposite the weld

3.6**weld diameter** d_s

material diameter of the chain link at the weld

3.7**pitch** p

internal length of a chain link

3.8**internal width** w_1

clear width of a chain link between the weld and the opposite chain link leg

3.9**external width** w_2

overall outside dimension of a chain link measured at the weld

3.10**tensile force** WF

force which the round steel link chain is designed to withstand

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3.11**manufacturing proof force** MPF

force to which the whole of the round steel link chain is subjected during manufacture

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3.12**breaking force** BF

maximum force which a round steel link chain withstands during the course of a static tensile test to destruction

3.13**total ultimate elongation**

ratio of the total extension of the chain sample at fracture to the original sample length in the static tensile test

4 Requirements**4.1 Dimensions****4.1.1 Diameter d** The diameter d of the round steel link chain shall be as given in Table 1.

EN 14330:2003 (E)

4.1.2 Tolerance on diameter

The tolerance on diameter shall be as given in Table 1.

4.1.3 Weld diameter d_s

The weld diameter d_s shall be between $1,0 d$ and $1,1 d$.

4.1.4 Weld section e

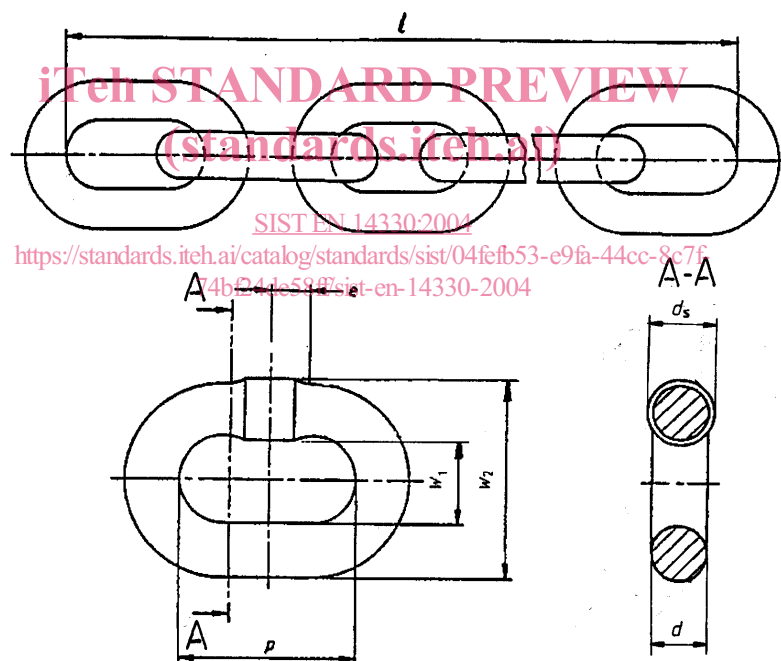
The length of the weld section e shall not be more than $0,6 d$ on either side of the middle of the link.

4.1.5 Pitch and gauge length

The dimensions for the pitch p of the individual links and the gauge length l of the round steel link chain shall be as given in Table 1.

4.1.6 Widths

The widths w_1 and w_2 of the round steel link chain shall be as given in Table 1.



Key

- l Gauge length
- p Pitch
- d Diameter
- d_s Weld diameter
- e Length of the weld section
- w_1 Internal width at the weld
- w_2 External width at the weld

Figure 1 — Link and chain dimensions

Table 1 — Dimensions and masses

Dimensions in millimetres

Nominal size $d \times p$	Tensile force WF kN max.	Diameter		Pitch		Width		Gauge length over				Mass per unit length G kg/m
		d	Tolerance	p	Tolerance	internal w_1 min.	external w_2 max.	11 links l	Tolerance	7 links l	Tolerance	
10 × 28	14	10	± 0,4	28	+ 1,4 0	14	37	315	+ 4 0			2,3
13 × 36	22	13	± 0,5	36	+ 1,8 0	18	47	405	+ 5 0			3,9
16 × 45	36	16	± 0,6	45	+ 2,2 0	22	58	507	+ 6 0			7,4
18 × 50	45	18	± 0,9	50	+ 2,4 0	24	66	563	+ 8 0			7,4
20 × 56	56	20	± 1	56	+ 2,6 0	27	73	631	+ 8 0			9
23 × 64	71	23	± 1,2	64	+ 3 0	31	84	721	+ 9 0			12
26 × 73	90	26	± 1,3	73	+ 3,6 0	35	95	822	+ 11 0			15
28 × 78	100	28	± 1,4	78	+ 3,8 0	38	100	879	+ 11 0			18
30 × 84	125	30	± 1,5	84	+ 4 0	41	110			602	+ 9 0	20
33 × 92	140	33	± 1,7	92	+ 4,4 0	45	120			659	+ 10 0	23
36 × 101	180	36	± 1,8	101	+ 4,8 0	49	130			724	+ 11 0	29
39 × 109	200	39	± 2	109	+ 5,2 0	53	140			781	+ 12 0	35
42 × 118	220	42	± 2,1	118	+ 5,6 0	57	150			846	+ 13 0	40

4.2 Material

4.2.1 General

Within the limits specified in 4.2.2 to 4.2.4, the chain manufacturer shall use a steel such that the manufactured round steel link chain, after heat treatment as described in 4.3, meets the requirements regarding mechanical properties as specified in 4.4.

4.2.2 Steel grade

The steel used shall be manufactured by an electric process or by an oxygen blown process.

4.2.3 Deoxidation

The steel shall be fully killed as defined in EN 10025 and be resistant to ageing and when tested as described in ISO 643 shall have an austenitic or ferritic grain size of 5 or less.