



SLOVENSKI STANDARD

SIST EN 1503-2:2001

01-december-2001

Ventili - Materiali za ohišja in pokrove - 2. del: Jekla, ki niso specificirana v evropskih standardih

Valves - Materials for bodies, bonnets and covers - Part 2: Steels other than those specified in European Standards

Armaturen - Werkstoffe für Gehäuse, Oberteile und Deckel - Teil 2: Stähle, die in Europäischen Normen nicht festgelegt sind

Appareils de robinetterie - Matériaux pour les corps, chapeaux et couvercles - Partie 2: Autres aciers que ceux spécifiés dans les normes européennes

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Ta slovenski standard je istoveten z: **EN 1503-2:2000**

ICS:

23.060.01	Ventili na splošno	Valves in general
77.140.30	Jekla za uporabo pod tlakom	Steels for pressure purposes

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en

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EUROPEAN STANDARD

EN 1503-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2000

ICS 23.060.00; 77.140.30

English version

Valves - Materials for bodies, bonnets and covers - Part 2: Steels other than those specified in European Standards

Appareils de robinetterie - Matériaux pour les corps,
chapeaux et couvercles - Partie 2: Autres aciers que ceux
spécifiés dans les normes européennes

Armaturen - Werkstoffe für Gehäuse, Oberteile und Deckel
- Teil 2: Stähle, die in Europäischen Normen nicht
festgelegt sind

This European Standard was approved by CEN on 6 October 2000.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 69 "Industrial valves", the secretariat of which is held by AFNOR.

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 April 2001, and conflicting national standards shall be withdrawn at the latest by April 2001.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association. This European Standard is considered to be a supporting standard to those application and product standards which in themselves support an essential safety requirement of a New Approach Directive and which make reference to this European Standard.

EN 1503 comprises four parts :

- Part 1 : Steels specified in European Standards ;
- Part 2 : Steels other than those specified in European Standards ;
- Part 3 : Cast irons specified in European Standards ;
- Part 4 : Copper alloys specified in European Standards.

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.

1 Scope

This European Standard lists steels for pressure containing valve bodies, bonnets and covers which are given in Standards other than European Standards.

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 incorporate in it by amendments or revision. For undated references, the latest edition of the publication referred to applies (including amendments).

EN 1503-1, *Valves – Materials for bodies, bonnets and covers – Part 1 : Steels specified in European Standards.*

prEN 1092-1:1997, *Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, PN designated - Part 1: Steel flanges.*

ASTM A 105-95, *Carbon Steel Forgings.*

ASTM A 106-94a, *Seamless Carbon Steel Pipe.*

ASTM A 182-94c, *Alloy Steel Forged or Rolled Parts.*

ASTM A 203-93, *Nickel Alloy Steel Plates.*

ASTM A 204-93, *Pressure Vessel Plates, Carbon Steel, Molybdenum.*

ASTM A 216-93, *Carbon Steel Castings.*

ASTM A 217-93, *Alloy Steel Castings.*

ASTM A 240-94b, *Stainless Steel Plate.*

ASTM A 302-93, *Pressure Vessel Plates, Carbon Steel, Manganese-Molybdenum and Manganese-Molybdenum-Nickel.*

ASTM A 312-94b, *Stainless Steel Pipe, Seamless or Welded.*

ASTM A 335-94, *Seamless Ferritic Alloy Steel Pipe.*

ASTM A 350-95, *Low-Temperature Alloy Steel Forged or Rolled Parts.*

ASTM A 351-94, *Stainless Steel Castings.*

ASTM A 352-93, *Low-Temperature Carbon and Alloy Steel Castings.*

ASTM A 358-94, *Electric Fusion-Welded Stainless Steel Pipe.*

ASTM A 369-92, *Ferritic Alloy Forged or Bored Pipe.*

ASTM A 376-93, *Stainless Steel Pipe, Seamless for Central Station Service.*

ASTM A 387-84, *Alloy Steel Plates.*

ASTM A 430-91, *Stainless Steel Forged or Bored Pipe.*

ASTM A 479-95, *Alloy Steel Bars and Shapes.*

ASTM A 515-92, *Carbon Steel Plates, High Temperature.*

ASTM A 516-90, *Carbon Steel Plates, Low Temperature.*

ASTM A 537-91, *Carbon-Manganese-Silicon Steel Plates.*

ASTM A 672-94, *Electric-Fusion Welded Steel Pipe.*

ASTM A 675-90a, *Carbon Steel Bars.*

ASTM A 691-93, *Carbon & Alloy Steel Pipe - Electric-Fusion Welded.*

ASTM A 696-90a, *Carbon Steel Bars.*

ASTM A 739-90a, *Alloy Steel Bars.*

ASTM A 789-94, *Seamless and Welded Ferritic/Austenitic Stainless Steel Tubing for General Service.*

ASTM A 790-94, *Seamless and Welded Ferritic/Austenitic Stainless Steel Pipe.*

3 Materials

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As well as the EN-steels which are listed in EN 1503-1 all ASTM-steels given in Tables 1, 2 and 3 can also be used for the manufacture of pressure containing valve bodies, bonnets and covers.

Table 1 lists unalloyed steels, Table 2 low alloy steels and Table 3 high alloy steels.

The materials shall be used within the limits specified in the tables.

The material shall not be used at temperatures below -29°C or the standard impact test temperature specified in the material standard.

Table 1 - Unalloyed steels

Line	Forgings			Castings			Flat products			Tube			Bar			
	ASTM			ASTM			ASTM			ASTM			ASTM			
	No.	Grade	Limitation	No.	Grade	Limitation	No.	Grade	Limitation	No.	Grade	Limitation	No.	Grade	Limitation	
1				A216	WCC	Not for prolonged use over 425°C	A515 A516	70 70	Not for prolonged use over 425°C	1C1 1C1	A106 A672	C B70	Not to be used over 425°C	A675	70	Not for prolonged use over 425°C
				A352	LCC	Not to be used over 345°C	A537	C11	Not to be used over 370°C	1C1	A672	C70	1C1	A696	C	Not for prolonged use over 425°C
	A105 A350	LF2	Not for prolonged use over 425°C	A216	WCB	Not for prolonged use over 425°C	A515 A516	65 65	Not for prolonged use over 425°C	1C3 1C3	A672 A672	B65 C65	Not for prolonged use over 425°C	A105 A350	LF2	Not for prolonged use over 425°C
3	A350	LF1					A515 A516	60 60	Not for prolonged use over 425°C	1C4 1C4	A106 A672	B C60	Not for prolonged use over 425°C	A675	60	Not for prolonged use over 425°C
							A537	C12	Not to be used over 370°C	1C11		A696	B	Not to be used over 540°C		
4																

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Table 2 - Low alloy steels

Line	Forgings			Castings			Flat products			Tube			Bar			
	ASTM		prEN 1092-1:1997 Material group.	ASTM		prEN 1092-1:1997 Material group.	ASTM		prEN 1092-1:1997 Material group.	ASTM		prEN 1092-1:1997 Material group.	ASTM		prEN 1092-1:1997 Material group.	
	No.	Grade		Limitation	No.		Grade	Limitation		No.	Grade		Limitation	No.		Grade
1	A182	F1	Not for prolonged use over 470°C	A217	WC1	Not for prolonged use over 470°C	A387	2 Cl.1	Not to be used over 540°C	A335	P1	Not for prolonged use over 470°C	A182	F1	Not for prolonged use over 470°C	1C5
				A352	LC1	Not to be used over 345°C		2 Cl.2			FP1					1C6
2	A182	F2	Not to be used over 540°C	A217	WC4	Not to be used over 540°C. See Note	A387			A691	1/4CR	Not for prolonged use over 540°C	A182	F2	Not to be used over 540°C	1C6
3				A217	WC5	Not to be used over 565°C. See Note										
4	A182	F5	Not to be used over 650°C.	A217	C5	Not to be used over 650°C. See Note	A387	5 Cl.1	Not to be used over 650°C.	A335	P5	Not to be used over 650°C.	A182	F5	Not to be used over 650°C.	1C12
5	A182	F5a	Not to be used over 650°C.				A387	5 Cl.2	Not to be used over 650°C.	A335	P5b	Not to be used over 650°C.	A182	F5a	Not to be used over 650°C.	1C12
6	A182	F9	Not to be used over 650°C.	A217	C12	Not to be used over 650°C. See Note				A369	FP5					1C12
7							A387	11 Cl.1	Not for prolonged use over 595°C	A691	5CR		A182	F9	Not to be used over 650°C.	1C12
8	A182	F11 Cl.2	Not for prolonged use over 595°C	A217	WC6	Not to be used over 595°C. See Note	A387	11 Cl.2	Not for prolonged use over 595°C	A335	P11	Not for prolonged use over 595°C	A182	F11 Cl.2	Not for prolonged use over 595°C	1C8
9							A387	12 Cl.1	Not for prolonged use over 470°C	A369	FP11		A739	B11		1C8
10	A182	F12 Cl.2	Not for prolonged use over 595°C				A387	12 Cl.2	Not for prolonged use over 595°C	A691	1/4CR					1C8
11	A182	F21	Not for prolonged use over 595°C				A387	21 Cl.2	Not for prolonged use over 595°C				A182	F12 Cl.2	Not for prolonged use over 595°C	1C8
12							A387	22 Cl.1	Not for prolonged use over 595°C	A335	FP12					1C8
13	A182	F22 Cl.3	Not for prolonged use over 595°C	A217	WC9	Not to be used over 595°C. See Note	A387	22 Cl.2	Not for prolonged use over 595°C	A691	2/4CR		A182	F22 Cl.3	Not for prolonged use over 595°C	1C8
14							A203	A	Not for prolonged use over 425°C				A739	B22		1C10
15							A203	D	Not for prolonged use over 425°C							1C10
16				A352	LC2	Not to be used over 345°C	A203	B	Not for prolonged use over 425°C							
17	A350	LF3	Not to be used over 345°C	A352	LC3	Not to be used over 345°C	A203	E	Not for prolonged use over 425°C				A350	LF3	Not to be used over 345°C	1C2
18							A204	A	Not for prolonged use over 470°C							1C5

"to be continued"