

Valves - Materials for bodies, bonnets and covers - Part  
4: Copper alloys specified in European Standards

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 1503-4:2016 sisaldab Euroopa standardi EN 1503-4:2016 ingliskeelset teksti.	This Estonian standard EVS-EN 1503-4:2016 consists of the English text of the European standard EN 1503-4:2016.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 03.02.2016.	Date of Availability of the European standard is 03.02.2016.
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English Version

## Valves - Materials for bodies, bonnets and covers - Part 4: Copper alloys specified in European Standards

Appareils de robinetterie - Matériaux pour les corps,  
chapeaux et couvercles - Partie 4: Alliages de cuivre  
spécifiés dans les Normes Européennes

Armaturen - Werkstoffe für Gehäuse, Oberteile und  
Deckel - Teil 4: Kupferlegierungen, die in Europäischen  
Normen festgelegt sind

This European Standard was approved by CEN on 15 December 2015.

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

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<b>Contents</b>		<b>Page</b>
<b>European foreword</b> .....		<b>3</b>
<b>1</b>	<b>Scope</b> .....	<b>4</b>
<b>2</b>	<b>Normative references</b> .....	<b>4</b>
<b>3</b>	<b>Materials</b> .....	<b>4</b>
<b>3.1</b>	<b>General</b> .....	<b>4</b>
<b>3.2</b>	<b>Group 1 materials</b> .....	<b>4</b>
<b>3.3</b>	<b>Group 2 materials</b> .....	<b>4</b>

## European foreword

This document (EN 1503-4:2016) 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of an identical text or by endorsement, at the latest by August 2016, and conflicting national standards shall be withdrawn at the latest by August 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 1503-4:2002.

The main changes compared to the previous edition are:

- a) Clause 2 “Normative references” has been updated;
- b) Table 1 has been deleted and therefore a reference to EN 12516-4:2014, Table 8 has been added;
- c) material “CuSn5Zn5Pb2-C” has been added to Table 1;
- d) the Bibliography has been deleted.

EN 1503, *Valves — Materials for bodies, bonnets and covers* consists of 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, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## 1 Scope

This European Standard lists copper alloys for pressure containing valve bodies, bonnets and covers which are specified in European Standards.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1982, *Copper and copper alloys — Ingots and castings*

EN 12163, *Copper and copper alloys — Rod for general purposes*

EN 12164, *Copper and copper alloys — Rod for free machining purposes*

EN 12167, *Copper and copper alloys — Profiles and bars for general purposes*

EN 12168, *Copper and copper alloys — Hollow rod for free machining purposes*

EN 12420, *Copper and copper alloys — Forgings*

EN 12449, *Copper and copper alloys — Seamless, round tubes for general purposes*

EN 12516-4:2014, *Industrial valves — Shell design strength — Part 4: Calculation method for valve shells manufactured in metallic materials other than steel*

## 3 Materials

### 3.1 General

The materials shall be as given in 3.2 and 3.3.

The selection of materials should take account of the intended use and all reasonably foreseeable operation conditions. Selecting materials from Group 1 will provide some assurance of their suitability for valve bodies, bonnets and covers, whereas selecting from Group 2 will not provide the same assurance.

Due consideration should be given to all reasonably foreseeable degradation mechanism (e.g. corrosion, creep, fatigue) that may occur in some applications.

### 3.2 Group 1 materials

EN 12516-4:2014, Table 8, lists copper alloys specified in European material standards which have been in regular use for valve bodies, bonnets and covers.

### 3.3 Group 2 materials

Table 1 lists copper alloys specified in European material standards that may be used for valve bodies, bonnets and covers.