

Ductile iron and steel wide tolerance couplings and flange adaptors for use with pipes of different materials: ductile iron, Grey iron, steel, PVC-U, PVC-O, PE, fibre-cement

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 14525:2022 sisaldab Euroopa standardi EN 14525:2022 ingliskeelset teksti.	This Estonian standard EVS-EN 14525:2022 consists of the English text of the European standard EN 14525:2022.
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 and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 05.10.2022.	Date of Availability of the European standard is 05.10.2022.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

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ICS 23.040.60

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EUROPEAN STANDARD

EN 14525

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2022

ICS 23.040.60

Supersedes EN 14525:2004

English Version

## Ductile iron and steel wide tolerance couplings and flange adaptors for use with pipes of different materials: ductile iron, Grey iron, steel, PVC-U, PVC-O, PE, fibre-cement

Manchons et adaptateurs de brides à larges tolérances en fonte ductile et acier destinés à être utilisés avec des tuyaux faits de différents matériaux : fonte ductile, fonte grise, acier, PVC-U, PVC-O, PE, fibre-ciment

Großbereichskupplungen und Flanschadapter aus duktilem Gusseisen und Stahl zur Verbindung von Rohren aus unterschiedlichen Werkstoffen: duktiles Gusseisen, Grauguss, Stahl, PVC-U, PVC-O, PE, Faserzement

This European Standard was approved by CEN on 8 August 2022.

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-CENELEC 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-CENELEC 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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

<b>Contents</b>	<b>Page</b>
<i>European foreword</i> .....	4
<b>1 Scope</b> .....	<b>5</b>
<b>2 Normative references</b> .....	<b>6</b>
<b>3 Terms and definitions</b> .....	<b>6</b>
<b>4 Technical requirements</b> .....	<b>10</b>
<b>4.1 General</b> .....	<b>10</b>
4.1.1 Diameter range.....	10
4.1.2 Surface condition and repairs.....	10
4.1.3 Types of joints and interconnection.....	11
4.1.4 Materials in contact with water intended for human consumption.....	11
<b>4.2 Dimensional requirements</b> .....	<b>12</b>
4.2.1 Minimum wall thickness of ductile iron couplings and flange adaptors.....	12
4.2.2 Minimum wall thickness of steel couplings and flange adaptors.....	12
4.2.3 Joint gap and depth of engagement.....	13
4.2.4 Angular deflection.....	14
<b>4.3 Material characteristics</b> .....	<b>14</b>
4.3.1 Ductile iron.....	14
4.3.2 Mild steel for couplings and flange adaptors (DN600 to DN800 only).....	14
4.3.3 Fastener for couplings and flange adaptors.....	15
<b>4.4 Coatings</b> .....	<b>15</b>
<b>4.5 Product information</b> .....	<b>15</b>
4.5.1 Marking requirements.....	15
4.5.2 Additional information.....	16
<b>4.6 Water tightness</b> .....	<b>16</b>
4.6.1 Couplings and flange adaptors.....	16
4.6.2 Joints.....	16
<b>5 Performance requirements for joints</b> .....	<b>16</b>
<b>5.1 General</b> .....	<b>16</b>
<b>5.2 Pressure rating</b> .....	<b>17</b>
<b>5.3 Water tightness of flexible joints</b> .....	<b>17</b>
5.3.1 General – performance tests principles.....	17
5.3.2 Test conditions.....	17
<b>5.4 Restrained flexible joints</b> .....	<b>18</b>
<b>5.5 Long term hydrostatic strength test</b> .....	<b>21</b>
5.5.1 PE pipes.....	21
5.5.2 Pull out test at 25 °C for PE restrained joints.....	21
5.5.3 PVC pipes.....	22
<b>5.6 Flanged joints</b> .....	<b>22</b>
<b>6 Test methods</b> .....	<b>22</b>
<b>6.1 Tensile testing</b> .....	<b>22</b>

6.1.1	Samples .....	22
6.1.2	Preparation of test bar .....	23
6.1.3	Apparatus and test method .....	23
6.1.4	Test results .....	23
<b>6.2</b>	<b>Brinell hardness.....</b>	<b>24</b>
<b>6.3</b>	<b>Routine water tightness test .....</b>	<b>24</b>
6.3.1	General.....	24
6.3.2	Air test .....	24
6.3.3	Hydrostatic pressure test.....	24
<b>7</b>	<b>Performance tests .....</b>	<b>24</b>
<b>7.1</b>	<b>Positive internal pressure joint water tightness .....</b>	<b>24</b>
7.1.1	Coupling.....	24
7.1.2	Flange adaptor .....	25
<b>7.2</b>	<b>Negative internal pressure joint.....</b>	<b>26</b>
<b>7.3</b>	<b>Dynamic internal pressure joint water tightness.....</b>	<b>26</b>
<b>7.4</b>	<b>Long term hydrostatic strength test for joints for PE pipes.....</b>	<b>27</b>
7.4.1	Test piece.....	27
7.4.2	Test procedure .....	27
<b>7.5</b>	<b>Pull out test at 25 °C for restrained joints for PE pipes .....</b>	<b>27</b>
7.5.1	Test assembly .....	27
7.5.2	Apparatus.....	27
7.5.3	Test procedure .....	27
<b>7.6</b>	<b>Long term hydrostatic strength test for joints of fittings for PVC pipe.....</b>	<b>28</b>
7.6.1	Test piece.....	28
7.6.2	Test procedure .....	28
<b>Annex A (informative) Outside diameters of existing pipes.....</b>		<b>29</b>
<b>Annex B (informative) Quality assurance.....</b>		<b>32</b>
<b>B.1</b>	<b>General.....</b>	<b>32</b>
<b>B.2</b>	<b>Performance test .....</b>	<b>32</b>
<b>B.3</b>	<b>Manufacturing process.....</b>	<b>33</b>
<b>Bibliography.....</b>		<b>34</b>

## European foreword

This document (EN 14525:2022) has been prepared by Technical Committee CEN/TC 203 “Cast iron pipes, fittings and accessories”, 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 2023, and conflicting national standards shall be withdrawn at the latest by April 2023.

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

This document supersedes EN 14525:2004.

The significant changes made since the previous edition EN 14525:2004 are:

- allowance of steel as material (as EN 12842);
- introduction of type test for pipes made from ductile iron in delivery conditions;
- introduction of long-term testing for pipes made from PVC-U and PE (as per EN 12842);
- correction on pressure testing depending on pipe material (as per EN 12842);
- wording and paragraphs harmonized with EN 12842 and EN 545.

This document is in conformity with the general requirements already established by CEN/TC 164 in the field of water supply.

In respect of potential adverse effects on the quality of water intended for human consumption caused by the product covered by this document:

- this document provides no information as to whether the product may be used without restriction in any of the member states of the EU or EFTA;
- it should be noted that, while awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or the characteristics of these products remain in force.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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

## 1 Scope

This document specifies the requirements and associated test methods applicable to wide tolerance ductile iron and steel (restricted sizes for steel) couplings, stepped/reducing couplings and flange adaptors intended for use with pipe components made from a number of pipe materials (ductile iron, grey iron, PE in conformity with EN 12201-1 to EN 12201-5, PVC-U in conformity with EN ISO 1452-1 to EN ISO 1452-5, PVC-O in conformity with EN 17176-1 to EN 17176-5, steel, fibre-cement), for providing a leak tight seal over a wide range of pipe outside diameters:

- to convey water (e.g. water intended for human consumption);
- with or without pressure;
- to be installed below or above ground, inside or outside buildings.

This document is not intended to cover sewerage or gas applications, where additional requirements may be necessary.

This document specifies requirements for materials, dimensions and tolerances, mechanical properties and standard coatings of products.

This document covers wide tolerance couplings, stepped/reducing couplings and flange adaptors:

- manufactured with socketed or flanged ends;
- supplied externally and internally coated;
- suitable for pipes made from ductile iron in conformity with EN 545, grey iron, PE in conformity with EN 12201-1 to EN 12201-5, PVC-U in conformity with EN ISO 1452-1 to EN ISO 1452-5, PVC-O in conformity with EN 17176-1 to EN 17176-5, steel, fibre-cement in a size range extending from DN 40 to DN 800, for an allowable operating pressure (PFA) up to 16 bar, for fluid temperatures between 0 °C and 25 °C excluding frost. For higher temperatures, (up to 45 °C for PVC-U and PVC-O or 40 °C for PE) the PFA is derated as given in EN ISO 1452 and EN 12201;
- not intended for use in areas subjected to reaction to fire regulations.

NOTE 1 This does not preclude special arrangements for the products to be used at higher temperatures. Temperature limitations and pressure limitations are those coming from the PVC-U, PVC-O or PE pipes.

This document covers ductile iron couplings, stepped/reducing couplings and flange adaptors cast by any type of foundry process or manufactured by fabrication of cast components, as well as corresponding joints, in a size range extending from DN 40 to DN 800.

As long as no equivalent European Standard exists for steel accessories, this document also covers couplings and flange adaptors which are fabricated partly or entirely from steel as well as corresponding joints, in a size range extending from DN 600 to DN 800.

This document specifies requirements for materials, dimensions and tolerances, mechanical properties and standard coatings. It also gives minimum performance requirements for all components, including restrained and non-restrained flexible joints. Joint design and gasket shapes are outside the scope of this document.

NOTE 2 PFA can be limited depending on pipe materials effectively connected.

NOTE 3 In this document, if not specified, all pressures are relative gauge pressures, expressed in bars (100 kPa = 1 bar).

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 545, *Ductile iron pipes, fittings, accessories and their joints for water pipelines — Requirements and test methods*

EN 681-1, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 1: Vulcanized rubber*

EN 805, *Water supply — Requirements for systems and components outside buildings*

EN 1092-2, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 2: Cast iron flanges*

EN 10025-1:2004, *Hot rolled products of structural steels — Part 1: General technical delivery conditions*

EN 10310, *Steel tubes and fittings for onshore and offshore pipelines — Internal and external polyamide powder based coatings*

EN 14901-1, *Ductile iron pipes, fittings and accessories — Requirements and test methods for organic coatings of ductile iron fittings and accessories — Part 1: Epoxy coating (heavy duty)*

EN 15189, *Ductile iron pipes, fittings and accessories — External polyurethane coating for pipes — Requirements and test methods*

EN 15655-1, *Ductile iron pipes, fittings and accessories — Requirements and test methods for organic linings of ductile iron pipes and fittings — Part 1: Polyurethane lining of pipes and fittings*

EN ISO 4016, *Hexagon head bolts — Product grade C (ISO 4016)*

EN ISO 4034, *Hexagon regular nuts (style 1) — Product grade C (ISO 4034)*

EN ISO 6506-1, *Metallic materials — Brinell hardness test — Part 1: Test method (ISO 6506-1)*

EN ISO 6892-1, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature (ISO 6892-1)*

EN ISO 7091, *Plain washers — Normal series — Product grade C (ISO 7091)*

EN ISO 11177, *Vitreous and porcelain enamels — Inside and outside enamelled valves and pressure pipe fittings for untreated and potable water supply — Quality requirements and testing (ISO 11177)*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp/ui>
- IEC Electropedia: available at <https://www.electropedia.org/>