

Müüritarvikute spetsifikatsioon. Osa 1: Müüriankrud, tõmbelindid, talakingad ja konsoolid

**Specification for ancillary components for masonry -
Part 1: Wall ties, tension straps, hangers and brackets**

EESTI STANDARDI EESSÕNA

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English Version

Specification for ancillary components for masonry - Part 1: Wall
ties, tension straps, hangers and brackets

Spécification pour composants accessoires de maçonnerie
- Partie 1 : Attaches, brides de fixation, étriers de support et
consoles

Festlegungen für Ergänzungsbauteile für Mauerwerk - Teil
1: Maueranker, Zugbänder, Auflager und Konsolen

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Foreword

This document (EN 845-1:2013) has been prepared by Technical Committee CEN/TC 125 "Masonry", 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of an identical text or by endorsement, at the latest by December 2013, and conflicting national standards shall be withdrawn at the latest by December 2013.

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 845-1:2003+A1:2008.

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 Annex ZA, which is an integral part of this document.

This part has been modified to take into account comments made in the five-year review on the 2003 version. A change has been made in the permission to use historic test data when arriving at declared values; a limited permission is also given for the use of calculation methods in certain cases. In view of their widespread use, austenitic ferritic stainless steels have been added to the materials that may be used.

EN 845, *Specification for ancillary components for masonry*, consists of the following parts:

- *Part 1: Wall ties, tension straps, hangers and brackets*
- *Part 2: Lintels*
- *Part 3: Bed joint reinforcement of steel meshwork*

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, 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 specifies requirements for wall ties, tension straps, hangers and brackets for interconnecting masonry and for connecting masonry to other parts of works and buildings including walls, floors, beams, and columns. Where anchors or fasteners are supplied or specified as part of an ancillary component, the requirements including performance requirements apply to the complete product.

This European Standard is not applicable to:

- a) anchors and fasteners other than as part of an ancillary component;
- b) shelf angles;
- c) wall starter plates for tying into existing walls;
- d) products formed from materials other than:
 - 1) austenitic stainless steel (molybdenum chrome nickel alloys or chrome nickel alloys);
 - 2) austenitic ferritic stainless steel;
 - 3) ferritic stainless steel;
 - 4) copper;
 - 5) phosphor bronze;
 - 6) aluminium bronze;
 - 7) zinc-coated-steel with or without organic coating;
 - 8) polypropylene;
 - 9) polyamide (for expansion plugs only).

NOTE The resistance to fire performance of the products included herein cannot be assessed separately from the masonry element of which they are part and is therefore not covered under the scope of this part of this European Standard.

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 771 (all parts), *Specification for masonry units*

EN 846-2, *Methods of test for ancillary components for masonry — Part 2: Determination of bond strength of prefabricated bed joint reinforcement in mortar joints*

EN 846-3, *Methods of test for ancillary components for masonry — Part 3: Determination of shear load capacity of welds in prefabricated bed joint reinforcement*

EN 846-4, *Methods of test for ancillary components for masonry — Part 4: Determination of load capacity and load-deflection characteristics of straps*

EN 846-5, *Methods of test for ancillary components for masonry — Part 5: Determination of tensile and compressive load capacity and load displacement characteristics of wall ties (couplet test)*

EN 846-6, *Methods of test for ancillary components for masonry — Part 6: Determination of tensile and compressive load capacity and load displacement characteristics of wall ties (single end test)*

EN 846-7, *Methods of test for ancillary components for masonry — Part 7: Determination of shear load capacity and load displacement characteristics of shear ties and slip ties (couplet test for mortar joint connections)*

EN 846-8, *Methods of test for ancillary components for masonry — Part 8: Determination of load capacity and load-deflection characteristics of joist hangers*

EN 846-9, *Methods of test for ancillary components for masonry — Part 9: Determination of flexural resistance and shear resistance of lintels*

EN 846-10, *Methods of test for ancillary components for masonry — Part 10: Determination of load capacity and load-deflection characteristics of brackets*

EN 846-11, *Methods of test for ancillary components for masonry — Part 11: Determination of dimensions and bow of lintels*

EN 846-13:2001, *Methods of test for ancillary components for masonry — Part 13: Determination of resistance to impact, abrasion and corrosion of organic coatings*

EN 846-14, *Methods of test for ancillary components for masonry — Part 14: Determination of the initial shear strength between the prefabricated part of a composite lintel and the masonry above it*

EN 998-2, *Specification for mortar for masonry — Part 2: Masonry mortar*

EN 10020, *Definitions and classification of grades of steel*

EN 10029, *Hot-rolled steel plates 3 mm thick or above — Tolerances on dimensions and shape*

EN 10088 (all parts), *Stainless steels*

EN 10143, *Continuously hot-dip coated steel sheet and strip — Tolerances on dimensions and shape*

EN 10244 (all parts), *Steel wire and wire products — Non-ferrous metallic coatings on steel wire*

EN 10245-1, *Steel wire and wire products — Organic coatings on steel wire — Part 1: General rules*

EN 10245-2, *Steel wire and wire products — Organic coatings on steel wire — Part 2: PVC finished wire*

EN 10245-3, *Steel wire and wire products — Organic coatings on steel wire — Part 3: PE coated wire*

EN 10346, *Continuously hot-dip coated steel flat products — Technical delivery conditions*

EN ISO 75 (all parts), *Plastics — Determination of temperature of deflection under load*

EN ISO 178, *Plastics — Determination of flexural properties (ISO 178)*

EN ISO 180:2000, *Plastics — Determination of Izod impact strength (ISO 180:2000)*

EN ISO 306, *Plastics — Thermoplastic materials — Determination of Vicat softening temperature (VST) (ISO 306)*

EN ISO 527 (all parts), *Plastics — Determination of tensile properties*

EN ISO 1133 (all parts), *Plastics — Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics*

EN ISO 1461, *Hot dip galvanized coatings on fabricated iron and steel articles — Specifications and test methods (ISO 1461)*

EN ISO 1463, *Metallic and oxide coatings — Measurement of coating thickness — Microscopical method (ISO 1463)*

EN ISO 2039-2, *Plastics — Determination of hardness — Part 2: Rockwell hardness (ISO 2039-2)*

ISO 427, *Wrought copper-tin alloys — Chemical composition and forms of wrought products*

ISO 428, *Wrought copper-aluminium alloys — Chemical composition and forms of wrought products*

ISO 431, *Copper refinery shapes*

ISO 1183 (all parts), *Plastics — Methods for determining the density of non-cellular plastics*

3 Terms, definitions and symbols

3.1 Terms and definitions

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

NOTE Dimensions and terms relating to wall ties are given in Figure 1.

3.1.1

asymmetrical tie

- 1) wall tie which is of a different physical design at either end over its embedment depth (or end fixing) and for which the centre section may be symmetrical or asymmetrical in detail

Note 1 to entry: Examples are given in Figure 2 a).

- 2) wall tie which is physically identical at either end over its embedment depth (or end fixing) but which is fixed in a different manner at each end is also defined as asymmetrical for the purposes of the test procedure

Note 2 to entry: Examples are given in Figure 2 b).

3.1.2

bracket

device attached to structural elements, comprising an individual support for two adjacent masonry units, which form part of a masonry wall

Note 1 to entry: Examples are given in Figure 3.

3.1.3

cavity wall tie

device for connecting a masonry leaf across a cavity to another masonry leaf or to a structural frame to resist tension and compression forces while allowing limited differential movement in the plane of the wall

Note 1 to entry: Examples are given in Figure 2 and Figure 4.

Note 2 to entry: Wall ties are further sub classified as asymmetrical or symmetrical and as horizontal, slope-tolerant or movement-tolerant. Examples are given in Figures 2, 4 and 5 respectively.