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Standards

Irish Standard  
I.S. EN 846-5:2012

# 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)

## I.S. EN 846-5:2012

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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*This document replaces:*  
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English Version

**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)**

Méthodes d'essai des composants accessoires de  
maçonnerie - Partie 5: Détermination de la charge  
admissible à la traction et à la compression, et des  
caractéristiques effort-déformation des attaches murales

Prüfverfahren für Ergänzungsbauteile für Mauerwerk - Teil 5:  
Bestimmung der Zug- und Drucktragfähigkeit sowie der  
Steifigkeit von Mauerankern (steinpaar-Prüfung)

This European Standard was approved by CEN on 11 February 2012.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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## **Foreword**

This document (EN 846-5:2012) 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of an identical text or by endorsement, at the latest February 2013, and conflicting national standards shall be withdrawn at the latest by February 2013.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 846-5:2000.

The principal changes in this document from the previous edition relate to the tie position, the number of ties to be tested, the location of the clamp during testing and the treatment of slope and movement tolerant ties. Ties are to now be placed at the minimum declared embedment length rather than a length calculated from the tie length and design cavity width. Ten ties are tested in tension and ten in compression. In the compression tests the ties are loaded over an extended cavity, or alternatively provision is made for evaluating the cavity section by calculation. Where ties are designed to tolerate either an induced slope or movement then prior to test they are cycled fifty times through the slope or movement for which they have been designed.

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 the couplet method for determining the tensile and compressive load capacity and load displacement characteristics of wall ties embedded in mortar joints. The test is intended for ties used for connecting together two leaves of masonry and for the mortar-bedded end of ties for connecting masonry leaves to other structures.

## 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 771-1, *Specification for masonry units — Part 1: Clay masonry units*

EN 771-2, *Specification for masonry units — Part 2: Calcium silicate masonry units*

EN 771-3, *Specification for masonry units — Part 3: Aggregate concrete masonry units (Dense and lightweight aggregates)*

EN 771-4, *Specification for masonry units — Part 4: Autoclaved aerated concrete masonry units*

EN 771-5, *Specification for masonry units — Part 5: Manufactured stone masonry units*

EN 771-6, *Specification for masonry units — Part 6: Natural stone masonry units*

EN 772-1, *Methods of test for masonry units — Part 1: Determination of compressive strength*

EN 772-10, *Methods of test for masonry units — Part 10: Determination of moisture content of calcium silicate and autoclaved aerated concrete units*

EN 845-1, *Specification for ancillary components for masonry — Part 1: Wall ties, tension straps, hangers and brackets*

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

EN 1015-3, *Methods of test for mortar for masonry — Part 3: Determination of consistence of fresh mortar (by flow table)*

EN 1015-7, *Methods of test for mortar for masonry — Part 7: Determination of air content of fresh mortar*

EN 1015-11, *Methods of test for mortar for masonry — Part 11: Determination of flexural and compressive strength of hardened mortar*

## 3 Principle

The tie is embedded in a mortar typical of the type for which the tie is specified between a pair (couplet) of masonry units. The tie is then subjected to tension or compression until failure occurs.

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