

**Koppar och kopparlegeringar – Bestämning
av aluminiumhalt –**
Del 1: Titrimetrisk metod

**Copper and copper alloys – Determination
of aluminium content –**
Part 1: Titrimetric method

Europastandarden EN 14936-1:2006 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 14936-1:2006.

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Copper and copper alloys - Determination of aluminium content - Part 1: Titrimetric method

Cuivre et alliages de cuivre - Dosage de l'aluminium -
Partie 1 : Méthode titrimétrique

Kupfer und Kupferlegierungen - Bestimmung des
Aluminiumgehaltes - Teil 1: Titrimetrisches Verfahren

This European Standard was approved by CEN on 15 May 2006.

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Foreword

This document (EN 14936-1:2006) has been prepared by Technical Committee CEN/TC 133 "Copper and copper alloys", the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by December 2006, and conflicting national standards shall be withdrawn at the latest by December 2006.

Within its programme of work, Technical Committee CEN/TC 133 requested CEN/TC 133/WG 10 "Methods of analysis" to prepare the following standard:

EN 14936-1, *Copper and copper alloys — Determination of aluminium content — Part 1: Titrimetric method*

This is one of two parts of the standard for the determination of aluminium content in copper and copper alloys. The other part is:

EN 14936-2, *Copper and copper alloys — Determination of aluminium content — Part 2: FAAS method*

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

EN 14936-1:2006 (E)**1 Scope**

This part of this European Standard specifies a titrimetric method for the determination of the aluminium content of copper and copper alloys in the form of unwrought, wrought and cast products.

The method is applicable to products having aluminium mass fractions between 0,5 % and 12 %.

2 Normative references

The following referenced documents are indispensable for the application 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.

ISO 1811-1, *Copper and copper alloys — Selection and preparation of samples for chemical analysis — Part 1: Sampling of cast unwrought products*

ISO 1811-2, *Copper and copper alloys — Selection and preparation of samples for chemical analysis — Part 2: Sampling of wrought products and castings*

NOTE Informative references to documents used in the preparation of this standard, and cited at the appropriate places in the text, are listed in the Bibliography.

3 Principle

Determination of aluminium by chelatometric titration at pH about 6, following a sodium fluoride demasking procedure, and using a voltametric indication.

4 Reagents and materials**4.1 General**

During the analysis, use only reagents of recognized analytical grade and only distilled water or water of equivalent purity.

4.2 Hexamethylenetetramine, $(\text{CH}_2)_6\text{N}_4$.

4.3 Chloroform, CHCl_3 .

4.4 Perchloric acid, HClO_4 ($\rho = 1,68$ g/ml).

WARNING — Perchloric acid, concentrated and hot, reacts rapidly, often with violently explosive force, with oxidizable materials. Specially designed hoods are specified for handling perchloric acid fumes and any hood in which perchloric acid is fumed should not be used for other operations that permit easily oxidizable materials to collect in the ducts and blower.

4.5 Nitric acid, HNO_3 ($\rho = 1,40$ g/ml).

4.6 Nitric acid solution, 1 + 1

Dilute 50 ml of nitric acid (4.5) in 50 ml of water.

4.7 Hydrochloric acid, HCl ($\rho = 1,19$ g/ml).