

**Inertkaitsegaasis kaarkeevitamiseks ning  
plasmalõikamiseks ja -keevitamiseks  
kasutatavad volframelektroodid.  
Kodeerimine**

Arc welding and cutting - Nonconsumable tungsten  
electrodes - Classification

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 6848:2005 sisaldab Euroopa standardi EN 6848:2004 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 25.01.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 6848:2005 consists of the English text of the European standard EN 6848:2004.</p> <p>This document is endorsed on 25.01.2005 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b> This International Standard specifies requirements for classification of nonconsumable tungsten electrodes for inert gas shielded arc welding, and for plasma welding, cutting and thermal spraying.</p>	<p><b>Scope:</b> This International Standard specifies requirements for classification of nonconsumable tungsten electrodes for inert gas shielded arc welding, and for plasma welding, cutting and thermal spraying.</p>
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ICS 25.160.20

**Võtmesõnad:** kaarkeevitus, kaarlõikamine, keemiline koostis, keevitamine kaitsegaasis, keevituselektroodid, kodeerimine, märgistus, plasmakaarkeevitus, volfram, värv

**English version**

Arc welding and cutting

**Nonconsumable tungsten electrodes**

Classification

(ISO 6848:2004)

Sondage et coupage à l'arc – Electrodes non consommables et tungstène – Classification (ISO 6848:2004)

Lichtbogenschweißen und -schneiden – Wolframelektrode – Einteilung (ISO 6848:2004)

This European Standard was approved by CEN on 2004-11-08.

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

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**CEN**

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

**Management Centre: 36, rue de Stassart, B-1050 Brussels**

## Foreword

International Standard Arc welding and cutting – Nonconsumable tungsten electrodes – Classification, which was prepared by ISO/TC 44 'Welding and allied processes' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 121 'Welding', the Secretariat of which is held by DIN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by June 2005 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom.

## Endorsement notice

The text of the International Standard ISO 6848:2004 was approved by CEN as a European Standard without any modification.

## Introduction

Tungsten electrodes are used in a variety of welding and allied processes, including tungsten inert gas welding, plasma arc welding and cutting, plasma spraying, and atomic hydrogen welding. In contrast to most other welding electrodes, tungsten electrodes are not intended to become part of the weld deposit. Nevertheless, the chemical composition of a tungsten electrode has an important effect on its range of usage in welding and allied processes. Therefore, tungsten electrodes are classified according to their chemical composition.

Requests for official interpretations of any aspect of this International Standard should be directed to the Secretariat of ISO/TC 44/SC 3 via your national standards body. A complete listing of national standards bodies can be found at [www.iso.org](http://www.iso.org).

## 1 Scope

This International Standard specifies requirements for classification of nonconsumable tungsten electrodes for inert gas shielded arc welding, and for plasma welding, cutting and thermal spraying.

## 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 31-0:1992, *Quantities and units — Part 0: General principles*

## 3 Classification

Classification of a tungsten electrode is based upon its chemical composition.

## 4 Symbols and requirements

### 4.1 Symbol for the product/process

The symbol for gas shielded tungsten arc processes is the letter W.

### 4.2 Symbol for the chemical composition

The symbol for the chemical composition of the tungsten electrode is the chemical symbol for the principal oxide additive followed by digits indicating the nominal mass percent of the oxide additive multiplied by 10. If there is no additive, the symbol is the letter P. Table 1 lists the composition requirements for the various classifications. Compositions not listed in Table 1 shall be symbolized by the letters WG, followed by the chemical symbol and digits for the major oxide additive, according to the principle used for the other compositions given in Table 1.

## 5 Chemical analysis

Chemical analysis shall be performed on specimens of the electrode being classified. Any analytical technique may be used but, in cases of dispute, reference shall be made to established published methods.

## 6 Retests

If any test fails to meet the requirement, that test shall be repeated twice. The results of both retests shall meet the requirements. Specimens for retesting may be taken from the original test assembly or from a new test assembly. For chemical analysis, retests need only be for those specific elements that failed to meet their