

Welding consumables - Deposition of a weld metal pad  
for chemical analysis (ISO 6847:2020)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 6847:2020 sisaldab Euroopa standardi EN ISO 6847:2020 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 6847:2020 consists of the English text of the European standard EN ISO 6847:2020.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 16.09.2020.	Date of Availability of the European standard is 16.09.2020.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English Version

## Welding consumables - Deposition of a weld metal pad for chemical analysis (ISO 6847:2020)

Produits consommables pour le soudage - Exécution  
d'un dépôt de métal fondu pour l'analyse chimique  
(ISO 6847:2020)

Schweißzusätze - Auftragung von Schweißgut zur  
Bestimmung der chemischen Zusammensetzung (ISO  
6847:2020)

This European Standard was approved by CEN on 20 August 2020.

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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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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European foreword

This document (EN ISO 6847:2020) has been prepared by Technical Committee ISO/TC 11W "International Institute of Welding" in collaboration with Technical Committee CEN/TC 121 "Welding and allied processes" 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of an identical text or by endorsement, at the latest by March 2021, and conflicting national standards shall be withdrawn at the latest by March 2021.

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 ISO 6847:2013.

According to the CEN-CENELEC Internal Regulations, the national standards organizations 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, Turkey and the United Kingdom.

## Endorsement notice

The text of ISO 6847:2020 has been approved by CEN as EN ISO 6847:2020 without any modification.

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by IIW, *International Institute of Welding*, Commission II, *Arc Welding and Filler Metals*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 121, *Welding and allied processes*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fourth edition cancels and replaces the third edition (ISO 6847:2013), which has been technically revised.

The main change compared to the previous edition is the addition of provisions for strip-flux combinations for use with cladding with the submerged arc welding and electroslag welding processes.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

The first edition of this document, ISO 6847:1985, addressed only the deposition of a weld metal pad for chemical analysis using covered electrodes for manual arc welding. This pad preparation was expensive to execute. IIW Commission II conducted testing of several methods of weld pad preparation that were less costly to execute than that of ISO 6847:1985 and yet produced equivalent results. Further, these methods were applicable to solid wires for gas shielded welding, to tubular cored wires for arc welding with or without gas shielding, and to wires and fluxes for submerged arc welding, as well as being applicable to covered electrodes. Accordingly, subsequent revisions (ISO 6847:2000 and ISO 6847:2013) simplified weld pad preparation and broadened the range of welding processes and filler metals. This document adds the use of strip with the submerged arc welding and electroslag welding processes.

# Welding consumables — Deposition of a weld metal pad for chemical analysis

## 1 Scope

This document specifies the procedure to be used for deposition of a weld metal pad for chemical analysis.

This document applies to deposition of a weld metal pad by use of covered electrodes, wire electrodes for gas shielded metal arc welding, tubular cored electrodes for gas shielded metal arc welding and for non-gas shielded metal arc welding, solid rods and tubular cored rods for gas tungsten arc welding, and wire-flux and strip-flux combinations for submerged arc welding or electroslag welding and cladding.

This document is applicable to welding consumables for non-alloy and fine grain steels, high strength steels, creep-resisting steels, stainless and heat-resisting steels, nickel and nickel alloys, and copper and copper alloys.

## 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.

ISO 6947, *Welding and allied processes — Welding positions*

ISO 14175, *Welding consumables — Gases and gas mixtures for fusion welding and allied processes*

## 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>
- IEC Electropedia: available at <http://www.electropedia.org/>

### 3.1

#### **alloying flux**

flux designed to modify the chemical composition of the weld using metals other than, or in addition to, manganese and silicon

## 4 Base metal

### 4.1 Type

The base metal (except for cladding) shall have a composition similar to that of the deposited metal or be a weldable carbon manganese structural steel with a carbon content of less than 0,2 %.

The base metal for cladding combinations shall be a weldable carbon manganese structural steel with a carbon content of less than 0,15 %, and with each of the following elements present at less than 0,10 % by weight: Cr, Mo, Nb, Ni.