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Resistance welding equipment - Transformers -  
Integrated transformers for welding guns (ISO  
10656:2016, Corrected version 2016-08)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 10656:2021 sisaldab Euroopa standardi EN ISO 10656:2021 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 10656:2021 consists of the English text of the European standard EN ISO 10656:2021.
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 and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 13.01.2021.	Date of Availability of the European standard is 13.01.2021.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

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ICS 25.160.30, 29.180

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EUROPEAN STANDARD

**EN ISO 10656**

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2021

ICS 25.160.30; 29.180

English Version

**Resistance welding equipment - Transformers - Integrated  
transformers for welding guns (ISO 10656:2016,  
Corrected version 2016-08)**

Matériel de soudage par résistance - Transformateurs -  
Transformateurs incorporés pour pinces à souder (ISO  
10656:2016, Version corrigée 2016-08)

Widerstandsschweißeinrichtungen - Transformatoren  
- Integrierte Transformatoren für Schweißzangen (ISO  
10656:2016, korrigierte Fassung 2016-08)

This European Standard was approved by CEN on 6 December 2020.

This European Standard was corrected and reissued by the CEN-CENELEC Management Centre on 17 February 2021.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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.

CEN members are the national standards bodies of 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 United Kingdom.



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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

## European foreword

The text of ISO 10656:2016, Corrected version 2016-08 has been prepared by Technical Committee ISO/TC 44 "Welding and allied processes" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 10656:2021 by 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 July 2021, and conflicting national standards shall be withdrawn at the latest by July 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.

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 10656:2016, Corrected version 2016-08 has been approved by CEN as EN ISO 10656:2021 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 on 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 the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

The committee responsible for this document is ISO/TC 44, *Welding and allied processes*, Subcommittee SC 6, *Resistance Welding and allied mechanical joining*.

This second edition cancels and replaces the first edition (ISO 10656:1996), which has been technically revised. It also incorporates the Technical Corrigendum ISO 10656:1996/Cor. 1:2000.

This corrected version of ISO 10656:2016 incorporates the following corrections:

- the example of a designation in [Clause 6](#) has been dated with the year of publication;
- a key has been added to [Figure A.1](#).

Requests for official interpretations of any aspect of this International Standard should be directed to the Secretariat of ISO/TC 44/SC 6 via your national standards body. A complete listing of these bodies can be found at [www.iso.org](http://www.iso.org).

# Resistance welding equipment — Transformers — Integrated transformers for welding guns

## 1 Scope

This International Standard specifies additional requirements to those given in ISO 5826 for single-phase transformers used in AC welding. It is intended to be used in conjunction with ISO 5826, whose requirements it amends.

## 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.

ISO 5826:2014, *Resistance welding equipment — Transformers — General specifications applicable to all transformers*

IEC 60417-DB, *Graphical symbols for use on equipment*<sup>1)</sup>

## 3 Dimensions and characteristics of transformers

The dimensions and characteristics of transformers shall be in accordance with

- [Table 1](#) for 50 Hz transformers,
- [Table 2](#) for 60 Hz transformers,
- [Figures 1](#) and [2](#) for type H transformers, and
- [Figures 3](#) and [4](#) for type J transformers.

The cooling water flow rate,  $Q$ , shall be 4 l/min.

The transformers are suitable for duty cycles up to 20 % (see [Annex A](#)).

1) See the ISO Online browsing platform: available at <http://www.iso.org/obp>