STN

Oceľ a železo Stanovenie celkového obsahu uhlíka Metóda infračervenej absorpcie po spaľovaní v indukčnej peci (ISO 9556: 2025)

STN EN ISO 9556

42 0527

Steel and iron - Determination of total carbon content - Infrared absorption method after combustion in an induction furnace (ISO 9556:2025)

Táto norma obsahuje anglickú verziu európskej normy. This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 10/25

Obsahuje: EN ISO 9556:2025, ISO 9556:2025

Oznámením tejto normy sa ruší STN EN ISO 9556 (42 0527) z apríla 2002

141160

EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

EN ISO 9556

July 2025

ICS 77.080.01

Supersedes EN ISO 9556:2001

English Version

Steel and iron - Determination of total carbon content - Infrared absorption method after combustion in an induction furnace (ISO 9556:2025)

Aciers et fontes - Détermination du carbone total - Méthode par absorption dans l'infrarouge après combustion dans un four à induction (ISO 9556:2025)

Stahl und Eisen - Bestimmung des Gesamtkohlenstoffgehalts - Verfahren mit Infrarotabsorption nach Verbrennung im Induktionsofen (ISO 9556:2025)

This European Standard was approved by CEN on 14 July 2025.

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, Türkiye 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

EN ISO 9556:2025 (E)

Contents	Page
European foreword	9
suropean toreworu	J

EN ISO 9556:2025 (E)

European foreword

This document (EN ISO 9556:2025) has been prepared by Technical Committee ISO/TC 17 "Steel" in collaboration with Technical Committee CEN/TC 459/SC 2 "Methods of chemical analysis for iron and steel" the secretariat of which is held by SIS.

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 January 2026, and conflicting national standards shall be withdrawn at the latest by January 2026.

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 9556:2001.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 9556:2025 has been approved by CEN as EN ISO 9556:2025 without any modification.



International Standard

ISO 9556

Steel and iron — Determination of total carbon content — Infrared absorption method after combustion in an induction furnace

Aciers et fontes — Détermination du carbone total — Méthode par absorption dans l'infrarouge après combustion dans un four à induction

Second edition 2025-07



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office CP 401 • Ch. de Blandonnet 8 CH-1214 Vernier, Geneva Phone: +41 22 749 01 11 Email: copyright@iso.org Website: www.iso.org

Published in Switzerland

Cor	itents	5		Page
Fore	word			iv
1	Scope)		1
2	Normative references			
3	Terms and definitions			
4				
5	Reage	ents		1
6	Apparatus			
7			id sample preparation	
8	Procedure Procedure			
	8.1 8.2 8.3 8.4 8.5	Gener Test p Blank Deter Estab 8.5.1 8.5.2 8.5.3 8.5.4	ral operating instructions fortion test mination lishment of the calibration curve Samples having carbon contents between 0,003 % (mass fraction) and 0,01 % (mass fraction) Samples having carbon contents between 0,01 % (mass fraction) and 0,1 % (mass fraction) Samples having carbon contents between 0,1 % (mass fraction) and 1,0 % (mass fraction) Samples having carbon contents between 1,0 % (mass fraction) and 4,5 % (mass fraction)	3 3 4 4 44 56
9	Expression of results 9.1 Method of calculation 9.2 Precision			7
10	Test report			
Anno	ex A (inf	ormati	ve) Additional information on the international precision tests	9
Anno	ex B (inf	ormati	ve) Graphical representation of precision data	11
Anno	ex C (info	ormati on anal	ve) Features of commercial high-frequency induction furnaces and infrared ysers	12
Bibli	ograph	y		14

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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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.

This document was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 1, *Methods of determination of chemical composition*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 459/SC 2, *Methods of chemical analysis for iron and steel*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 9556:1989), which has been technically revised.

The main changes are as follows:

- the normative references (<u>Clause 2</u>) has been revised;
- the mandatory terms and definitions clause (<u>Clause 3</u>) has been added, and subsequent clauses have been renumbered;
- precision data have been recalculated.

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.

Steel and iron — Determination of total carbon content — Infrared absorption method after combustion in an induction furnace

1 Scope

This document specifies an infrared absorption method after combustion in an induction furnace for the determination of the total carbon content in steel and iron.

The method is applicable to carbon contents between 0,003 % (mass fraction) and 4,5 % (mass fraction).

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 648, Laboratory glassware — Single-volume pipettes

ISO 1042, Laboratory glassware — One-mark volumetric flasks

ISO 14284, Steel and iron — Sampling and preparation of samples for the determination of chemical composition

koniec náhľadu – text ďalej pokračuje v platenej verzii STN