



BSI Standards Publication

# Iron and steel — European standards for the determination of chemical composition

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### National foreword

This Published Document is the UK implementation of CEN/TR 10261:2013.

The UK participation in its preparation was entrusted to Technical Committee ISE/102, Methods of Chemical Analysis for Iron and Steel.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

**Iron and steel - European standards for the determination of  
chemical composition**Aciers et fontes - Normes européennes pour la  
détermination de la composition chimiqueStahl und Eisen - Europäische Normen für die Bestimmung  
der chemischen Zusammensetzung

This Technical Report was approved by CEN on 10 June 2012. It has been drawn up by the Technical Committee ECISS/TC 102.

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## Foreword

This document (CEN/TR 10261:2013) has been prepared by Technical Committee ECISS/TC 102 "Methods of chemical analysis for iron and steel", the secretariat of which is held by SIS.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes CEN/TR 10261:2008.

In comparison with the previous edition of CEN/TR 10261:2008, the following significant technical changes were made:

- Title;
- Clause 2, Definitions – added;
- In 3.1, for nitrogen, addition of EN ISO 15351:2010 and EN ISO 4943:2009;
- In 3.1, for silicon, addition of EN ISO 439:2010;
- In 3.1, for titanium, addition of EN 10211:1995;
- In 3.2, for Al, Cr, Co, Cu, Mn, Mo, Ni, P, Sn and V, addition of EN 10351:2011;
- In 3.2, for C and S, addition of EN ISO 15350:2010;
- In 4.1.9.1, Principle of the method - rewritten for technical correction;
- 4.1.12.3, Summary of EN ISO 15351:2010, added;
- 4.1.12.4, Summary of EN ISO 4943:2009, added;
- 4.1.15.3, Summary of EN ISO 439:2010, added;
- 4.1.17.1, Summary of EN 10211:1995, added;
- 4.2.1.1, Summary of EN 10351:2011, added;
- 4.2.4.1, Summary of EN ISO 15350:2010, added;
- Annex A, updated;
- Annex C, the concentration ranges are represented in three different graphics: one for the referee methods, one for the routine methods and one for all the methods available.

## 1 Scope

This Technical Report lists, under Clause 3, the European Standards, which are currently available for the determination of the chemical composition of steel and iron. In Clause 4, it provides details of the range of application and gives the principle of the method for each standard.

Items which are under preparation as European Standards or as CEN Technical Reports by ECISS/TC 102 are available on the webpage of CEN, through the link <http://www.cen.eu/cen/Sectors/TechnicalCommitteesWorkshops/CENTechnicalCommittees/Pages/WP.aspx?param=733643&title=ECISS/TC%20102>.

Annex A contains a list of other European Standards and CEN Technical Reports applicable for the determination of the chemical composition of steels and irons.

Annex B contains a list of withdrawn Euronorms, together with the corresponding replacement European Standards, if any.

Annex C gives graphical representations of the concentration ranges of the methods available in this Technical Report. Figure C.1 gives the concentration ranges of the referee methods, Figure C.2 gives the concentration ranges of the routine methods and Figure C.3 represents the fields of application of all the methods available.

Annex D provides a trilingual key of the abbreviations used in the Figures given in Annex C.

## 2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

**2.1 referee method**  
stoichiometric method or a method calibrated against pure metals or stoichiometric compounds, which is to be used for certification analysis or in case of arbitration

**2.2 routine method**  
method calibrated against reference materials or certified reference materials, or against standard solutions commercially available, which is widely used for control purposes (day to day analysis)

## 3 European Standards available for the determination of the chemical composition of steel and iron

### 3.1 Mono-elemental methods

#### — Aluminium, Al

EN 29658:1997, *Steel — Determination of aluminium content — Flame atomic absorption spectrometric method* (ISO 9658:1990)

#### — Arsenic, As

EN 10212:1995, *Chemical analysis of ferrous materials — Determination of arsenic in steel and iron — Spectrophotometric method*