International Standard

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# Low-alloyed steel — Determination of Mn, P, Cr, Ni, Mo, Co, Cu, V, Ti, As and Sn — Inductively coupled plasma optical emission spectrometric method

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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

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# Foreword

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This document was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 1, *Methods of determination of chemical composition*.

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# Low-alloyed steel — Determination of Mn, P, Cr, Ni, Mo, Co, Cu, V, Ti, As and Sn — Inductively coupled plasma optical emission spectrometric method

## 1 Scope

This document specifies a method for the determination of Mn, P, Cr, Ni, Mo, Co, Cu, V, Ti, As and Sn contents in low alloyed steel by inductively coupled plasma optical emission spectrometry (ICP-OES).

The method is applicable to the determination of Mn, P, Cr, Ni, Mo, Co, Cu, V, Ti, As and Sn within the ranges given in Table 1.

**Table 1 — Application ranges of the elements to be determined**

| Element | Application range<br>% (mass fraction) |
|---|---|
| Mn | 0,002 to 2,0 |
| P | 0,005 to 0,1 |
| Cr | 0,003 to 3,0 |
| Ni | 0,005 to 4,0 |
| Mo | 0,003 to 1,0 |
| Co | 0,002 to 0,2 |
| Cu | 0,003 to 0,5 |
| V | 0,002 to 0,5 |
| Ti | 0,002 to 0,5 |
| As | 0,003 to 0,1 |
| Sn | 0,003 to 0,08 |

## 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 3696, *Water for analytical laboratory use — Specification and test methods*

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

## 3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

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