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Low alloyed steel — Determination of C, Si, Mn, P, S, Cr, Ni, Al, Ti and Cu - Glow discharge optical emission spectrometry (routine method)

Aciers faiblement alliés — Détermination de C, Si, Mn, P, S, Cr, Ni, Al, Ti et Cu — Spectrométrie d'émission optique à décharge luminescente (méthode de routine)

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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Foreword

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The committee responsible for this document is ISO/TC 17, *Steel*, Subcommittee SC 1, *Method of determination of chemical composition*.

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Low alloyed steel — Determination of C, Si, Mn, P, S, Cr, Ni, Al, Ti and Cu - Glow discharge optical emission spectrometry (routine method)

1 Scope

This International Standard specifies a glow discharge optical emission spectrometric (GD-OES) method for determination of the mass fraction Carbon, Silicon, Manganese, Phosphorus, Sulfur, Chromium, Nickel, Aluminium, Titanium and Copper in low alloyed steels.

The content ranges to which the method is applicable are shown in Table 1.

Table 1 — Content ranges

Element	Content ranges mass fraction %
C	0,060 to 0,35
Si	0,14 to 1,50
Mn	0,090 to 0,70
P	0,010to 0,070
S	0,005 to 0,050
Cr	0,008 to 0,65
Ni	0,050 to 0,50
Al	0,006 to 0,90
Ti	0,014 to 0,13
Cu	0,005 to 1,00

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable to 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 5725-1, *Accuracy (trueness and precision) of measurement methods and results — Part 1: General principles and definitions*

ISO 5725-2, *Accuracy (trueness and precision) of measurement methods and results — Part 2: Basic method for the determination of repeatability and reproducibility of a standard measurement method*

ISO 5725-3, *Accuracy (trueness and precision) of measurement methods and results — Part 3: Intermediate measures of the precision of a standard measurement method*

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

ISO 14707, *Surface chemical analysis — Glow discharge optical emission spectrometry (GD-OES) — Introduction to use*

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