

Australian/New Zealand Standard

Methods for the analysis of iron and steel

Part 39: Determination of chromium content—Flame atomic absorption spectrometric method

[ISO title: Steel and iron—Determination of chromium
content—Flame atomic absorption spectrometric method]

AS/NZS 1050.39:1994

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The following interests are represented on Committee CH/10:

Aluminium Development Council, Australia
Australasian Institute of Mining and Metallurgy
Australian Chamber of Commerce and Industry
Australian Lead Development Association
Bureau of Steel Manufacturers of Australia
Copper Technical Data Centre, Australia
National Association of Testing Authorities, Australia
Railways of Australia Committee

Additional interests participating in preparation of Standard:

Analytical laboratories
Department of Defence, Australia, Materials Research Laboratory
Steel manufacturers

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CH/10 on the Analysis of Metals.

This Standard is issued as a Joint Standard under the terms of the Active Cooperation Agreement between Standards Australia and Standards New Zealand.

This Standard is technically identical to ISO 10138:1991, *Steel and iron—Determination of chromium content—Flame atomic absorption spectrometric method* published by the International Organization for Standardization (ISO). This ISO Standard was drafted with input by Committee CH/10.

This Standard specifies flame atomic absorption spectrometric method for the determination of chromium content between 0.002% (*m/m*) and 2.0% (*m/m*) in non-alloy and low-alloy steel. The procedure involves dissolution of a test portion in acid, oxidation and removal of silica. The remaining material is fused, extracted, then added to the reserved filtrate. This solution is then delivered to a dinitrogen monoxide-acetylene flame for spectrometric measurement of the atomic absorption of the 357.9 nm or 425.4 nm spectral line emitted by a chromium hollow cathode lamp.

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The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the annex to which they apply. A ‘normative’ annex is an integral part of a Standard, whereas an ‘informative’ annex is only for information and guidance.

For the purpose of this Standard, the ISO text should be modified as follows:

- (a) *Terminology* The words ‘Australian Standard’, ‘New Zealand Standard’ or ‘Joint Australian/New Zealand Standard’ should replace the words ‘International Standard’ wherever they appear.
- (b) *References* The references to International Standards should be replaced by references to the following Australian/New Zealand Standards:

<i>Reference to International Standard</i>		<i>Australian/New Zealand Standard</i>	
ISO		AS	
377	Selection and preparation of samples and test pieces of wrought steels	1213	Iron and steel—Methods of sampling
377.2	Part 2: Samples for the determination of the chemical composition		
385	Laboratory glassware—Burettes	2165	Burettes and bulb burettes
385.1	Part 1: General requirements		
648	Laboratory glassware—One-mark pipettes	2166	One-mark pipettes
1042	Laboratory glassware—One-mark volumetric flasks	2164	One-mark volumetric flasks
3696	Water for analytical laboratory use—Specification and test methods	—	
5725	Precision of test methods—Determination of repeatability and reproducibility for a standard test method by inter-laboratory tests	2850	Chemical analysis—Interlaboratory test programs—For determining precision of analytical method(s)—Guide to the planning and conduct

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