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Microbeam analysis — Electron probe microanalysis — Guidelines for the specification of certified reference materials (CRMs)

Analyse par microfaisceaux — Microanalyse par sonde à électrons — Lignes directrices pour les spécifications des matériaux de référence certifiés (CRM)

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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 202, *Microbeam analysis*, Subcommittee SC 2, *Electron probe microanalysis*.

This third edition cancels and replaces the second edition (ISO 14595:2014), which has been technically revised.

The main changes are as follows:

— formulae to calculate the uncertainty of the mean mass fraction in 5.6 has been modified by adding a power of 1/2;

— the requirement of the dead time for the energy dispersive spectrometer test has been removed;

— editorial changes have been made to improve the consistency of terms and definitions used throughout the document.

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.

Introduction

For electron probe microanalysis (EPMA), which is a comparative quantitative analytical method used globally, certified reference materials (CRMs) play a crucial role in the analytical accuracy.

This document has been developed to facilitate international exchange and compatibility of analysis data in EPMA.

It aims to give guidance on evaluating and selecting reference materials (RMs), on evaluating the extent of heterogeneity and stability of RMs. It gives recommendations for the determination of the chemical composition of RMs for production as EPMA-certified reference materials.