

ISO 23201:2015-11 (E)

Aluminium oxide primarily used for production of aluminium - Determination of trace elements - Wavelength dispersive X-ray fluorescence spectrometric method

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Principle	2
4	Reagents and materials	2
5	Apparatus	3
6	Sampling and samples	5
7	Procedure	5
7.1	General	5
7.2	Preparation of calibration specimens	6
7.2.1	Determination of loss of mass on fusion of flux and flux correction	6
7.2.2	Preparation of intermediate calibration glass (ICG)	6
7.2.3	Preparation of the synthetic calibration disk (SCD)	7
7.2.4	Preparation of the blank calibration discs	9
7.3	Preparation of the sample discs	9
7.4	X-ray fluorescence measurement	10
7.4.1	General instrumental conditions	10
7.4.2	Guidelines for instrument optimization	11
7.4.3	Sample loading	11
7.4.4	Monitor disc: correction for instrumental drift	11
7.4.5	Measurements for calibration	12
7.4.6	Measurement of test discs	13
8	Calculations	13
8.1	Calculation of net intensity	13
8.2	Comparison of duplicate measurements for the Al ₂ O ₃ blanks and Synthetic Calibration Discs (SCDs)	14
8.2.1	SCDs criteria for the acceptability of duplicate measurements	14
8.2.2	Al ₂ O ₃ blanks criteria for the acceptability of duplicate measurement	14
8.3	Drift correction of measured intensities	15
8.4	Calculation of the calibration parameters	15
9	Consistency checks and reporting results	16
10	Precision	16
11	Accuracy	17
12	Quality assurance and control	17
13	Test report	17

Annex A (informative) Contamination issues and care of platinum ware	19
Annex B (normative) Example of instrument optimization	21
Annex C (informative) Calculation of reagent masses for different sample/flux combinations and synthetic calibration discs when omitting some elements	25
Annex D (informative) Preparation of monitor disc	27
Annex E (informative) Interlaboratory test program analysis of NIST 699 and ASCRM 27 smelter grade alumina, certified reference materials	29
Annex F (informative) Comments on flux purity	31
Bibliography	32