

ISO 15472:2010-05 (E)

Surface chemical analysis — X-ray photoelectron spectrometers — Calibration of energy scales

Contents	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Symbols and abbreviated terms	1
4 Outline of method	2
5 Procedure for calibrating the energy scale	5
5.1 Obtaining the reference samples	5
5.2 Mounting the samples	6
5.3 Cleaning the samples	6
5.4 Choosing the spectrometer settings for which energy calibration is required	6
5.5 Operating the instrument	6
5.6 Options for initial or subsequent calibration measurements	7
5.7 Measurements for the peak binding-energy repeatability standard deviation and the scale linearity	7
5.8 Calculating the peak binding-energy repeatability standard deviation	8
5.9 Checking the binding-energy scale linearity	11
5.10 Procedure for the regular determination of the calibration error	12
5.11 Procedures for correction of the instrument binding-energy scale	13
5.12 Next calibration	15
5.13 Establishing the calibration interval	15
Annex A (normative) Least-squares determination of the peak binding energy by a simple computational method	16
Annex B (informative) Derivation of uncertainties	19
Annex C (informative) Citation of the uncertainties of measured binding energies	21
Annex D (informative) Measurements of modified Auger parameters measured using XPS instruments equipped with a monochromated Al X-ray source	23
Bibliography	26