ISO 19318:2021 (E)

Surface chemical analysis — X-ray photoelectron spectroscopy — Reporting of methods used for charge control and charge correction

Contents

Foreword

Introduction

1 Scope

2 Normative references

3 Terms and definitions

4 Symbols and abbreviated terms

5 Apparatus

6 Calibration of binding-energy scale

7 Reporting of information related to charge control

- 7.1 General
- 7.2 Information about specimen
- 7.2.1 Specimen form
- 7.2.2 Specimen dimensions
- 7.2.3 Specimen mounting methods
- 7.2.4 Specimen treatment prior to or during analysis
- 7.3 Instrument and operating conditions
- 7.4 General method for charge control
- 7.5 Reasons for needing charge control and for choosing the particular method for charge control
- 7.6 Values of experimental parameters
- 7.7 Information on the effectiveness of the method of charge control
- 7.7.1 Adequacy of charge control
- 7.7.2 Damage assessment

8 Reporting of method(s) used for charge correction and the value of that correction

- 8.1 General
- 8.2 Approach
- 8.3 Value of correction energy

Annex A (informative) Description of methods of charge control and charge correction

- A.1 General
- A.2 Methods of charge control
- A.2.1 Damage caution
- A.2.2 Electron flood gun[15-18]
- A.2.3 Ultraviolet flood lamp[21]
- A.2.4 Specimen heating
- A.2.5 Electrical connection
- A.2.5.1 Grounding and enhanced conduction path
- A.2.5.2 Isolation from ground
- A.2.5.3 Biasing
- A.2.6 Low-energy ion source
- A.3 Methods of charge correction
- A.3.1 General
- A.3.2 Differential charging
- A.3.3 Adventitious-hydrocarbon referencing [11,15,21,29-33]

A.3.4 Gold deposition[15,16,35-38]
A.3.5 Implantation with inert gases[40]
A.3.6 Internal referencing
A.3.7 Substrate referencing
A.4 Bias referencing[27]
A.5 Auger parameter measurements[47-49]

Page count: 14