

DIN ISO 11505:2018-02 (E)

Surface chemical analysis - General procedures for quantitative compositional depth profiling by glow discharge optical emission spectrometry (ISO 11505:2012)

Contents		Page
Foreword		5
1	Scope	6
2	Normative references	6
3	Principle	6
4	Apparatus	6
4.1	Glow discharge optical emission spectrometer	6
5	Adjusting the glow discharge spectrometer system settings	8
5.1	General	8
5.2	Setting the discharge parameters of a DC source	9
5.3	Setting the discharge parameters of an RF source	11
5.4	Minimum performance requirements	12
6	Sampling	14
7	Calibration	14
7.1	General	14
7.2	Calibration specimens	14
7.3	Validation specimens	16
7.4	Determination of the sputtering rate of calibration and validation specimens	16
7.5	Emission intensity measurements of calibration specimens	17
7.6	Calculation of calibration equations	17
7.7	Validation of the calibration	17
7.8	Verification and drift correction	18
8	Analysis of test specimens	19
8.1	Adjusting discharge parameters	19
8.2	Setting of measuring time and data acquisition rate	19
8.3	Quantifying depth profiles of test specimens	19
9	Expression of results	20
9.1	Expression of quantitative depth profile	20
9.2	Determination of total coating mass per unit area	20
9.3	Determination of average mass fractions	21
10	Precision	21
11	Test report	21
Annex A (normative)	Calculation of calibration constants and quantitative evaluation of depth profiles	22
Annex B (informative)	Suggested spectral lines for determination of given elements	36
Bibliography		38