ISO/TS 10798:2011-07 (E)

Nanotechnologies - Charaterization of single-wall carbon nanotubes using scanning electron microscopy and e nergy dispersive X-ray spectrometry analysis

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 1
3.1 Terms related to scanning electron microscope 1
3.2 Terms related to electron probe microanalysis 2
3.3 Terms related to sampling 3

4 General principles 4
4.1 SEM analysis 4
4.2 EDX analysis 4
4.3 Applicability to MWCNT analysis 4
4.4 Other supportive analytical methods 5

5 Sample preparation methods 5
5.1 Precautions and safety concerns 5
5.2 Preparing samples for SEM/EDX analysis 5
5.3 SEM sample preparation/attachment techniques 6

6 Measurement procedures 7
6.1 EDX analysis 8

7 Data analysis and results interpretation 9
7.1 SEM results 9
7.2 EDX results 9

8 Measurement uncertainty 9
8.1 SEM analysis 9
8.2 EDX analysis 10

Annex A (normative) SEM sampling methods 11

Annex B (informative) Supportive information on EDX characterization of CNT materials 13

Annex C (informative) Case study for the analysis of as-synthesized and purified SWCNT samples 15

Annex D (informative) Examples of SEM/EDX analysis of SWCNTs 22

Bibliography 26