ISO 21909-2:2021-12 (E)

Passive neutron dosimetry systems - Part 2: Methodology and criteria for the qualification of personal dosimetry systems in workplaces

Contents

Page

Foreword ... **iv**

Introduction ... **v**

1 Scope ... **1**

2 Normative references ... **1**

3 Terms, definitions and symbols ... **2**
3.1 General terms and definitions ... 2
3.2 Quantities ... 3
3.3 Calibration and evaluation ... 4
3.4 Symbols ... 6

4 Documentation and communication to the users ... **7**

5 Recommendations about the workplace to consider ... **7**

6 Methodologies and criteria to qualify the personal dosimetry system at a certain workplace ... **8**
6.1 Choice of the methods to be used for the qualification at workplaces ... 8
6.2 Quantification of the impact of the non-correct behaviour in terms of energy and angle responses of the dosimetry system ... 9
6.2.1 General ... 9
6.2.2 Computational approach ... 10
6.2.3 Experimental approach ... 10
6.3 Qualification based on experimental tests of the dosimetry systems at the workplace ... 10
6.3.1 General method ... 10
6.3.2 Performance test criteria ... 11
6.3.3 First solution: tests at three levels of dose at the workplace ... 12
6.3.4 Second solution: tests at one level of dose at the workplace ... 13
6.3.5 Complementary tests based on ISO 21909-1 ... 14
6.3.6 Unique correction for several workplaces ... 15

Annex A (normative) **Methodologies to characterize the workplace field** ... **16**

Annex B (normative) **Determination of the neutron personal dose equivalent Hp(10) – Practical methods** ... **19**

Annex C (informative) **Example of a complete characterization of the workplace field** ... **26**

Annex D (informative) **Determination of field-specific correction factors or functions – Practical example: use of information from literature** ... **28**

Annex E (informative) **Links between ISO 21909-1 and ISO 21909-2** ... **29**

Bibliography ... **31**