ISO 14152:2001-12 (E)

Neutron radiation protection shielding - Design principles and considerations for the choice of appropriate materials

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 2

3 Terms and definitions 3

4 Basic rules and principles for the definition of neutron shielding 9

5 Choice of radiological objectives and other design criteria 11

6 Characterization of neutron sources 14

7 Identification of constraints on placement and construction 16

8 Choice of materials 18

9 Choice of the calculation method 23

10 Choice of the final solution 23

11 Experimental verification 23

Annex A (informative) Considerations on neutron sources 25

Annex B (informative) Neutron sources and threshold reactions 32

Annex C (informative) Characteristics of the most common neutron shielding materials 36

Annex D (informative) Available computer codes for determination of neutron radiation protection shielding 58

Annex E (informative) Simplified shielding calculation method for neutrons produced by D-T reactions 63

Annex F (informative) Simplified neutron shielding calculation method 66

Bibliography 75