ISO 16976-8:2023-02 (E)

Respiratory protective devices - Human factors - Part 8: Ergonomic factors

Contents

Page

Foreword ..... **v**

Introduction ..... **vi**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Ergonomic factors **1**

4.1 General 1

4.2 Integration of performance and ergonomic requirements 2

4.3 Factors to be considered in the determination of the best ergonomic solution 2

4.3.1 General 2

4.3.2 Factors to be considered in specifying the optimum level of protection to be provided 2

4.3.3 Factors to be considered in specifying the optimal practicability 2

4.3.4 Factors to be considered in the physiological impact of RPD 3

4.4 Factors to be considered in specifying requirements for the adjustability of RPD and its appropriate fixation to the body 4

4.5 Factors to be considered in specifying requirements to ensure that RPD does not irritate or cause discomfort 4

4.6 Factors to be considered in specifying requirements to take into account the anthropometric factors of RPD 4

4.7 Factors to be considered in specifying requirements to take into account the biomechanical factors of RPD 5

4.7.1 General 5

4.7.2 Mass distribution 5

4.7.3 Restriction and prevention of movements 6

4.7.4 Abrasion or compression of the skin and underlying structures 6

4.7.5 Exacerbation of vibration 6

4.8 Factors to be considered in specifying requirements to take into account the thermal effects of RPD 6

4.8.1 General 6

4.8.2 Thermal effects of materials and complete RPD 6

4.9 Factors to be considered in specifying requirements to take into account the sensory effects of RPD 7

4.9.1 General 7

4.9.2 Vision 7

4.9.3 Hearing and speech 7

4.9.4 Odour or taste 7

4.9.5 Touch or other skin contact 7

5 Verification procedure for conformity with ergonomic factors **7**

5.1 General approach 7

5.2 Selecting an appropriate type of test 8

5.3 Assessment of the anthropometric factors of RPD and their impact on the wearer 9

5.4 Assessment of the biomechanical factors of RPD and their impact on the wearer 9

5.4.1 General 9

5.4.2 Mass 9

5.4.3 Restriction of movement 9

5.4.4 Abrasion and compression of the skin and underlying structures 10
5.4.5 Vibration 10
5.5 Assessment of the thermal effects of RPD and their impact on the wearer 10
5.6 Assessment of the sensory factors of RPD and their impact on the wearer 10
5.6.1 General 10
5.6.2 Vision aspects of RPD 10
5.6.3 Auditory aspects of RPD 11
5.6.4 Odour or taste aspects of RPD 11
5.6.5 Skin contact aspects of RPD 11
Annex A (informative) **Ergonomic assessment of RPD using panels of test subjects** **13**
Bibliography **16**