DIN EN ISO 18526-3:2026-06 (E)

Eye and face protection - Test methods - Part 3: Physical and mechanical properties (ISO 18526-3:2020)

Contents

Page

Foreword ..... **vi**

Introduction ..... **vii**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Preparatory information **1**

5 General test requirements **2**

6 Physical test methods **2**

6.1 Physical inspection 2
6.1.1 Principle 2
6.1.2 Procedure 2
6.1.3 Test report 2
6.2 Field of view 3
6.2.1 Principle 3
6.2.2 Apparatus 3
6.2.3 Procedure 3
6.2.4 Test report 3
6.3 Area to be protected — Assessment from the frontal direction 4
6.3.1 Principle 4
6.3.2 Apparatus 4
6.3.3 Procedure 4
6.3.4 Test report 4
6.4 Area to be protected — Assessment from the lateral direction 4
6.4.1 Principle 4
6.4.2 Apparatus 4
6.4.3 Procedure 4
6.4.4 Test report 5
6.5 Retention by headbands and harnesses (sit and fit) 5
6.5.1 Principle 5
6.5.2 Procedure 5
6.5.3 Test report 5
6.6 Visual assessment of material and surface quality of lenses 5
6.6.1 Principle 5
6.6.2 Apparatus 5
6.6.3 Procedure 6
6.6.4 Test report 6
6.7 Resistance to thermal exposure 6
6.7.1 Principle 6
6.7.2 Procedure 7
6.7.3 Test report 7
6.8 Resistance to ultraviolet radiation 7
6.8.1 Principle 7
6.8.2 Solar ultraviolet radiation 7
6.8.3 Ultraviolet radiation from artificial sources 9
6.9 Resistance to corrosion 9
6.9.1 Principle 9

6.9.2 Reagents and materials 10
6.9.3 Procedure 10
6.9.4 Test report 10
6.10 Resistance to ignition 10
6.10.1 Principle 10
6.10.2 Apparatus 10
6.10.3 Procedure 10
6.10.4 Test report 11
6.11 Resistance to fogging of lenses or filters 11
6.11.1 Principle 11
6.11.2 Apparatus 11
6.11.3 Conditioning 12
6.11.4 Procedure 12
6.11.5 Test report 13
6.12 Protection against droplets 13
6.12.1 Principle 13
6.12.2 Reagents, material and apparatus 13
6.12.3 Procedure 13
6.12.4 Test report 14
6.13 Protection against streams of liquids 14
6.13.1 Principle 14
6.13.2 Reagents, materials and apparatus 14
6.13.3 Procedure 15
6.13.4 Test report 15
6.14 Protection against large dust particles 16
6.14.1 Test principle 16
6.14.2 Material and apparatus 16
6.14.3 Procedure 17
6.14.4 Test report 18
6.15 Protection against gases and fine dust 18
6.15.1 Principle 18
6.15.2 Apparatus 18
6.15.3 Procedure 19
6.15.4 Test report 19
6.16 Protection against radiant heat 19
6.16.1 Principle 19
6.16.2 Test apparatus 19
6.16.3 Preparation of the test sample 20
6.16.4 Procedure 20
6.16.5 Test report 21
6.17 Chemical resistance 21
6.17.1 Principle 21
6.17.2 Procedure 21
6.17.3 Test report 21

7 Mechanical test methods 21

7.1 General 21
7.2 Tests on unmounted lenses 22
7.2.1 Minimum robustness of unmounted lenses (static load test) 22
7.2.2 Drop ball test for unmounted lenses 25
7.3 Tests on complete eye protectors 27
7.3.1 Drop ball test for complete protectors 27
7.3.2 Ballistic impact test for complete protectors 28
7.3.3 High mass test for complete protectors 29
7.4 Resistance to surface damage due to flying fine particles 31
7.4.1 Principle 31
7.4.2 Material and apparatus 31
7.4.3 Preparation of reference samples for measurement of light scatter 33
7.4.4 Preparation of test samples 34
7.4.5 Procedure 34

7.4.6 Evaluation of narrow angle scatter of the test sample 34
7.4.7 Evaluation of wide angle scatter of the test sample 34
7.4.8 Test report 35
7.5 Penetration of vents and gaps 35
7.5.1 Principle 35
7.5.2 Apparatus 35
7.5.3 Procedure 36
7.5.4 Test report 36
7.6 Protection against molten metals and hot solids 36
7.6.1 Adherence of molten metal 36
7.6.2 Resistance to penetration of protector by hot solids 39

8 Marking and packaging 40
8.1 Principle 40
8.2 Procedure 40
8.3 Test report 40

9 Information to be supplied by the manufacturer 40
9.1 Principle 40
9.2 Procedure 40
9.3 Test report 40

10 Additional test methods for protectors during welding and related techniques 41
10.1 Dimension measurements of welding hand shields 41
10.1.1 Procedure 41
10.1.2 Test report 41
10.2 Drop test of welding protectors 41
10.2.1 Principle 41
10.2.2 Apparatus 41
10.2.3 Preparation of test samples 41
10.2.4 Procedure 41
10.2.5 Test report 41
10.3 Light tightness of welding protectors 42
10.3.1 Principle 42
10.3.2 Procedure 42
10.3.3 Test report 42
10.4 Electrical insulation of welding helmets and welding hand shields 42
10.4.1 Principle 42
10.4.2 Procedure 42
10.4.3 Test report 42

11 Additional test methods for mesh protectors 43
11.1 Number of apertures in a mesh 43
11.1.1 Principle 43
11.1.2 Procedure 43
11.1.3 Test report 43
11.2 Contact with metal parts 43
11.2.1 Principle 43
11.2.2 Procedure 43
11.2.3 Test report 43

Annex A (normative) **Application of uncertainty of measurement 44**

Annex B (normative) **Long wavelength pass filter 47**

Annex C (informative) **Full details of the apparatus for the streams of liquids test 49**

Bibliography 51