DIN EN 1836:2007-11 (E)

Personal eye-equipment - Sunglasses and sunglare filters for general use and filters for direct obser vation of the sun (includes Amendment A1:2007)

Contents

Page

Foreword 3

1 Scope 4

2 Normative references 4

3 Terms and definitions 5

4 Filter requirements 9
4.1 Transmittance 9
4.2 Optical power of oculars 13
4.3 Scattered light 14
4.4 Material and surface quality 15
4.5 Robustness 15
4.6 Resistance to radiation 15
4.7 Ignition 16

5 Requirements for complete sunglasses (frames with filters) 16
5.1 General 16
5.2 General construction 16
5.3 Mechanical requirements 16
5.4 Ignition 16
5.5 Materials for the manufacture of complete sunglasses 17

6 Testing 17
6.1 General 17
6.2 Transmittance 17
6.3 Optical power values 22
6.4 Scattered light 22
6.5 Material and surface quality 22
6.6 Robustness 23
6.7 Resistance to radiation 23
6.8 Ignition 24
6.9 Conditioning and test conditions for complete sunglasses 24
6.10 Test for mechanical requirements for complete sunglasses 25

7 Information and labelling 27
7.1 General 27
7.2 Complete sunglasses 27
7.3 Uncut finished lenses and replacement lenses (unmounted sunglass filters) 29
7.4 Transmittance or reflectance claims 29
7.5 Robustness claims 29

Annex A (normative) Cut-on filter for UV filtering 30

Annex B (normative) Spectral functions for the calculation of luminous transmittance and relative visual attenuation coefficients (quotients) 32

Annex C (normative) Spectral functions for the calculation of solar UV transmittance values and blue-light transmittance 34

Annex D (normative) Spectral function for the calculation of infrared transmittance 36

Annex E (informative) Use of sunglare filters 38

Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 89/686/EEC 41

Bibliography 43