

DIN EN ISO 20346:2014-09 (E)

Personal protective equipment - Protective footwear (ISO 20346:2014)

Contents	Page
Foreword	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Classification and designs	10
5 Basic requirements for protective footwear	11
5.1 General	11
5.2 Design	14
5.2.1 General	14
5.2.2 Height of upper	14
5.2.3 Seat region	15
5.3 Whole footwear	15
5.3.1 Sole performance	15
5.3.2 Toe protection	15
5.3.3 Leakproofness	16
5.3.4 Specific ergonomic features	17
5.3.5 Slip resistance requirement	17
5.3.6 Innocuousness	18
5.4 Upper	18
5.4.1 General	18
5.4.2 Thickness	18
5.4.3 Tear strength	18
5.4.4 Tensile properties	19
5.4.5 Flexing resistance	19
5.4.6 Water vapour permeability and coefficient	19
5.4.7 pH value	19
5.4.8 Hydrolysis	19
5.4.9 Chromium VI content	19
5.5 Vamp and quarter lining	20
5.5.1 Tear strength	20
5.5.2 Abrasion resistance	20
5.5.3 Water vapour permeability and coefficient	20
5.5.4 pH value	20
5.5.5 Chromium VI content	20
5.6 Tongue	20
5.6.1 Tear strength	20
5.6.2 pH value	21
5.6.3 Chromium VI content	21
5.7 Insole and insock	21
5.7.1 Thickness	21
5.7.2 pH value	21
5.7.3 Water absorption and desorption	21
5.7.4 Abrasion resistance	21
5.7.5 Chromium VI content	21
5.8 Outsole	22
5.8.1 Design	22
5.8.2 Tear strength	22

5.8.3	Abrasion resistance	22
5.8.4	Flexing resistance	22
5.8.5	Hydrolysis	23
5.8.6	Interlayer bond strength	23
6	Additional requirements for protective footwear	23
6.1	General	23
6.2	Whole footwear	24
6.2.1	Penetration resistance	24
6.2.2	Electrical properties	25
6.2.3	Resistance to inimical environments	25
6.2.4	Energy absorption of seat region	25
6.2.5	Water resistance	26
6.2.6	Metatarsal protection	26
6.2.7	Ankle protection	26
6.2.8	Cut resistance footwear	26
6.3	Upper -- Water penetration and absorption	27
6.4	Outsole	27
6.4.1	Resistance to hot contact	27
6.4.2	Resistance to fuel oil	28
7	Marking	28
8	Information to be supplied	29
8.1	General	29
8.2	Electrical properties	30
8.2.1	Conductive footwear	30
8.2.2	Antistatic footwear	30
8.3	Insocks	31
Annex A (normative) Hybrid footwear		32
A.1	General	32
A.2	Height	32
A.3	Area A	32
A.4	Area B	32
A.5	Water resistance	32
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 89/686/EEC Personal Protective Equipment		34
Bibliography		36