

DIN EN ISO 20346:2022-06 (E)

Personal protective equipment - Protective footwear (ISO 20346:2021)

Contents		Page
Annex ZA (informative) Relationship between this European Standard and the essential requirements of PPE Regulation (EU) 2016/425 aimed to be covered		5
Foreword		7
1	Scope	9
2	Normative references	9
3	Terms and definitions	9
4	Classification and designs	16
5	Basic requirements for protective footwear	17
5.1	General	17
5.2	Design	20
5.2.1	General	20
5.2.2	Height of upper	20
5.2.3	Heel area	20
5.3	Whole footwear	21
5.3.1	Constructional performance	21
5.3.2	Toe protection	21
5.3.3	Leak proofness	23
5.3.4	Specific ergonomic features	23
5.3.5	Slip resistance	23
5.3.6	Innocuousness	24
5.3.7	Seam strength	24
5.4	Upper	24
5.4.1	General	24
5.4.2	Thickness	25
5.4.3	Tear strength	25
5.4.4	Tensile properties	26
5.4.5	Flexing resistance	26
5.4.6	Water vapour permeability and coefficient	26
5.4.7	Resistance to hydrolysis	26
5.5	Lining	27
5.5.1	General	27
5.5.2	Tear strength	27
5.5.3	Abrasion resistance	27
5.5.4	Water vapour permeability and coefficient	27
5.6	Tongue	27
5.6.1	General	27
5.6.2	Tear strength	28
5.7	Insole, insock and footbed	28
5.7.1	Thickness	28
5.7.2	Water permeability	28
5.7.3	Water absorption and desorption	28
5.7.4	Abrasion resistance	28
European foreword		4
5.8	Outsole	28
5.8.1	General	28

5.8.2	Design	29
5.8.3	Tear strength	29
5.8.4	Abrasion resistance	29
5.8.5	Flexing resistance	30
5.8.6	Resistance to hydrolysis	30
5.8.7	Interlayer bond strength	30
6	Additional requirements for protective footwear	30
6.1	General	30
6.2	Whole footwear	31
6.2.1	Perforation resistance	31
6.2.2	Electrical properties	34
6.2.3	Resistance to inimical environments	34
6.2.4	Energy absorption of seat region	34
6.2.5	Water resistance	34
6.2.6	Metatarsal protection	35
6.2.7	Ankle protection	35
6.2.8	Cut resistance	36
6.2.9	Scuff cap abrasion	36
6.2.10	Slip resistance	36
6.3	Upper -- Water penetration and absorption	36
6.4	Outsole	37
6.4.1	Resistance to hot contact	37
6.4.2	Resistance to fuel oil	37
6.4.3	Ladder grip	37
7	Marking	37
8	Manufacturer's instructions and information	38
8.1	General	38
8.2	Electrical properties	39
8.2.1	Partially conductive footwear	39
8.2.2	Antistatic footwear	40
8.3	Insocks	40
8.4	Perforation resistance	40
8.5	Date of obsolescence	41
Annex A	(normative) Customized protective footwear (protective footwear adapted to fit an individual user or a single unit to fit an individual user)	42
Annex B	(informative) Assessment of the footwear by the wearer	46
Annex C	(informative) Slip resistance	48
Bibliography	51