

GUIDE TO SAFETY FOOTWEAR



SAFETY FOOTWEAR CAN BE RECOGNISED BY THE FOLLOWING STANDARDS:



EN ISO 20345:20



AS/2210.3:2018

This international standard specifies basic and additional (optional) requirements for safety footwear used for general purposes. It includes, mechanical risks, slip resistance, thermal risks and ergonomic behaviour. The toecap protects the wearer's toes against risk of injury from falling objects and crushing when worn in work environments where potential hazards may occur. The midsole protects against the foot being pierced by underfoot objects.

The classification system used to identify the protection provided by the footwear is listed:

Category	Additional requirements
SB	The presence of a safety toecap providing protection against impact injury to the toes caused by falling objects. Level of protection provided is 200 joules. Prevention of compression injury to the toes if trapped under a heavy object. Level of this protection is 15kN.
SBP	As SB standard plus penetration resistance.
S 1	As SB standard plus closed seat region, antistatic properties, resistance to fuel oil and energy absorption of seat region.
S1P	As S1 standard plus penetration resistance.
S2	As S1 standard plus water penetration and water absorption resistance.
S 3	As S2 standard plus cleated outsole and penetration resistance.
S4	200 joule toecap protection. All rubber or all polymeric footwear with antistatic properties. Resistance to fuel oil, energy absorption of seat region and closed seat region.
S 5	As S4 standard plus cleated outsole and penetration resistance.

	dditional requirements for special app opriate symbols for marking.	olications
Requirement	Symbols	
	Penetration resistance	Р
	Electrical properties: Antistatic footwear	Α
	Resistance to inimical environments: Cold insulation of sole complex	CI
Whole Footwear	Energy absorption of seat region	E
	Water resistant	WR
	Metatarsal protection	M
Upper	Water penetration and absorption	WRU
1	Resistance to hot contact	HRO
Outsole	Resistance to fuel oil	FO

FOOTWEAR SIZE CHART

It is recommended to have your foot measured when purchasing footwear as there is no exact standard for converting shoe sizes.

UK Size	1	2	3	4	5	6	6.5	7	8	9	10	10.5	11	12	13	14	15	16	17
Euro Size	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
US Mens Size					6	7	7.5	8	9	10	11	11.5	12	13	14	15	16	17	18
US Women's Size			5	6	7	8	8.5	9	10	11									

EN 61340-4-3:2018

This part of EN 61340 describes a test method for determining the electrical resistance of footwear used in the control of electrostatic potential on people. This standard is suitable for use by the manufacturer of footwear as well as the end user.

Electrostatic conductive footwear

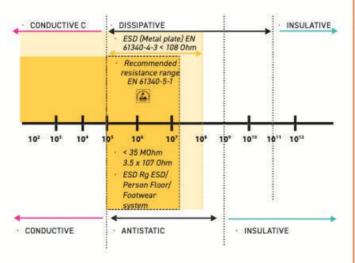
Footwear as tested by the method described in this standard with an electrical resistance of < 1 Ω x 10 .

Electrostatic dissipative footwear

Footwear as tested by the method described in this standard with an electrical resistance of > 1 $\,\Omega$ x 10 $\,$ and < 1 $\,\Omega$ x 10 $\,$.

Floor/Footwear System used for primary grounding - ESD Standard EN 61340

Occupational and safety shoes standard - EN ISO 20344 to EN ISO 20347. The level of charge generated is influenced by atmospheric humidity.



EN 13832-2:2006



Footwear Protecting Against Chemicals

Footwear protecting against chemicals - Part 2: Requirements for footwear resistant to chemicals under laboratory conditions

Resistance to degradation: Samples are placed in contact with the chemical for 23 hours.

3 – acetone	
) – dichloromethane	
F – toluene	
G – diethylaminė	
H — tetrahydrofuran	
I – ethyl acetate	
J – n-heptane	
K – 30% sodium hydroxide	
L – 95% sulphuric acid	
M – 65% nitric acid	
N – 99% acetic acid	
0 – 25% ammonia solution	
P – 30% hydrogen peroxide solution	
Q — isopropanol	
R – 13% sodium hypochlorite	
toecap strength (200J or 100J) ¹	

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EN ISO 20347:2012

The International Standard specifies basic and additional (optional) requirements for occupational footwear that is not exposed to any mechanical risks (impact or compression).

Category	Additional requirements
OB	Conforms to the basic requirements set out by the standard EN ISO 20347; 2012
01	Closed seat region, antistatic properties, energy absorption of seat region
02	As 01 plus: Water penetration and absorption
03	As 02 plus: Penetration resistance, cleated outsole
04	Closed seat region, antistatic properties, energy absorption of seat region
05	As 04 plus: Penetration resistance, cleated outsole

EN ISO 13287:2019

This European Standard specifies a method of test for the slip resistance of conventionally soled safety, protective and occupational footwear. It is not applicable to special purpose footwear containing spikes, metal studs or similar.

The item of footwear to be tested is put on a surface, subjected to a given normal force and moved horizontally relative to the surface. The frictional force is measured and the dynamic coefficient of friction is calculated.

If the outsole passes both the ceramic tile test (SRA) and the steel floor test (SRB) it is marked as SRC.

Marking Code	Test Surface	Coefficient of Friction (EN 13287)						
marking Code	rest surrace	Forward Heel Slip	Forward Flat Slip					
SRA	Ceramic tile with SLS*	≥ 0.28	≥ 0.32					
SRB	Steel floor with Glycerol	≥ 0.13	≥ 0.18					
SRC	Ceramic tile with SLS* & Steel floor with Glycerol	≥ 0.28 ≥ 0.13	≥ 0.32 ≥ 0.18					

ASTM F2413-18

Standard specification for performance requirements for protective (safety) toe cap footwear.

The specification contains performance requirements for footwear to protect workers feet from the following hazards by providing:

- Impact resistance (I) for the toe area of footwear.
- C Compression resistance (C) for the toe area of the footwear.
- Mt Metatarsal impact protection (Mt) that reduces the chance of injury to the metatarsal bones at the top of the foot.
- Cd Conductive properties (Cd) which reduce hazards that may result from static electricity buildup, and reduce the possibility of ignition of explosives and volatile chemicals.
- **EH** Electric hazard protection (EH), to protect the wearer when accidental contact is made by stepping on live electric wires.
- **SD** Static dissipative properties (SD) to reduce hazards due to excessively low footwear electrical resistance that may exist where SD footwear is required.
- PR Puncture resistance (PR) footwear devices.

