SAFETY BOOTS MANUAL



This safety footwear complies with the EU Regulation 2016/425 on personal protective equipment and meets the requirements of the European standard **EN ISO 20345:2011**. It is certified by CTC, 4, rue Hermann Frenkel, 69367 Lyon Cedex 07, France (Notified Body 0075). EU declaration of conformity can be found at the following link.

https://www.safety.com.sg/resources

User Information

Safety footwear is designed to minimize the risk of injury by the wearer. It is designed to be used in conjunction with safe working environment and will not completely prevent injury if an accident occurs which exceeds the testing limits of **EN ISO 20345:2011**.

Safety footwear toecaps designed to give protection against impact when tested at an energy level of at least 200J and against compression when tested at a compression load of at least 15kN. This safety footwear protects the wear's toes against risk of injury from falling objects and crushing when worn in industrial and commercial environments where potential hazards occur.

Test conditions	Coefficient of friction
Condition A (forward heel slip)	≥0.31
Condition B (backward forepart slip)	≥0.36

^{*}Note: Slippage may still occur in certain environments.

Special-purpose footwear containing spikes, metal studs or similar, designed to enhance performance on soft ground (sand, sludge, forestry timber, etc.) should be marked with "O". The symbol "O" indicates that the footwear has not been tested for slip resistance.

Markings

Marking on footwear denotes that the footwear is licensed according to the PPE Regulation and it as follows.

Item	Examples of markings
Manufacturer's identification mark	WORKSafe
Number of European standard	EN ISO 20345:2011
Footwear size	5/39
Month and year of manufacturer	10/2022
Category of protection	S5
Additional property symbols, e.g. P (Penetration resistance)	
CE mark	CE

Additional requirements for safety footwear

Additional protection can be necessary for safety footwear depending upon risks to be encountered at workplace. In such cases, safety footwear shall conform to the appropriate additional requirements and corresponding marking give below.

Requirement			Classification							
		Class	Class	Hybrid						
		1	Ш	Mounted	Moulded					
	Penetration resistance	•								
Whole footwear	Penetration resistance (Metal insert type P)*	х	х	x	х	Р				
	Penetration resistance (Non-metal insert type PL)*	х	х	x	x	PL				
	Penetration resistance (Non-metal insert type PS)*	х	х	x	x	PS				
	Electrical properties**									
	Partially conductive footwear (Max 100kΩ)	х	х	x	х	С				
	Antistatic footwear (Range of 100k Ω to 1000M Ω)	х	х	х	х	Α				
	Resistance to inimical environments									
	Heat insulation of sole complex	х	х	х	х	ні				
	Cold insulation of sole complex	x	x	x	x	CI				
	Energy absorption of seat region (20J)	x	x	x	x	E				
	Water resistance	x				WR				
	Metatarsal protection	х	х	x	x	м				
	Ankle protection	х	x	x	x	AN				
	Cut resistance	x	x	x	x	CR				
	Scuff cap abrasion	x				sc				
	Slip resistance on ceramic tile floor with glycerine	х	x	х	х	SR				
Upper	Water penetration and absorption	х				WPA				
Outsole	Resistance to hot contact	x	x	x	x	HRO				
	Resistance to fuel oil	x	x	x	x	FO				
	Ladder grip system	x	X	x	x	LG				

*Hybrid footwear must pass the test for every feature listed in the table.

* One of the three shall be chosen.

** One of the two shall be chosen.

NOTE The applicability of a requirement to a particular property is indicated by an X.

*Expiration date of safety footwear is 2 years from the date of manufacturer.

Perforation resistance:

The perforation resistance of this footwear has been measured in the laboratory using standardized nails and forces. Nails of smaller diameter and higher static or dynamic loads will increase the risk of perforation occurring. In such circumstances, additional preventative measures should be considered.

Three generic types of perforation resistant inserts are currently available in PPE footwear. These are metal types and those from non-metal materials, which shall be chosen on basis of a job-related risk assessment. All types give protection against perforation risks, but each has different additional advantages or disadvantages including the following:

Metal (e.g. S1PS, S3): Is less affected by the shape of the sharp object/hazard (i.e. diameter, geometry, sharpness) but due to shoemaking techniques may not cover the entire lower area of the foot.

Non-metal (PS or PL or category e.g. S1PS, S3L): May be lighter, more flexible and provide greater coverage area, but the perforation resistance may vary more depending on the shape of the sharp object/hazard (i.e. diameter, geometry, sharpness). Two types in terms of the protection afforded are available. Type PS may offer more appropriate protection from smaller diameter objects than type PL.

Shoe care tips

Follow these tips to increase your footwear's lifespan.

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1. Clean your shoes regularly. Remove any dirt gently with damp cloth or a stiff bristle brush	4. Store your shoes in a dry, ventilated space
2. Clean your outsole regularly to prevent clogging	5. If your footwear is wet, let it dry naturally to prevent damage
3. Do not use any caustic cleaning agents	6. Change your socks regularly for better hygiene

When to replace my shoes?

The lifetime of shoe is not endless as shoes may become worn out or damaged. Here are some signs to remind you that it is time to

replace your shoes.	
Тоесар	The material above the steel toecap is abraded and the toecap is visible.
	Toecap is deformed by impact or compression accident.
The sole	The bond has either failed, the entire sole profile is abraded or broken.
	The steel mid-sole is broken or penetrated.
Shoe body (Shoe upper)	Broken or torn.

Marking Categories of safety footwear

Category	Class I*					Class II**			Hybrid footwear	
	SB	S1	S1P	S2	S3	SB	S4	S5	SBH	
Properties										
Safety Basic Requirement including Impact Resistant and Compression Resistant Toecap		Х	×	Х	X	Х	×	X	Basic testing requirements	
Closed Seat Region		X	X	X	X		X	X	refer to EN ISO	
Energy Absorption of Seat Region (E)		Х	×	Х	x		×	×	20345:2011 Annex A.	
Antistatic Properties (A)		X	X	X	Х		X	Х		
Resistance to Fuel Oil (FO)		Х	Х	Х	Х		Х	Х]	
Penetration Resistant (P)			Х		Х		Х	X]	
Water Penetration and absorption (WRU)				×	Х					
Cleated Outsole					Х			X	1	

- Class I: Footwear made from leather and other materials excluding all-rubber or all-polymeric footwear.
- ** Class II: All-rubber (i.e. entirely vulcanized) or all-polymeric (i.e. entirely moulded) footwear.

NOTE 1 For ease of marking, this table categorizes safety footwear with the most widely used combinations of basic and additional requirements.

*Hybrid footwear must pass the test for every feature listed in the table.

- * One of the three shall be chosen.
- ** One of the two shall be chosen.
- NOTE The applicability of a requirement to a particular property is indicated by an X.

Slip resistance

There is an option to additionally test in the heel and forepart test mode using a ceramic tile floor with Glycerine and performance requirements are specified.

Test conditions	Coefficient of friction
Condition C (forward heel slip)	≥0.19
Condition D (backward forepart slip)	≥0.22

If this test is performed and the product meet the performance requirements, then the symbol 'SR' may be added to the marking of the footwear. The test 'SR' is intended as a generic test for assessing performance on more viscous contaminants such as oil.

It should be noted that this test condition is particularly demanding and results in this test tend to be inherently low. It is always better to use protective equipment that has been shown to perform well under test conditions that are as similar as possible to the conditions of use.

It should also be noted that neither the mandatory nor the 'SR' test conditions mimic outdoor environments when walking on heavy

or lose ground. Under these condition small cleats or narrow footwear tread patterns can become clogged with contamination such as mud or gravel thus leading to a significant reduction in slip resistance.

No footwear can ever provide complete safety under particularly demanding conditions such as spillages of cooking or mineral oil. Under such conditions, slip-resistance footwear can only reduce the risk. Often the only solution in such circumstances is to either prevent contamination in the first place or promptly clean-up the spill.

Antistatic footwear

by the footwear.

Antistatic footwear should be used if it is necessary to minimize electrostatic build-up by dissipating electrostatic charges, thus avoiding the risk of spark ignition of, for example, flammable substances and vapours, and if the risk of electric shock from any electrical apparatus or live parts has not been completely eliminated. It should be noted, however, that antistatic footwear cannot guarantee adequate protection against electric shock as it only introduces a resistance between foot and floor.

If the risk of electric shock has not been completely eliminated, additional measures to avoid this risk are essential. Such measures, as well as the additional tests mentioned below, should be a routine part of the accident prevention programme at the workplace.

Experience has shown that, for antistatic purposes, the discharge path through a product should normally have an electrica resistance of less than **1000 M\Omega** at any time throughout its useful life.

A value of **100** $\mathbf{k}\Omega$ is specified as the lowest resistance limit of a product, when new, in order to ensure some limited protection against dangerous electric shock or ignition in the event of any electrical apparatus becoming defective when operating at voltages of up to **250** \mathbf{V} . However, under certain conditions, users should be aware that the footwear might give inadequate protection and additional provisions to protect the wearer should be taken at all times.

The electrical resistance of this type of footwear can be changed significantly by flexing, contamination or moisture. This footwear might not perform its intended function if worn in wet conditions. It is, therefore, necessary to ensure that the product is capable of fulfilling its designed function of dissipating electrostatic charges and also of giving some protection during its entire life. It is recommended that the user establish an in-house test for electrical resistance, which is carried out at regular and frequent intervals.

Class I footwear can absorb moisture and can become conductive if worn for prolonged periods in moist and wet conditions. If the footwear is worn in conditions where the soling material becomes contaminated, wearers should always check the electrical properties of the footwear before entering a hazard area.

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Where antistatic footwear is in use, the resistance of the flooring should be such that it does not invalidate the protection provided

In use, no insulating elements should be introduced between the inner sole of the footwear and the foot of the wearer. If any insert is put between the inner sole and the foot, the combination footwear/insert should be checked for its electrical properties.





UK/EU	4/38	5/39	6/40	7/41	8/42	9/43	10/44	11/45	12/46
WSS108BA									

UK/EU	4/38	5/39	6/40	7/41	8/42	9/43	10/44	11/45	12/46
WSS108YN									