Guide to Footwear Application

Impact resistant
up to 200 joules

Anti-perforation
Anti-perforation Steel

Slip resistant

Heat resistant outsole
Resistant upto 300°C

Cold insulation
Resistance to low temperatures

Water resistant
Water Resistant Upper

Antistatic
Sole resistance 100 K Ω to 1000 M Ω

Electrical Insulative
Sole resistance upto 18K Volts

Chrome Free Leather
As per EN 20345/IS 15298

ESD
Electrostatic Discharge

Certain footwear styles can provide additional protection & are more suitable for use in particular working areas. This table lists work activities/areas on your sites and footwear which is suggested for use.

Activity/Area	Recommended JCB footwear
Engineering & Mining	Earthmover, Excavator, Rider, Trekker, JCB Lite.
Acid, Alkali & Chemical Resitant.	Heatmax.
Ladies	Duchess.
Cleanroom	Cleanpro.
Oil Rigs	Digger.
Electrical Hazard	Heatmax.
Defence, Security, Paramilitary Forces	Combater.
Electronics (Antistatic)	Earthmover, Excavator, Rider, Trekker, JCB Lite, Cleanpro.



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Selecting & using safety footwear

What is the difference between safety, protective and occupational safety shoes?

Safety Shoes	Shoes protecting the wearer from injury. Special safety feature: toe-cap with a protective effciency measured at an energy level of 200 joules.
Protective Shoes	Shoes protecting the wearer from injury. Special protective feature: toe cap with a protective effciency measured at 100 joules. (Not available with JCB).
Occupational Shoe	Shoes protecting the wearer from injury. Special feature: without toe cap but with skid-resistant, anti-static or similar characteristics.

Identifying the Hazards

It is important that you choose the correct industrial footwear for your specific working environment. There is no workplace where an employee is immune to foot injury. However the hazards differ according to the workplace and the types of tasks involved. The first step in developing a strategy to reduce foot problems is to identify and assess the relevant hazards in the workplace, no matter how safe or dangerous it may seem, and the correct method of addressing them - by removing the risks, controlling them or providing suitable safety footwear. Typical workplace injuries include:

- Crushed or broken feet.
- Severed toes or feet.
- Punctures on the soles.
- Burns.
- Cuts, lacerations.
- Electricalshocks.
- Twisted ankles.
- Fractured or broken bones.
- Injuries due to chemicals.

Protective Features

Safety shoes and boots protect the feet, help prevent injuries to them and reduce the severity of injuries that do occur in the workplace. JCB Safety footwear is comfortable, flexible and stylish - still it provides protection from injury. The basic safety shoe is designed to protect the feet against impact, compression or puncture. Common features include:

- Safety toe-for protection against falling or rolling objects.
- Cushion between toe cap and the foot-for comfort and insulation.
- Anti-perforation midsole-for puncture protection.
- Special soles-made from a variety of materials for protection against a range of hazards (e.g. antistatic to ESD and Electrical Hazard).

Other options include:

- Shoes or boots with toe protection. (All JCB Footwear)
- Insulated sole for protection upto 300° C (Heatmax).
- Boots with built-in ankle protection. (Excavator, Rider, Trekker)
- Safety boots to protect from water, oils, acids, corrosives and chemicals. (Heatmax)
- Add-on protection such as Penetration Resistant midsole is also available with all JCB footwear.

Care & Maintenance

While the actual wear-life of safety footwear is largely dependent on the type of footwear and the work environment, caring and storing them in a dry, well ventilated location will add to their effective life.

- Inspect safety footwear regularly for cracks, wear and damage and remove any embedded objects from the soles. Clean footwear with an appropriate, recommended cleaning product and do not use caustic cleaning agents.
- If feet tend to perspire, change into clean, dry cotton socks during the work day.
- Where footwear has been subjected to wet conditions, after use allow it to dry naturally in a cool, dry area. Do not force dry wet footwear by exposing to heat source as or professionally repair worn or damaged safety this can cause deterioration of the upper material.
- Replace immediately worn or damaged safety footwear.

Guide to footwear standards

EN ISO 20345*

Safety footwear.

Basic requirements - Safety footwear must have a 200J toecap. Other properties: (may not all apply to some designs of footwear).
P - penetration resistance
C - conductive
A - antistatic
I – electrically insulating
HI - insulating against heat
CI - insulating against cold
E - energy absorbing seat region
WR–wholefootwearresistanttowater penetration / absorption
M – metatarsal protection
AN – ankle protection
WRU–waterresistantupperonly
CR – cut resistant upper
HRO - outsole resistant to hot contact
Slip resistance rating - one of:
SRA - on ceramic surface with "soap"
SRB - on steel with glycerol
SRC - both of the above

Classifcation I - (made from leather and other materials, but not all-rubber or all-polymeric types).
SB - basic requirements for safety footwear met
S1 - basic requirements plus closed and energy absorbing seat region, and antistatic
S2 - as S1 plus water penetration & absorption
S3 - as S2 plus penetration resistance and cleated sole

* Identical to IS 15298 (Part-2) : 2011

EN ISO 20347**

Occupational footwear.

Basic requirements - Occupational footwear is **not required to have a protective toe cap**.
Other properties: markings as for EN ISO 20345 except:
FO – sole resistant to fuel oil
(M – metatarsal protection is not an option)
Classifcation I - (made from leather and other materials, but not all-rubber or all-polymeric types)
OB – basic requirements for occupational footwear met
O1 - basic requirements plus oil resistant sole, closed
and energy absorbing seat region, and antistatic
O2 - as O1 plus water penetration and absorption
O3 - as O2 plus penetration resistance and cleated sole
Classifcation II - (all-rubber or all-polymeric types)
OB – basic requirements for occupational footwear met
O4 - basic requirements plus oil resistant sole, energy absorbing seat region, antistatic
O5 - as O4 plus penetration resistance and cleated sole

** Identical to IS 15298 (Part-4) : 2011

BASIC CATEGORY OF SAFETY AND OCCUPATIONAL FOOTWEAR

FOOTWEAR CLASSIFICATION ACCORDING TO PROTECTION LEVEL		CATEGORY MARKING					
EN ISO 20347 occupational footwear		OB'	01	02	03	04	05
EN ISO 20345 safety footwear protection of toe against impact upto 200J and compression force of 15 kn		SB	S1	S2	S3	S4	S5
SYMBOL	**COVERED RISKS**						
	basic requirement	×	×	×	×	×	×
	closed heel part		×	×	×	×	×
E	energy absorption in heel area	O	×	×	×	×	×
A	antistatic properties	O	×	×	×	×	×
WRU	upper part resistant to penetration and absorption of water		O		×	×	
P	protection of outsole complex against puncture	O	#		×	×	×
	sole with outsole pattern	O	O	O	×	O	×
CI	insole of outsole complex against cold	O	O	O	O	O	O
HI	insole of outsole complex against heat	O	O	O	O	O	O
HRO	outsole resistance against contact heat	O	O	O	O	O	O
WR	footwear resistance to water	O	O	O	O		
FO	outsole resistance to fuel (valid only for work footwear)	O	O	O	O	O	O

' to be market OB, one more requirement from those for complete footwear E, A, P, CI, HI, WR is required to be fulfilled. # S1 P = S1 + Penetration resistant insert.
× = necessary, basic requirement, it must be fulfilled for specific category. O = not necessary, additional requirement, according to client's requirement.

EN ISO 20347:2004, EN ISO 20345:2004, dedicated to a product, guarantees the quality level defined by the European standards.
If the footwear does not contain additional marking, protection against such risks is not included.

EN ISO 20344 - Testing methods for Safety, protective and work footwear.
EN ISO 20345 - Safety footwear (marking "SB, S1-S5") with a toe cap resistant against 200 J impact and 15 kN pressure.
EN ISO 20346 - Protective footwear (marking "PB, P1-P5")with a toe cap resistant against 200 J impact and 10 kN pressure.
EN ISO 20347 - Occupational footwear (marking "OB, 01-05") This footwear that does not contain any protective toe cap.
EN 50321 - Electrical insulating footwear for work in low voltage environment

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EARTHMOVER S1



EXCAVATOR S1



DUCHESS S1



HEATMAX HRO



JCB LITE S1



COMBATER O1



EXEC S1



TREKKER S1



RIDER S1



CLEANPRO S1



DIGGER S1

Any of the article can be available as S1 P and ESD (except Combater & Heatmax)



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