



**CROATIAN INSTITUTE FOR HEALTH
PROTECTION AND SAFETY AT WORK**



**PERSONAL PROTECTIVE EQUIPMENT
FOR LEGS AND FEET PROTECTION**

**Series of flyers
Education for better
occupational safety and health**

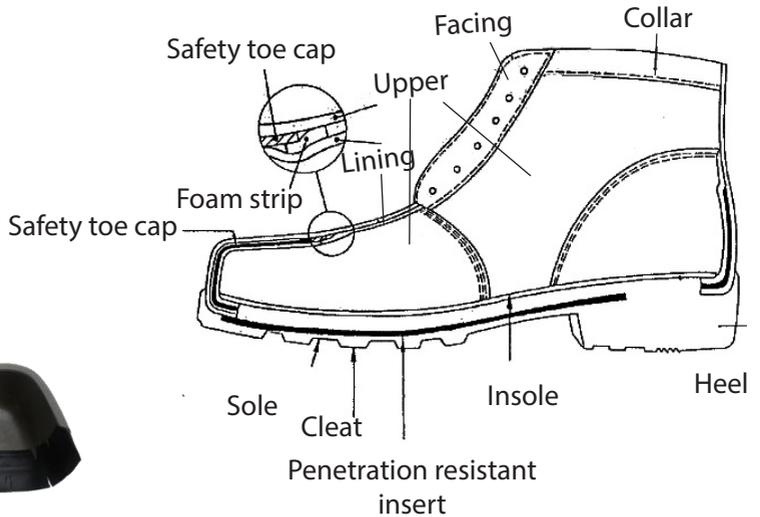
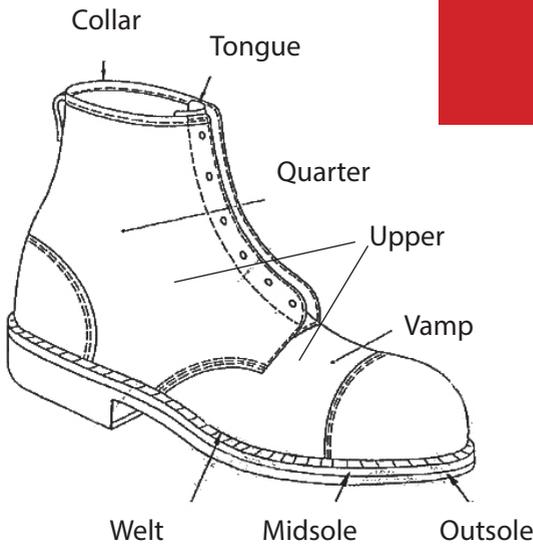


IMPLEMENTATION OF PERSONAL PROTECTIVE EQUIPMENT (PPE) FOR LEGS AND FEET PROTECTION



Personal protective equipment for legs and feet protection is used for protection from mechanical, electrical, thermal, chemical and other hazards characteristic in industry, construction, forestry...

SHOE PARTS



Toe caps



Steel toe cap

The highest protection level

Heavy and uncomfortable

Aluminium toe cap

Middle protection level

30% lighter than steel caps

Composite toe cap

The lowest protection level

30 – 50% lighter than steel caps

SAFETY FOOTWEAR



Safety footwear is defined by standard HRN EN ISO 20345:2012 which as the basic requirement (SB) posts the toe cap resistance 200 J (TC 200 J), resistance to fuel oils (FO) and slip resistance (SR).

It is marked by letter **S** (Safety Footwear)

Requirements and symbols

		SAFETY FOOTWEAR CATEGORIES					
		SB	S1	S2	S3	S4	S5
		Made of leather or other materials except rubber and polymers				Rubber or polymer material	
FO = fuel and oil resistant sole		X	X	X	X	X	X
TOECAP = 200J steel or composite toe cap		X	X	X	X	X	X
SR = slip resistant sole		X	X	X	X	X	X
A = antistatic shoe			X	X	X	X	X
E = energy absorption of seat region			X	X	X	X	X
WRU = water resistant upper				X	X		
P = penetration resistant sole					X		X



PROTECTIVE FOOTWEAR

Protective Footwear is defined by standard HRN EN ISO 20346:2014 which as the basic requirement (PB) posts the toe cap resistance of 100 J (TC 100 J), fuel and oils resistance (FO) and slip resistance (SR).

It is marked by letter **P** (Protective Footwear)

Requirements and symbols

PROTECTIVE FOOTWEAR CATEGORIES						
PB	P1	P2	P3	P4	P5	
Made of leather or other materials except rubber and polymers				Rubber or polymer material		
FO = fuel and oil resistant sole 	X	X	X	X	X	X
TOECAP = 200J steel or composite toe cap 	X	X	X	X	X	X
SR = slip resistant sole 	X	X	X	X	X	X
A = antistatic shoe 		X	X	X	X	X
E = energy absorption of seat region 		X	X	X	X	X
WRU = water resistant upper 			X	X		
P = penetration resistant sole 				X		X

OCCUPATIONAL FOOTWEAR



Occupational footwear is defined by standard HRN EN ISO 20347:2012 which as the basic requirement posts slip resistancy. Occupational footwear has no protective toe cap. It is marked by letter **O** (Occupational Footwear)

Requirements and symbols

OCCUPATIONAL FOOTWEAR CATEGORIES						
OB	O1	O2	O3	O4	O5	
Made of leather or other materials except rubber and polymers				Rubber or polymer material		

FO = fuel and oil resistant sole			X	X	X	X	X
SR = slip resistant sole		X	X	X	X	X	X
A = antistatic shoe			X	X	X	X	X
E = energy absorption of seat region			X	X	X	X	X
WRU = water resistant upper				X	X		
P = penetration resistant sole					X		X

Higher level of legs and feet protection is acquired, besides the selection of footwear that fulfills the requirements posted by standards, by additional footwear requirements

SIMBOLS FOR MARKING FOOTWEAR REQUIREMENTS

	Requirement	Symbol
Whole shoe	Antistatic	A
	Conductive	C
	Cold Insulation	CI
	Heat Insulation	HI
	Penetration Resistance Sole	P
	Energy Apsorption in the seat region	E
	Water Resistant	WR
	Metatarsal Protection	M
	Ankle Protection	AN
	Insulation against Electricity	I
Upper	Water Resistant Upper	WRU
	Cut Resistance	CR
Sole	Heat Resistance Outsole	HRO
	Fuel & Oils Resestance Outsole	FO
	Slip Resistance	SRC

Example of basic and additional requirements

HRN EN ISO 20345:2012



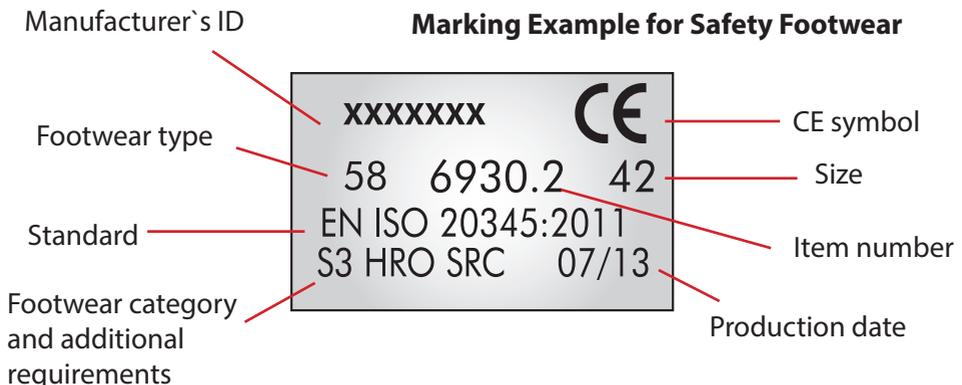
Basic Requirements
FO +TC 200J
+ SR + A+E+ WRU

Additional Requirements

Obligatorily visible and permanent marks

- Size
- Manufacturer`s ID
- Type of footwear
- Production date
- Standard
- Footwear category
- Additional requirements

Marking Example for Safety Footwear



ADDITIONAL LEGS AND FEET PROTECTION

As additional protection there can be used protective knee and lower leg guards protecting from mechanical risks, waterproof and thermoresistant protective kneepads...



- Take Risk Assessment as starting point in PPE selection
- Choose only the PPE fulfilling the requirements defined by standards
- Pay attention to comfort contributing elements (footwear weight, quality of material, flexible sole...)
- Give the opportunity to workers to choose among several footwear models that fulfill the requirements
- Inform workers on risks at their workplaces, as well as on the limitations of PPE intended for the risk protection at their workplace
- Maintain the feet and legs PPE according to manufacturer's instructions
- Take care of your feet hygiene
- Check your PPE before each use
- Replace damaged and broken PPE

ADVICE FOR PROPER SELECTION AND MAINTAINANCE RECOMMENDATIONS

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