

# User Notice

Function	European Standards EN ISO 20345 for safety footwear
Impact Resistance	Level of protection : 200 Joules
Compression Resistance	Level of protection : 15 kN
Penetration resistance	With symbol of "P" resist a penetration force of 1,100 Newtons (N)

Marked	Standard for EN20345: 2011
SB	Basic requirements for safety footwear with a toe cap resistant to an impact of 200 Joules
S1	As above SB standard, plus closed seat region. Anti-static properties. Energy absorption of seat region. Fuel resistance.
S2	As above S1 standard, plus water absorption and desorption Non Cleated outsole.
S3	As above S2 standard, plus penetration resistance. Cleated outsole.

Symbols	Function	Requirement
P	Penetration Resistance	> 1100N
E	Energy Absorption	> 20J
A	Anti Static	Between 0.01 und 1000 M $\Omega$
C	Conductive Footwear	< 0.1 M $\Omega$
HI	Insulation Against Heat	The environment is 150 °C for 30 minutes, the insole surface temperature should not rise above 22 °C
CI	Insulation Against Cold	In an environment of minus 17 °C for 30 minutes after the insole surface temperature should not declined by more than 10 °C
HRO	Resistance to Hot Contact up to 300°C	When exposed to high temperatures up to 300 °C of the surface, there should be no broken soles
WRU	Water Penetration and Water Absorption Resistant Upper	Water penetration time > 30 min. Water absorption after 20% $\leq$ 30min Permeable volume $\leq$ 3g / h Water vapor permeability $\geq$ 0.8mg/cm <sup>2</sup> h

Marked	The lubricant	Test Area	Test Mode	Normative standards friction coefficient
SRA	Sodium lauryl sulphate (SLS) solution	Ceramic tile floor	Forward heel slip	$\cong$ 0.28
			Forward flat slip	$\cong$ 0.32
SRB	Glycerol	Steel floor	Forward heel slip	$\cong$ 0.13
			Forward flat slip	$\cong$ 0.18
SRC	Pass By SRA, SRB slip Specification Test			