

Prod. Ref.	13510-N00
Safety cat.	S7S CI HRO SC FO SR
Range of sizes	39 - 47 (6 - 12)
Weight (sz. 9)	915 g
Shape	C
Width	12

Description: Black water repellent full grain leather resistant to low temperatures ranger, ecological fur lining, highly insulating, antistatic, anti-shock, slipping resistant, non metallic **APT PLUS** midsole **Zero Perforation**

Plus: Cold protection thanks to **THINSULATE™ 200g. COLD BARRIER** anatomic and antistatic footbed, insulating against low temperatures. The thermal comfort inside the footwear is granted thanks to the specials PU compound devised to give high insulation, covered with warm fabric. The leather used for these footwear is subjected to a treatment which makes them flexible and resistant to low temperatures even in the flexing areas to prevent cracks and stiffening. **ANTI TORSION SUPPORT** made of polycarbonate and fibreglass conveniently placed between heel and sole, which provides support and protection of the plantar arch, thus preventing harmful bendings and/or unwilling torsion. Sole **COLD DEFENDER PU/nitrile rubber** resistant up to +300 °C (1 minute contact) and to low temperatures up to -25 °C. **Cold Defender PU** is a special PU compound which guarantees higher performances than the ordinary PU for mechanical resistance to low temperatures and thermal insulation and it resist under extreme temperatures up to -25°C. The rubber outsole design has been devised to improve the slip resistance and enhance the comfort even on frozen and rambling surfaces. **Sealed stitchings.**

Suggested uses: Footwear for cold temperature

Care and maintenance: Clean after each use and dry off away from direct heat. Avoid contact with aggressive chemicals or extreme temperature. Avoid immersion in sea water, lime water or cement mixed with water



MATERIALS / ACCESSORIES

		Clause EN ISO 20345:2022	Description	Unit	Cofra result	Requirement
Whole footwear	Water resistance	5.15.1	Water resistance (area of water penetration after 100 paces in a surface flooded with water)	cm ²	≤ 3	≤ 3
	Toe cap: non metallic FIBERGLASS toe cap, impact resistant until 200 J and compression resistant until 1500 kg	5.3.2.6	Shock resistance (clearance after shock)	mm	15,5	≥ 14
		5.3.2.7	Compression resistance (clearance after compression)	mm	16	≥ 14
	Anti perforation midsole: in multi-layers highly tensile fabric, penetration resistant, Zero Perforation	6.2.1	Penetration resistance (PS requirement with Ø 3,0 mm nail)	N	To 1100 N No perforation	≥ 1100
	Antistatic shoe: the bottom is fit for the dissipation of electrostatic charges	6.2.2.2	Electric resistance - wet - dry	MΩ MΩ	91,07 215	≥ 0.1 ≤ 1000
	Cold insulation	6.2.3.2	Cold insulation (temp. decrease after 30' C at -17 °C)	°C	5	≤ 10
	Energy absorption system	6.2.4	Shock absorption	J	30	≥ 20
Upper	Black water repellent full grain leather, resistant to low temperatures thickness 1,8/2,0 mm	5.4.6	Water vapour permeability Permeability coefficient	mg/cmq h mg/cmq	> 1,4 > 24,5	≥ 0,8 > 15
		6.3.1	Water absorption Water penetration		11,6% 0,0 g	≤ 30% ≤ 0,2 g
Upper	Dark grey water repellent Pull-Up Nubuck thickness 1,8/2,0 mm	5.4.6	Water vapour permeability Permeability coefficient	mg/cmq h mg/cmq	> 5,4 > 45,8	≥ 0,8 ≥ 15
		6.3	Water absorption Water penetration		13% 0,0 g	≤ 30% ≤ 0,2 g
Vamp	Ecological fur, breathable, colour dark grey	5.5.4	Water vapour permeability	mg/cmq h	> 7,5	≥ 2

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lining	thickness 1,2 mm		Permeability coefficient	mg/cmq	> 63,2	≥ 20
Quarter	Ecological fur , breathable, abrasion resistant, colour dark grey	5.5.3	Water vapour permeability	mg/cmq h	> 3,6	≥ 2
lining	thickness 1,2 mm		Permeability coefficient	mg/cmq	> 31,4	≥ 20
Sole	COLD DEFENDER PU /Nitrile rubber, antistatic, resistant to low temperatures, directly injected in the upper:	5.8.4	Abrasion resistance (lost volume)	mm ³	120	≤ 150
	Outsole: black nitrile rubber, slipping resistant, abrasion resistant, hydrocarbons resistant and heat resistant.	5.8.5	Flexing resistance (cut increase)	mm	2	≤ 4
	Midsole: Cold Defender PU resistant to -25°C, colour black	5.8.7	Interlayer bond strength	N/m	4	≥ 3
		6.4.4	Hot resistance (300 °C)	-----	any melting	any melting
		6.4.2	Hydrocarbons resistance (ΔV = volume increase)	%	8,9	≤ 12
	Adherence coefficient of the sole (Slip resistance)	5.3.5.2	ceramic + detergent solution – forepart (contact angle 7°)		0,43	≥ 0,36
			ceramic + detergent solution – heel (contact angle 7°)		0,37	≥ 0,31
		6.2.10	SR : ceramic + glycerol – forepart (contact angle 7°)		0,29	≥ 0,22
			SR : ceramic + glycerol – heel (contact angle 7°)		0,24	≥ 0,19

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