PRODUCT SHEET

MANGFALL S7S CI HRO LG SC FO SR

Prod. Ref.	37040-N00
Safety cat.	S7S CI HRO LG SC FO SR
Range of sizes	40 - 47 (6,5 - 12)
Weight (sz. 8)	855 g
Shape	C
Widht	11

Description: Black water repellent full grain leather ranger, with **WIN THERM®**, aluminised felt textile lining, antistatic, anti-shock, slipping resistant, non metallic **APT PLUS** midsole **Zero Perforation**

Plus: Cold protection thanks to **THINSULATE™ 600g**. **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. **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 unwilled torsion. Sole COLD DEFENDER PU/nitrile rubber resistant up to +300 °C (1 minute contact) and to low temperatures up to -25 °C. Footwear equipped with a particularly abrasion-resistant material on the toe area (**SC**). Sole design especially conceived for safer standing on ladder rungs (**LG**). **Abrasion resistant TPU toe cap protection**. **Sealed seams**

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

Complete shoe	**Water resistance**	
	Toe cap: non metallic **FIBERGLASS** toe cap, impact resistant until 200 J	
	and compression resistant until 1500 kg	
	Anti perforation midsole: in multi-layers highly tensile fabric, penetration resistant, **Zero Perforation**	
	Antistatic shoe: the bottom is fit for the dissipation of electrostatic charges	
	Cold insulation	
	Energy absorption system	
Upper	Black water repellent full grain leather	
	thickness 1,8/2,0 mm	
Vamp	**WIN THERM®,** breathable, colour black	
lining	thickness 1,2 mm	
Quarter	**WIN THERM®,** breathable, abrasion resistant, colour black	
lining	thickness 1,2 mm	
Sole	Polyurethane/Nitrile rubber, antistatic, resistant to low temperatures, directly injected in the upper:	
	Outsole: black nitrile rubber, slipping resistant, abrasion resistant, hydrocarbons resistant and heat resistant.	
	Midsole: **Cold Defender PU** resistant to -25°C, colour dark grey	

SAFETY TECHNICAL SPECIFICATIONS

Clause EN ISO 20345:2022	Description	Unit	Cofra result	Requirement
5.15.1	Water resistance (area of water penetration after 1000 paces in a surface flooded with water)	cm^2	**≤ 3**	≤ 3
5.3.2.6	Shock resistance (clearance after shock)	mm	**15**	≥ 14
5.3.2.7	Compression resistance (clearance after compression)	mm	**16**	≥ 14
6.2.1	Penetration resistance	N	**To 1100 N**	≥ 1100
	(**PS** requirement with Ø 3,0 mm nail)		**No perforation**	
6.2.2.2	Electric resistance			
	- wet	MΩ	**93.41**	≥ 0.1
	- dry	MΩ	**298**	≤ 1000
6.2.3.2	Cold insulation (temp. decrease after 30' C at -17 °C)	°C	**4**	≤ 10
6.2.4	Shock absorption	J	**30**	≥ 20
5.4.6	Water vapour permeability	mg/cmq h	**> 2,1**	≥ 0,8
	Permeability coefficient	mg/cmq	**> 22,1**	≥ 15
6.3	Water absorption		**2,2%**	≤ 30%
	Water penetration		**0,0 g**	≤ 0,2 g
5.5.4	Water vapour permeability	mg/cmq h	**> 34,2**	≥ 2
	Permeability coefficient	mg/cmq	**> 274,1**	≥ 20
5.5.4	Water vapour permeability	mg/cmq h	**> 12,4**	≥ 2
	Permeability coefficient	mg/cmq	**> 99,3**	≥ 20
5.8.4	Abrasion resistance (lost volume)	mm^3	**112**	≤ 150
5.8.5	Flexing resistance (cut increase)	mm	**2**	≤ 4
5.8.7	Interlayer bond strength	N/m	**4,2**	≥ 3
6.4.4	Hot resistance (300 °C)	-----	**any melting**	any melting

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	6.4.2	Hydrocarbons resistance (ΔV = volume increase)	%	**10**	≤ 12
Adherence coefficient of the sole (Slip resistance)	5.3.5.2	ceramic + detergent solution – forepart (contact angle 7°)		**0,40**	≥ 0,36
		ceramic + detergent solution – heel (contact angle 7°)		**0,35**	≥ 0,31
	6.2.10	SR : ceramic + glycerol – forepart (contact angle 7°)		**0,27**	≥ 0,22
		SR : ceramic + glycerol – heel (contact angle 7°)		**0,32**	≥ 0,19

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