COFRA®
BORN TO WORK

PRODUCT SHEET

WOODSMAN BIS

Prod. Ref.	25580-000
Safety cat.	A E P FO WRU SRC
Range of sizes	40 - 47 (6,5 - 12)
Weight (sz. 8)	900 g
Shape	C
Width	11

Description: Black water repellent printed leather ranger with cut protection, **TEXELLE** lining, antistatic, anti-shock, slipping resistant, non metallic **APT Plate** midsole **Zero Perforation**.

Plus: Chain-saw cut resistant (class.1 - chain speed = 20 m/s). Footbed **AIR** made of EVA and fabric, antistatic, anatomic, holed, antistatic. It guarantees high stability thanks to its different thicknesses in the plantar area. Arch 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. Perfumed sole. Bellows tongue. Padded collar.

Suggested uses: Joinery, wood industry. The footwear protecting against chainsaw cuts are provided with a special protection in the forepart to avoid any serious injury to the lower arts in the event that a moving chainsaw (at high kinetic energy) gets out of hand.

Care and maintenance: Clean after each use and dry off away from direct heat; treat the leather with a suitable shoe-polish. Avoid contact with aggressive chemicals or extreme temperature. Avoid immersion in sea water, lime water or cement mixed with water.

MATERIALS / ACCESSORIES

Complete shoe	**Chain saw cut resistance, class 1 (chain speed = 20 m/s)**
	Toe cap: steel made, varnished with epoxy resin, 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
	Energy absorption system: polyurethane low density and heel profile
Upper	Black water repellent printed leather thickness 1,6/1,8 mm
Vamp lining	Felt, breathable, colour dark grey thickness 1,2 mm
Quarter lining	**TEXELLE**, breathable, abrasion resistant, colour black thickness 1,2 mm
Sole	Antistatic dual-density Polyurethane directly injected in the upper: Outsole: black, high density, slipping resistant, abrasion

SAFETY TECHNICAL SPECIFICATIONS

Clause EN ISO 20345:2011	Description	Unit	Cofra result	Requirement
EN ISO 17249:2013	**Chain saw cut resistance**	----	**No cut through shall occur**	No cut through shall occur
5.3.2.3	Shock resistance (clearance after shock)	mm	**15**	≥ 14
5.3.2.4	Compression resistance (clearance after compression)	mm	**15**	≥ 14
6.2.1	Penetration resistance	N	**To 1100 N No Perforation**	≥ 1100
6.2.2.2	Electric resistance			
	- wet	MΩ	**228**	≥ 0.1
	- dry	MΩ	**760**	≤ 1000
6.2.4	Shock absorption	J	**34**	≥ 20
5.4.6	Water vapour permeability	mg/cmq h	**> 2,4**	≥ 0,8
	Permeability coefficient	mg/cmq	**> 26,3**	> 15
6.3.1	Water absorption		**14%**	≤ 30%
	Water penetration		**0,0 g**	≤ 0,2 g
5.5.3	Water vapour permeability	mg/cmq h	**> 4,7**	≥ 2
	Permeability coefficient	mg/cmq	**> 40,6**	≥ 20
5.5.3	Water vapour permeability	mg/cmq h	**> 6,8**	≥ 2
	Permeability coefficient	mg/cmq	**> 55,4**	≥ 20
5.8.3	Abrasion resistance (lost volume)	mm^3	**88**	≤ 150
5.8.4	Flexing resistance (cut increase)	mm	**1**	≤ 4

Made by Technical Dept.

	resistant and hydrocarbons resistant,	5.8.6	Interlayer bond strength	N/mm	**> 5**	≥ 4
Midsole:	black, low density, comfortable and anti-shock	6.4.2	Hydrocarbons resistance (ΔV = volume increase)	%	+ **0,5**	≤ 12
Adherence coefficient of the sole		5.3.5	SRA : ceramic + detergent solution – flat		**0,56**	≥ 0,32
			SRA : ceramic + detergent solution – heel (contact angle 7°)		**0,52**	≥ 0,28
			SRB : steel + glycerol – flat		**0,22**	≥ 0,18
			SRB : steel + glycerol – heel (contact angle 7°)		**0,18**	≥ 0,13