COFRA®
BORN TO WORK

PRODUCT SHEET

RAP BLACK S3 ESD SRC

Prod. Ref.	20551-000
Safety cat.	S3 ESD SRC
Range of sizes	36 - 50 (3 - 15)
Weight (sz. 8)	580 g
Shape	A
Width	12

Description: Black/blue water repellent full grain leather shoe, textile lining, anti-shock, slipping resistant, non metallic **APT Plate** midsole **Zero Perforation,** with low electrical resistance (ESD)

Plus: 100% METAL FREE. High electrical conductibility. Stability of the conductive capability for extended period. **COFRA SOFT ESD**, footbed made of scented polyurethane, holed, anatomic, with low electric resistance, soft and comfortable; the shape of the bottom part guarantees impact energy absorption (shock absorber) and high grip; the upper part absorbs moisture and keeps the foot dry. **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. Perfumed sole

Suggested uses: Footwear for microelectronic industries. Recommendable in **ATEX** environments

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

Recommendation: It is always necessary to wear socks made of natural fibers i.e. wool or cotton, because they provide the best performance with electrical conductivity. Avoid introducing any foreign body between foot and footbed of the footwear (i.e. insoles or similar items not equipped by the manufacturer), as they could make void the electrical properties the footwear have been conceived for. Do not undervalue the effect of ageing and contamination of the footwear: during time their electrical resistance can be subjected to alterations. It is always important to check the electrical properties of footwear through the use of special testing devices in electrostatic protected area (EPA), according to the European standard CEI EN 61340-5-1

MATERIALS / ACCESSORIES

SAFETY TECHNICAL SPECIFICATIONS

		Clause EN ISO 20345:2011	Description	Unit	Cofra result	Requirement
Complete shoe	**E.S.D. features**	CEI EN				
		61340-5-1	Electric resistance of footwear to floor	MΩ	**87**	< 1000
		61340-5-1	Cross resistance	MΩ	**13,5**	≤ 100
		61340-5-1	Charge ability	V	**< 57**	< 100
	Toe cap: non metallic **TOP RETURN** toe cap, impact resistant until 200 J	5.3.2.3	Shock resistance (clearance after shock)	mm	**15,5**	≥ 14
	and compression resistant until 1500 kg	5.3.2.4	Compression resistance (clearance after compression)	mm	**15**	≥ 14
	Anti perforation midsole: in multi-layers highly tensile fabric, penetration resistant, **Zero Perforation,** with low electric resistance	6.2.1	Penetration resistance	N	**To 1100 N** **No perforation**	≥ 1100
	Energy absorption system	6.2.4	Shock absorption	J	**36**	≥ 20
Upper	Black water repellent full grain leather	5.4.6	Water vapour permeability	mg/cmq h	**> 1**	≥ 0,8
	thickness 1,6/1,8 mm		Permeability coefficient	mg/cmq	**> 15,3**	> 15
		6.3.1	Water absorption		**14%**	≤ 30%
			Water penetration		**0,0 g**	≤ 0,2 g
Vamp	Textile, breathable, abrasion resistant, colour black	5.5.3	Water vapour permeability	mg/cmq h	**> 6,3**	≥ 2
lining	Thickness 1,2 mm		Permeability coefficient	mg/cmq	**> 51,1**	≥ 20
Quarter	Textile, breathable, antibacterial, abrasion resistant, colour black and light grey	5.5.3	Water vapour permeability	mg/cmq h	**> 6,2**	≥ 2
lining	thickness 1,2 mm		Permeability coefficient	mg/cmq	**> 50,4**	≥ 20
Sole	polyurethane/TPU with low electrical resistance, directly injected in the upper:	5.8.3	Abrasion resistance (lost volume)	mm^3	**112**	≤ 150

Made by Technical Dept.

Outsole:	Ice TPU, slipping resistant, abrasion resistant and hydrocarbons resistant.	5.8.4	Flexing resistance (cut increase)	mm	**1**	≤ 4
Midsole:	Black polyurethane, low density, comfortable and anti-shock.	5.8.6	Interlayer bond strength	N/mm	**4,2**	≥ 3
		6.4.2	Hydrocarbons resistance (ΔV = volume increase)	%	**0,9**	≤ 12
Adherence coefficient of the sole		5.3.5	SRA : ceramic + detergent solution – flat		**0,62**	≥ 0,32
			SRA : ceramic + detergent solution – heel (contact angle 7°)		**0,58**	≥ 0,28
			SRB : steel + glycerol – flat		**0,26**	≥ 0,18
			SRB : steel + glycerol – heel (contact angle 7°)		**0,19**	≥ 0,13