



<b>Prod. Ref.</b>	78810-000
<b>Safety cat.</b>	S1 P ESD SRC
<b>Range of sizes</b>	36 - 47 (3 - 12)
<b>Weight (sz. 8)</b>	530 g
<b>Shape</b>	A
<b>Width</b>	11

**Description:** Grey highly breathable textile and black leather shoe, **SANY-DRY**<sup>®</sup> lining, anti-shock, slipping resistant, non metallic **APT Plate** midsole **Zero Perforation**, with low electrical resistance (ESD).

**Plus:** High electrical conductivity. 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. Perfumed sole. **Boa**<sup>®</sup> closure system allows to put on and take off the shoe easily and quickly. Made of aviation INOX steel, Boa<sup>®</sup> laces resist to the highest stress. With one single hand it is possible to set the Boa<sup>®</sup> closure system easily and adjust it to the millimetre (**Micro-adjustability - 1 click = 1 mm**)

**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 the ground	MΩ	7	0.75 - 35	
			61340-4-3	Crosswise outsole electric resistance	MΩ	45	< 100
		<b>Toe cap: ALUMINIUM</b> made, ultra light, impact resistant until 200 J and compression resistant until 1500 kg	5.3.2.3	Shock resistance (clearance after shock)	mm	16	≥ 14
			5.3.2.4	Compression resistance (clearance after compression)	mm	15,5	≥ 14
		<b>Anti perforation midsole:</b> in multi-layers highly tensile fabric, penetration resistant, <b>Zero Perforation</b> , with low electric resistance	6.2.1	Penetration resistance	N	To 1100 N	≥ 1100
						No perforation	
		<b>Energy absorption system:</b> polyurethane low density and heel profile	6.2.4	Shock absorption	J	28	≥ 20
	Upper	Grey highly breathable textile, abrasion resistant	5.4.6	Water vapour permeability	mg/cmq h	> 10,4	≥ 0,8
				Permeability coefficient	mg/cmq	> 83,8	> 15
Upper	Black leather	5.4.6	Water vapour permeability	mg/cmq h	> 1,2	≥ 0,8	
	thickness 1,6/1,8		Permeability coefficient	mg/cmq	> 15,3	> 15	
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	<b>SANY-DRY</b> <sup>®</sup> , breathable, antibacterial, abrasion resistant, colour lime	5.5.3	Water vapour permeability	mg/cmq h	> 10,3	≥ 2	
lining	thickness 1,2 mm		Permeability coefficient	mg/cmq	> 82,8	≥ 20	
Sole	polyurethane/TPU with low electrical resistance, directly injected in the upper:	5.8.3	Abrasion resistance (lost volume)	mm <sup>3</sup>	35	≤ 150	

Outsole:	Lime TPU, slipping resistant, abrasion resistant and hydrocarbons resistant.	5.8.4	Flexing resistance (cut increase)	mm	<b>1</b>	≤ 4
Midsole:	Black polyurethane, low density, comfortable and anti-shock.	5.8.6	Interlayer bond strength	N/mm	<b>&gt; 5</b>	≥ 4
		6.4.2	Hydrocarbons resistance ( $\Delta V$ = volume increase)	%	<b>- 0,8</b>	≤ 12
Adherence coefficient of the sole		5.3.5	SRA : ceramic + detergent solution – flat		<b>0,60</b>	≥ 0,32
			SRA : ceramic + detergent solution – heel (contact angle 7°)		<b>0,51</b>	≥ 0,28
			SRB : steel + glycerol – flat		<b>0,27</b>	≥ 0,18
			SRB : steel + glycerol – heel (contact angle 7°)		<b>0,19</b>	≥ 0,13