

Prod. Ref.	13190-000
Safety cat.	S3 ESD SRC
Range of sizes	36 - 47 (3 - 12)
Weight (Sz. 9)	690 g
Shape	A
Width	11

Distributed by:



**Description:** Black/silver water repellent full grain leather shoe, **SANY-DRY®** lining, anti-shock, slipping resistant, non metallic **APT Plate** midsole **Zero Perforation**.

**Plus: NON METAL DETECTABLE.** High electrical conductivity. Stability of the conductive capability for extended period. **TOP COMFORT ESD**, footbed made of soft and scented polyurethane, anatomic, holed, with low electric resistance, soft and comfortable. The pattern of the bottom layer guarantees superb impact shock absorption and ease of movement. The upper layer is made of antibacterial textile to prevent from bad odours, to absorb moisture and keep 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 unwilling torsion. Perfumed sole. Leather toe cap protection. **Boa®** closure system allows to put on and take off the shoe easily and quickly. Made of aviation INOX steel, Boa® laces resist to the highest stress. With one single hand it is possible to set the Boa® 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	<b>5,72</b>	0.75 - 35
		61340-4-3	Crosswise outsole electric resistance	MΩ	<b>25,2</b>	< 100
		5.3.2.3	Shock resistant (free high after shock)	mm	<b>15</b>	≥ 14
		5.3.2.4	Compression resistance (free high after compression)	mm	<b>14,5</b>	≥ 14
		6.2.1	Penetration resistance	N	<b>To 1100 N no perforation</b>	≥ 1100
		6.2.4	Shock absorption	J	<b>36</b>	≥ 20
		5.4.6	Water vapour permeability	mg/cmq h	<b>&gt; 1</b>	≥ 0,8
			Permeability coefficient	mg/cmq	<b>&gt; 15,3</b>	> 15
		6.3.1	Water absorption		<b>14%</b>	≤ 30%
Upper	Toe cap: non metallic <b>TOP RETURN</b> toe cap, <b>Extra Large</b> , impact resistant until 200 J and compression resistant until 1500 kg		Water penetration		<b>0,0 g</b>	≤ 0,2 g
		5.5.3	Water vapour permeability	mg/cmq h	<b>&gt; 6,3</b>	≥ 2
			Permeability coefficient	mg/cmq	<b>&gt; 51,1</b>	≥ 20
		5.5.3	Water vapour permeability	mg/cmq h	<b>&gt; 9,8</b>	≥ 2
Vamp	Textile, breathable, abrasion resistant, colour black		Permeability coefficient	mg/cmq	<b>&gt; 78,5</b>	≥ 20
		5.8.3	Abrasion resistance (lost volume)	mm³	<b>55</b>	≤ 150
lining	Thickness 1,2 mm					
Quarter	<b>SANY-DRY®</b> , antibacterial, breathable, abrasion resistant, colour turquoise					
lining	thickness 1,2 mm					
Sole	dual density polyurethane, with low electric resistance, directly injected in the upper:					

Outsole: black, high density, slipping resistant, abrasion  
resistant and hydrocarbons resistant,  
Midsole: black, low density, comfortable and anti-shock  
Adherence coefficient of the sole

5.8.4	Flexing resistance (cut increase)	mm	<b>1,5</b>	≤ 4
5.8.6	Interlayer bond strength	N/mm	<b>&gt; 5</b>	≥ 4
6.4.2	Hydrocarbons resistance ( $\Delta V$ = volume increase)	%	<b>2</b>	≤ 12
5.3.5	SRA : ceramic + detergent solution – flat		<b>0,43</b>	≥ 0,32
	SRA : ceramic + detergent solution – heel (contact angle 7°)		<b>0,36</b>	≥ 0,28
	SRB : steel + glycerol – flat		<b>0,2</b>	≥ 0,18
	SRB : steel + glycerol – heel (contact angle 7°)		<b>0,16</b>	≥ 0,13

**Distributed by:**

