

## TECHNICAL SHEET



Article:	<b>B1212B I-CYBER</b>
Norm:	<b>UNI EN ISO 20345:2011</b>
Safety Class:	<b>S1P ESD SRC</b>
ESD protection of electronic components:	<b>CEI EN 61340-5-1:2016, CEI EN 61340-4-5:2018 and CEI EN 61340-4-3:2018</b>
Footwear height:	<b>Mod. A, H 85 mm (&lt; 113 mm, Rif. EN 20345-5.2.2)</b>
Width:	<b>11,5</b>
Weight size 42	<b>530 g</b>
Construction:	<b>STROBEL; CEMENTED BIDENSITY SOLE PU/TPU ESD</b>
Cleaning and maintenance:	Use only soft brushes and water. Do not use substances such as alcohol, thinners, gasoline, oil or any other chemicals. Keep the footwear, dry and clean, in a proper place at room temperature.
Suggested fields:	<b>Electronics (EPA=Electrostatic protected areas ESD), automotive, automated lines, building</b>

### ESD Protection (Electrostatic discharges) for electronic devices

#### Suitable for use in EPA areas (Electrostatic discharges protected area)

Component	Description	Value	Norm Requirements
Entire footwear	Total resistance footwear/ground (footwear worn on a metal ground)	$4,08 \times 10^7 \Omega$	$< 1,00 \times 10^8 \Omega$
	Sole electrical transversal resistance (footwear resistance)	$6,1 \times 10^7 \Omega$	$\leq 1,00 \times 10^8 \Omega$
	Chargeability	20,9 V	$< 100 \text{ V}$

Entire footwear: protections				
Component	Description	Value	Norm Requirements	EN 20345
Composite SLIM CAP toe-cap	Impact resistance (200 J)	15,0 mm	$\geq 14 \text{ mm}$	5.3.2.3
	• Free height after impact			
Sole (SRC)	Compression resistance (15 kN)	18,0 mm	$\geq 14 \text{ mm}$	5.3.2.4
	• Free height after compression			
Fresh'n Flex (P)	Slip resistance			
	• SRA – Sole (entire sole)	0,46	$\geq 0,32$	5.3.5.4
	• SRA – Heel (Angle of 7°)	0,44	$\geq 0,28$	5.3.5.4
	• SRB – Sole (entire sole)	0,18	$\geq 0,18$	5.3.5.4
	• SRB – Heel (Angle of 7°)	0,13	$\geq 0,13$	5.3.5.4
Footbed (A)	Puncture resistance	No perforation	$\geq 1100 \text{ N}$	6.2.1.1.2
Sole/Upper Heat (HI) Cold (CI)	Antistatic properties			
	• Electrical resistance	dry $5,6 \times 10^7 \Omega$ humid $2,5 \times 10^7 \Omega$	$\geq 10^5 \Omega, \leq 10^9 \Omega$ $\geq 10^5 \Omega, \leq 10^9 \Omega$	6.2.2.2 6.2.2.2
Heel (E)	Thermal insulation			
	Insole temperature increase	N/A	$\leq 22^\circ\text{C}$	6.2.3.1
(WR) (M)	Insole temperature decrease	N/A	$\leq 10^\circ\text{C}$	6.2.3.2
	Shock-absorption in the heel region	30 J	$\geq 20 \text{ J}$	6.2.4
(WR)	Water resistance (Water absorption)	N/A	$\leq 3 \text{ cm}^2$	6.2.5
(M)	Metatarsal protection	N/A	$\geq 40 \text{ mm}$	6.2.6

Upper				
Component	Description	Value	Norm Requirements	EN 20345
Sublimated technical fabric	Tear resistance	115 N	≥ 120 N	5.4.3
	Traction resistance	N/A	≥ 15 N/mm <sup>2</sup>	5.4.4
	Water steam permeability	2,1 mg/cm <sup>2</sup> h	≥ 0.8 mg/cm <sup>2</sup> h	5.4.6
	Water steam coefficient	18,4	≥ 15 mg/cm <sup>2</sup>	5.4.6
	pH value	N/A	≥ 3,2	5.4.7
	Chromium VI	N/A	Not detectable	5.4.9
	Water passed	N/A	≤ 0.2 g	6.3
	Water absorption	N/A	≤ 30%	6.3

Lining				
Component	Description	Value	Norm Requirements	EN 20345
3D Fabric	Tear resistance	47 N	≥ 15 N	5.5.1
	Abrasion resistance	• Dry : the surface shows no holes	No holes till 51.200 cycles	5.5.2
		• humid: the surface shows no holes	No holes till 25.600 cycles	5.5.2
	Water steam release	21,1 mg/cm <sup>2</sup> h	≥ 2,0 mg/cm <sup>2</sup> h	5.5.3
	pH value	N/A	Not detectable	5.5.4
	Chromium VI	N/A	Not detectable	5.5.5

Insole				
Component	Description	Value	Norm Requirements	EN 20345
Fresh'n Flex ESD	Thickness	3,7 mm	≥ 2,0 mm	5.7.1
	pH value	N/A	Not detectable	5.7.2
	Water absorption	102 mg/cm <sup>2</sup>	≥ 70 mg/cm <sup>2</sup>	5.7.3
	Water release	97%	≥ 80 %	5.7.3
	Abrasion resistance (after 400 cycles)	No damage	Damage ≤ to norms reference	5.7.4.1
	Chromium VI	N/A	Not detectable	5.7.5

Removable footbed*				
Component	Description	Value	Norm Requirements	EN 20345
DRY'N AIR OMNIA ESD WEARECO	Thickness	3,5 ± 0,5 mm (tip)	N/A	5.5.1
	Ph value	N/A	Not detectable	5.5.2
	Water absorption	Permeable through the holes	Permeable or ≥ 70mg/cm <sup>2</sup>	5.5.3
	Water release	Permeable through the holes	Permeable or ≥ 80%	5.5.3
	Abrasion resistance	No damage	Dry No holes till 25.600 cycles Humid no holes till 12.800 cycles	5.5.4.2
	Chromium VI	N/A	Not detectable	5.7

\* Compatible with DRY'N AIR SCAN&FIT OMNIA and Dry'n AIR OMNIA ESD insoles

Sole					
Component	Description	Value	Norm Requirements	EN 20345	
PU Midsole	Sole thickness without profiles	6,5 mm	≥ 4 mm	5.8.1.1	
	Profiles height	4,5 mm	≥ 2,5 mm	5.8.1.3	
	Tear resistance	8,7 kN/m	≥ 8 kN/m	5.8.2	
	Abrasion resistance	• relative volume loss	73 mm <sup>3</sup>	≤ 250 mm <sup>3</sup>	5.8.3
TPU ESD Outsole	Flexion resistance	• Notches increase after 30.000 cycles	2 mm	≤ 4 mm	5.8.4
	Hydrolysis	• Notches increase after 150.00 cycles	2,5 mm	≤ 6 mm	5.8.5
(HRO) Contact heat resistance (300°C)	Outsole – insole detachment	4,5	≥ 4 N/mm; (* ) ≥ 3 N/mm with sole ripping	5.8.6	
	(HRO) Contact heat resistance (300°C)	No damage	No damage (melting, breaking)	6.4.1	
	(FO) Fuel resistance (volume changes)	9 %	≤ 12%	6.4.2	

Date: 14/07/2021

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