TECHNICAL SHEET

Article:	**B1213B I-CYBER TOP**
Norm:	**UNI EN ISO 20345:2011**
Safety Class:	**S1P ESD SRC**
ESD protection of electronic components:	**CEI EN 61340-5-1:2016, CEI EN 61340-4-5:2018 and CEI EN 61340-4-3:2018**
Footwear height:	**Mod. B, H 130 mm (≥113 mm, Rif. EN 20345-5.2.2)**
Width:	**11,5**
Weight size 42	**547 g**
Construction:	**STROBEL; CEMENTED BIDENSITY SOLE PU/TPU ESD**
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:	**Electronics (EPA=Electrostatic protected areas ESD), automotive, automated lines, building**

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)	3,8 x 10^7 Ω	< 1,00 x 10^8 Ω
	Sole electrical transversal resistance (footwear resistance)	6,1 x 10^7 Ω	≤ 1,00 x 10^8 Ω
	Chargeability	20,9 V	< 100 V

Entire footwear: protections

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

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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/mm²	5.4.4
	Water steam permeability	2,1 mg/cm² h	≥ 0.8 mg/cm² h	5.4.6
	Water steam coefficient	18,4	≥ 15 mg/cm²	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/cm² h	≥ 2,0 mg/cm² 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/cm²	≥ 70 mg/cm²	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/cm2	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 TPU ESD Outsole	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 mm³	≤ 250 mm³	5.8.3
	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
	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

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