

TECHNICAL SHEET



Article:	B0880 SPARKLE
Norm:	EN ISO 20345:2012
Safety class :	S3 CI HI HRO SRC
Footwear height:	Mod. B, H 145 mm (≥ 113 mm Rif. EN 20345 5.2.2)
Width:	12
Construction:	STROBEL; PU/GUMMI INJECTED BIDENSITY SOLE
Cleaning and maintenance:	Use only soft brushes and water. Do not use substances like alcohol, thinners, gasoline, oil or any other chemicals. Keep the footwear, dry and clean, in a proper place at room temperature.
Suggested environments :	Building, agriculture, miners, extractive platforms, heavy industry, light industry, shipbuilding, big plants, handicraft.

Entire Footwear: components				
	Description	Value	Norm Requirements	EN ISO 20345
SlimCap composite toe-cap	Impact resistance (200 J)			
	<ul style="list-style-type: none"> Free height after impact 	14,5 mm	≥ 14 mm	5.3.2.3
Sole (SRC)	Compression resistance (15 kN)			
	<ul style="list-style-type: none"> Free height after compression 	15,0 mm	≥ 14 mm	5.3.2.4
Fresh'n Flex (P)	Slip resistance			
	<ul style="list-style-type: none"> SRA – Sole (entire sole) 	0,62	≥ 0,32	5.3.5.4
	<ul style="list-style-type: none"> SRA – Heel (Angle of 7°) 	0,53	≥ 0,28	5.3.5.4
	<ul style="list-style-type: none"> SRB – Sole (entire sole) 	0,31	≥ 0,18	5.3.5.4
Footbed (A)	<ul style="list-style-type: none"> SRB – Heel (Angle of 7°) 	0,27	≥ 0,13	5.3.5.4
	Puncture resistance	No perforation	≥ 1100 N	6.2.1.1.2
Sole/Upper	Antistatic properties	dry 7,28 x 10 ⁸ Ω	≥ 10 ⁵ Ω , ≤ 10 ⁹ Ω	6.2.2.2
	<ul style="list-style-type: none"> Electrical resistance 	humid 1,26 x 10 ⁸ Ω	≥ 10 ⁵ Ω , ≤ 10 ⁹ Ω	6.2.2.2
Heat (HI)	Thermal insulation			
	<ul style="list-style-type: none"> Insole temperature increase 	13°C	≤ 22°C	6.2.3.1
Cold (CI)	<ul style="list-style-type: none"> Insole temperature release 	8°C	≤ 10°C	6.2.3.2
	Heel (E)	Shock-absorption in the heel region	34 J	≥ 20 J
(WR)	Water resistance	N/A	≤ 3 cm ²	6.2.5
(M)	Metatarsal protection	N/A	≥ 40 mm	6.2.6

Upper				
Component	Description	Value	Norm Requirements	EN 20345
Grain leather	Tear resistance	186 N	≥ 120 N	5.4.3
	Traction resistance	N/A	≥ 15 N/mm ²	5.4.4
	Water steam permeability	1,5 mg/cm ² h	≥ 0,8 mg/cm ² h	5.4.6
	pH value	5	≥ 3,2	5.4.7
	Chromium VI	Non detected	Non detectable	5.4.9
	Water passed	0,0 g	≤ 0,2 g	6.3
	Water absorption	22%	≤ 30%	6.3

Lining				
Component	Description	Value	Norm Requirements	EN ISO 20345
3D hi-tech Fabric	Tear resistance	45 N	≥ 15 N	5.5.1
	Abrasion resistance	<ul style="list-style-type: none"> Dry : the surface shows no holes humid: the surface shows no holes 	No holes till 51.200 cycles	5.5.2
	Water steam release	21 mg/cm ² h	≥ 2,0 mg/cm ²	5.5.3
	pH value	N/A	Non detectable	5.5.4
	Chromium VI	N/A	Non detectable	5.5.5

Insole				
Component	Description	Value	Norm Requirements	EN ISO 20345
Fresh'n Flex	Thickness	3,7 mm	≥ 2,0 mm	5.7.1
	pH value	N/A	Non detectable	5.7.2
	Water absorption	82 mg/cm ²	≥ 70 mg/cm ²	5.7.3
	Water release	90 %	≥ 80 %	5.7.3
	Abrasion resistance (after 400 cycles)	No damage	Damage ≤ to norms reference	5.7.4.1
	Chromium VI	N/A	Non detectable	5.7.5

Removable footbed				
Component	Description	Value	Norm Requirements	EN ISO 20345
Dry'n Air OMNIA	Thickness	4±0,5 mm (tip) 10±0,5 mm (heel)	N/A	5.7.1
	pH value	N/A	Non detectable	5.7.2
	Water absorption	Permeable through the holes	Permeable or ≥ 70mg/cm ²	5.7.3
	Water release	Permeable through the holes	Permeable or ≥ 80%	5.7.3
	Abrasion resistance	No damage	Damage ≤ to norms reference	5.7.4.2
	Chromium VI	N/A	Non detectable	5.7.5

Sole				
Component	Description	Value	Norm Requirements	EN ISO 20345
	Sole thickness without profile	10 mm	≥ 4 mm	5.8.1.1
	Profile height	3,5 mm	≥ 2,5mm	5.8.1.3
	Tear resistance	9,5 kN/m	≥ 5 kN/m	5.8.2
Midsole: PU	Abrasion resistance	110 mm ³	≤ 250 mm ³	5.8.3
	<ul style="list-style-type: none"> relative volume loss 			
Outsole: gummi	Flexion resistance	2,2 mm	≤ 4 mm	5.8.4
	<ul style="list-style-type: none"> Notches increase after 30.000 cycles 			
	Hydrolysis	3,2 mm	≤ 6 mm	5.8.5
	<ul style="list-style-type: none"> Notches increase after 150.00 cycles 			
	Midsole/outsole detachment resistance	3,7 N/mm*	≥ 4 N/mm; (*) ≥ 3 N/mm with sole ripping	5.8.6
	(HRO) Heat-resistance by contact (300°C)	No damage	No damage (melting, breaking)	6.4.1
	(FO) Hydrocarbons resistance (Volume change)	4,6 %	≤ 12%	6.4.2

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Issued by: Responsible technician Eng.
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