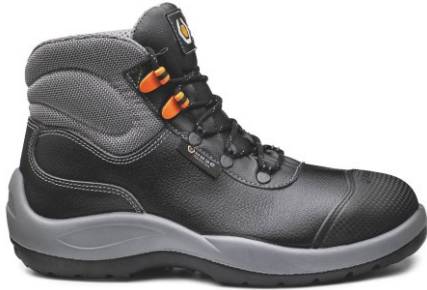


TECHNICAL SHEET



Article:	B0114 HRO VERDI HRO
Norm:	UNI EN ISO 20345:2011
Safety Class:	S3 HRO HI SRA
Footwear height:	Mod. B, H 130 mm (≥ 113 mm et <178, Rif. EN 20345-5.2.2)
Width:	11
Construction:	STROBEL; PU/GUMMI INJECTED 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, mechanics, light industry, logistics, ship building, mines.

Entire footwear: components					
Component	Description	Value	Norm Requirements	EN 20345	
Steel toe-cap	Impact resistance(200 J)				
	• Free height after impact	14,5 mm	≥ 14 mm	5.3.2.3	
Sole (SRC)	Compression resistance (15 kN)				
	• Free height after compression	15 mm	≥ 14 mm	5.3.2.4	
Sole (SRC)	Slip resistance	• SRA – Sole (entire sole)	0,32	≥ 0,32	5.3.5.4
		• SRA – Heel (Angle of 7°)	0,32	≥ 0,28	5.3.5.4
				≥ 0,18	5.3.5.4
				≥ 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 10,0 x 10 ⁸ Ω	≥ 10 ⁵ Ω , ≤ 10 ⁹ Ω	6.2.2.2
			humid 9,68 x 10 ⁸ Ω	≥ 10 ⁵ Ω , ≤ 10 ⁹ Ω	6.2.2.2
Sole/Upper Heat (HI)	Thermal insulation	Insole temperature increase	16°C	≤ 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	34 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	

Upper				
Component	Description	Value	Norm Requirements	EN 20345
Grain leather	Tear resistance	170 N	≥120 N	5.4.3
	Traction resistance	N/A	≥ 15 N/mm ²	5.4.4
	Water steam permeability	2,2 mg/cm ² h	≥0.8 mg/cm ² h	5.4.6
	pH value	3,8	≥ 3,2	5.4.7
	Chromium VI content	Not detected	Not detectable	5.4.9
	Water passed	0,1 g	≤ 0.2 g	6.3
	Water absorption	9 %	≤ 30%	6.3

Lining				
Component	Description	Value	Norm Requirements	EN 20345
3D Tissu	Tear resistance	30 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 permeability	7,2 mg/cm ² h	≥ 2,0 mg/cm ² h	5.5.3
	pH value	N/A	Not detectable	5.5.4
	Chromium VI content	N/A	Not detectable	5.5.5

Insole				
Component	Description	Value	Norm Requirements	EN 20345
Fresh'nFlex	Thickness	3,5 mm	≥ 2,0 mm	5.7.1
	pH value	N/A	Not detectable	5.7.2
	Water absorption	109 mg/cm ²	≥ 70 mg/cm ²	5.7.3
	Water release	100%	≥ 80 %	5.7.3
	Abrasion resistance (after 400 cycles)	No damage	Damage ≤ to norms reference	5.7.4.1
	Chromium VI content	N/A	Not detectable	5.7.5

Removable footbed				
Component	Description	Value	Norm Requirements	EN 20345
Anatomical, breathable, textile and expanded polymeric material	Thickness	3,5 mm	N/A	5.7.1
	pH value	N/A	Not detectable	5.7.2
	Water absorption	Permeable	Permeable or ≥ 70mg/cm ²	5.7.3
	Water release	Permeable	Permeable or ≥ 80%	5.7.3
	Abrasion resistance	No damage	Dry No holes till 25600 cycles Humid no holes till 12800 cycles	5.7.4.2
	Chromium VI content	N/A	Not detectable	5.7.5

Sole				
Component	Description	Value	Norm Requirements	EN 20345
	Sole thickness without profiles	10 mm	≥ 4 mm	5.8.1.1
	Profile height	4 mm	≥ 2,5 mm	5.8.1.3
	Tear resistance	8 kN/m	≥ 5 kN/m	5.8.2
Midsole: PU	Abrasion resistance	<ul style="list-style-type: none"> relative volume loss 	≤ 250 mm ³	5.8.3
	Flexion resistance	<ul style="list-style-type: none"> Notches increase after 30.000 cycles 	≤ 4 mm	5.8.4
Outsole: HRO/Rubber	Hydrolysis	<ul style="list-style-type: none"> Notches increase after 150.00 cycles 	≤ 6 mm	5.8.5
	Detachment Midsole/Outsole	3,8 N/mm*	≥ 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)	1,3 %	≤ 12%	6.4.2

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