TECHNICAL SHEET

Article:	**B0741 BISON TOP**
Norm:	**UNI EN ISO 20345:2012**
Safety Class :	**S3 HRO HI CI SRC**
Footwear height :	**Mod. B, H 151 mm (≥ 113 mm. EN ISO 20345-5.2.2)**
Width:	**12**
Contruction:	**STROBEL FRESH'N FLEX PU-RUBBER NITRILE OUTSOLE**
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, mining, heavy industry, mountain, chemistry, petrochemical industry, handcraft, big installations, automotive, automated lines, agriculture, extractive platforms, light industry, shipbuilding.*

Entire footwear: components

Component	Description	Value	Norm Requirements	EN 20345
Metal-free	Impact resistance(200 J)			
SLIMCAP	• Free height after impact	14,5 mm	≥ 14 mm	5.3.2.3
toe-cap	Compression resistance (15 kN)			
	• Free height after compression	14,5 mm	≥ 14 mm	5.3.2.4
Sole (SRC)	Slip resistance			
	• SRA – Sole (Entire sole)	0,49	≥ 0,32	5.3.5.4
	• SRA – Heel (Angle of 7°)	0,48	≥ 0,28	5.3.5.4
	• SRB – Sole (Entire sole)	0,22	≥ 0,18	5.3.5.4
	• SRB – Heel (Angle of 7°)	0,22	≥ 0,13	5.3.5.4
Fresh'n Flex (P)	Puncture resistance	No perforation	≥ 1100 N	6.2.1.1.2
Footwear (A)	Antistatic properties			
	• Electrical resistance	dry 6,5 x $10^8\Omega$	≥ $10^5\Omega$, ≤ $10^9\Omega$	6.2.2.2
		humid 1,18 x $10^8\Omega$	≥ $10^5\Omega$, ≤ $10^9\Omega$	6.2.2.2
Sole/Upper	Thermal insulation			
Heat (HI)	Insole temperature increase	17,5° *C*	≤ 22°C	6.2.3.1
Cold (CI)	Insole temperature decrease	8,5° *C*	≤ 10°C	6.2.3.2
Heel (E)	Shock-absorption in the heel region	40 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
	Tear resistance	198 N	≥120 N	5.4.3
	Traction resistance	N/A	≥ 15 N/mm^2	5.4.4
Waxy leather	Water steam permeability	4,5 mg/cm^2 h	≥0.8 mg/cm^2 h	5.4.6
	pH value	3,85	≥ 3,2	5.4.7
	Chromium VI	Non detected	Non detectable	5.4.9
	Water passed	0,1 g	≤ 0.2 g	6.3
	Water absorption	18 %	≤ 30%	6.3

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Lining

Component	Description	Value	Norm Requirements	EN 20345
3D hi-tech Fabric	Tear resistance	30 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	7,2 mg/cm² h	≥ 2,0 mg/cm² h	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 20345
Fresh'nFlex	Thickness	3,5 mm	≥ 2,0 mm	5.7.1
	pH value	N/A	Non detectable	5.7.2
	Water absorption	98 mg/cm²	≥ 70 mg/cm²	5.7.3
	Water release	92 %	≥ 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 20345
Anatomical, breathable, textile and expanded polymeric material	Thickness	3,5±0,5 mm	N/A	5.7.1
	pH value	N/A	Non detectable	5.7.2
	Water absorption	Permeable	Permeable or ≥ 70mg/cm²	5.7.3
	Water release	Permeable	Permeable or ≥ 80%	5.7.3
	Abrasion resistance	No damage	Dry No holes till 25.600 cycles Humid no holes till 12.800 cycles	5.7.4.2
	Chromium VI	N/A	Non detectable	5.7.5

Sole

Component	Description	Value	Norm Requirements	EN 20345
Midsole: PU; Rubber Nitrile Outsole ALL TERRAIN sole	Sole thickness without profiles	4,5 mm	≥ 4 mm	5.8.1.1
	Profile height	3,5 mm	≥ 2,5mm	5.8.1.3
	Tear resistance	9,2 kN/m	≥ 5 kN/m	5.8.2
	Abrasion resistance • relative volume loss	110 mm³	≤ 250 mm³	5.8.3
	Flexion resistance • Notches increase after 30.000 cycles	1 mm	≤ 4 mm	5.8.4
	Notches increase after 150.00 cycles	1,5 mm	≤ 6 mm	5.8.5
	Tread- Midsole detachment	4,4 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)	2 %	≤ 12%	6.4.2

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