

## TECHNICAL SHEET



Article:	<b>B0897 BE POWERFUL</b>
Norm:	<b>UNI EN ISO 20345:2012</b>
Safety Class:	<b>S3 WR SRC</b>
Footwear height:	<b>Mod. A, H 99 mm (&lt; 113 mm; Rif. EN 20345-5.2.2)</b>
Width:	<b>12</b>
Construction:	<b>STROBEL; DUAL DENSITY - LIFE PLUS PU/TPU SKIN</b>
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 fields:	<b>Construction, agriculture, miner, extractive, heavy industry, light industry, shipbuilding, big plants, handicraft.</b>

Entire footwear: components				
Component	Description	Value	Norm Requirements	EN 20345
Metal-free	Impact resistance (200 J)			
SLIMCAP toe-cap	<ul style="list-style-type: none"> <li>Free height after impact</li> </ul>	14 mm	≥ 14 mm	5.3.2.3
	<ul style="list-style-type: none"> <li>Compression resistance (15 kN)</li> <li>Free height after compression</li> </ul>	15 mm	≥ 14 mm	5.3.2.4
Sole (SRC)	Slip resistance			
	<ul style="list-style-type: none"> <li>SRA – sole (entire sole)</li> </ul>	0,45	≥ 0,32	5.3.5.4
	<ul style="list-style-type: none"> <li>SRA – heel (angle of 7°)</li> </ul>	0,39	≥ 0,28	5.3.5.4
	<ul style="list-style-type: none"> <li>SRB – sole (entire sole)</li> </ul>	0,32	≥ 0,18	5.3.5.4
	<ul style="list-style-type: none"> <li>SRB – heel (angle of 7°)</li> </ul>	0,28	≥ 0,13	5.3.5.4
Fresh'n Flex ESD (P)	Puncture resistance	No perforation	≥ 1100 N	6.2.1
Footbed (A)	Antistatic properties			
	<ul style="list-style-type: none"> <li>Electrical resistance</li> </ul>	dry 5,7 x 10 <sup>8</sup> Ω humid 2,4 x 10 <sup>8</sup> Ω	≥ 10 <sup>5</sup> Ω , ≤ 10 <sup>9</sup> Ω ≥ 10 <sup>5</sup> Ω , ≤ 10 <sup>9</sup> Ω	6.2.2.2 6.2.2.2
Sole/upper	Thermal insulation			
Heat (HI)	<ul style="list-style-type: none"> <li>Insole temperature increase</li> </ul>	N/A	≤ 22°C	6.2.3.1
Cold (CI)	<ul style="list-style-type: none"> <li>Insole temperature release</li> </ul>	N/A	≤ 10°C	6.2.3.2
Heel (E)	Shock-absorption in the heel region	38 J	≥ 20 J	6.2.4
(WR)	Water resistance (water absorption)	< 3 cm <sup>2</sup> wetted area after 15000 cycles	≤ 3 cm <sup>2</sup> wetted area after 4800 cycles	6.2.5
(M)	Metatarsal protection	N/A	≥ 40 mm	6.2.6

<b>Upper</b>				
<b>Component</b>	<b>Description</b>	<b>Value</b>	<b>Norm requirements</b>	<b>EN 20345</b>
Suede leather with OutDry membrane	Tear resistance	205 N	≥ 120 N	5.4.3
	Traction resistance	32 N/mm <sup>2</sup>	≥ 15 N/mm <sup>2</sup>	5.4.4
	Water stream permeability	2,7 mg/cm <sup>2</sup> h	≥ 0,8 mg/cm <sup>2</sup> h	5.4.6
	pH value	4,35	≥ 3,2	5.4.7
	Chromium VI	N/A	Not detectable	5.4.9
	Water passed	0,0 g	≤ 0.2 g	6.3
	Water absorption	7,5%	≤ 30%	6.3
Textile and felts	Tear resistance	180 N	≥ 60 N	5.4.3
	Traction resistance	N/A	≥ 15 N/mm <sup>2</sup>	5.4.4
	Water stream permeability	6,6 mg/cm <sup>2</sup> h	≥ 0,8 mg/cm <sup>2</sup> h	5.4.6
	pH value	N/A	≥ 3,2	5.4.7
	Chromium VI	N/A	Not detectable	5.4.9
	Water passed	0,03 g	≤ 0.2 g	6.3
	Water absorption	24%	≤ 30%	6.3

<b>Lining</b>				
<b>Component</b>	<b>Description</b>	<b>Value</b>	<b>Norm Requirements</b>	<b>EN 20345</b>
3D hi-tech Fabric	Tear Resistance	45 N	≥ 15 N	5.5.1
	Abrasion resistance	<ul style="list-style-type: none"> <li>Dry: the surface shows no holes</li> <li>Humid: the surface shows no holes</li> </ul>	No holes till 51.200 cycles	5.5.2
			No holes till 25.600 cycles	5.5.2
	Water stream release	21,0 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

<b>Insole</b>				
<b>Component</b>	<b>Description</b>	<b>Value</b>	<b>Norm requirements</b>	<b>EN 20345</b>
Fresh'n Flex	Thickness	3,7 mm	≥ 2,0 mm	5.7.1
	pH value	N/A	Not detectable	5.7.2
	Water absorption	82 mg/cm <sup>2</sup>	≥ 70 mg/cm <sup>2</sup>	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	Not detectable	5.7.5

<b>Removable footbed</b>				
<b>Component</b>	<b>Description</b>	<b>Value</b>	<b>Norm requirements</b>	<b>EN 20345</b>
Breathable technical textile and expanded polymer material	Thickness	3 ± 0,5 mm (tip) 11 ± 0,5 mm (heel)	N/A	5.7.1
	pH value	N/A	Not detectable	5.7.2
	Water absorption	Permeable through the holes	Permeable or ≥ 70mg/cm <sup>2</sup>	5.7.3
	Water release	Permeable through the holes	Permeable or ≥ 80%	5.7.3
	Abrasion resistance	No damage	Dry: no holes till 25600 cycles humid: no holes till 12800	5.7.4.2
	Chromium VI	N/A	Not detectable	5.7.5

Sole				
Component	Description	Value	Norm requirements	EN 20345
	Sole thickness without profile	7,1 mm	≥ 4 mm	5.8.1.1
	Profile height	4,1 mm	≥ 2,5mm	5.8.1.3
	Tear resistance	6,9 kN/m	≥ 8 kN/m	5.8.2
	Abrasion resistance			
	• Relative volume loss	72 mm <sup>3</sup>	≤ 250 mm <sup>3</sup>	5.8.3
Midsole PU;	Flexion resistance			
	• Notches increase after 30.000 cycles	1,0 mm	≤ 4 mm	5.8.4
Outsole TPU SKIN	Hydrolysis			
	• Notches increase after 150.00 cycles	2,0 mm	≤ 6mm	5.8.5
	Sole thickness without profile	3,8 N/mm (*)	≤ 4 N/mm; (*) ≤ 3 N/mm with sole ripping	5.8.6
	(HRO) (Contact heat resistance 300°C)	N/A	No damage (melting, breaking)	6.4.1
	(FO) Fuel resistance (volume changes)	0,8 %	≤ 12%	6.4.2

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