Prüfbericht - Nr.: *Test Report No.:*	**21177740 006**		**Seite 1 von 17** *Page 1 of 17*
Auftraggeber: *Client:*	Talan Group, 77, Saksaganskogo, KYIV, 01033, Ukraine		
Gegenstand der Prüfung: *Test item:*	safety shoes categorie S3 symbol SRA size 38 - 47		
Bezeichnung: *Identification:*	SE/2M0182/3 S3	**Serien-Nr.:** *Serial No.:*	SAP-Order-No.: 3049198
Wareneingangs-Nr.: *Receipt No.:*	556-12-0517	**Eingangsdatum:** *Date of receipt:*	25.04.2012
Zustand des Prüfgegenstandes bei Anlieferung: *Condition of test item at delivery:*	**optisch einwandfrei** *in optically good condition*		
Prüfort: *Testing location:*	**TÜV Rheinland LGA Products GmbH** Maximilianallee 2, 04129 Leipzig, Fon/Fax: +49 341 600 369-0 / -10		
Prüfgrundlage: *Test specification:*	EN ISO 20345:2004+AC:2007+A1:2007 (DIN EN ISO 20345:2007)		
Prüfergebnis: *Test Result:*	**Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n).** *The test item passed the test specification(s).*		
Prüflaboratorium: *Testing Laboratory:*	**TRLP / Prüfstelle für Textilien und PSA Leipzig**		

geprüft/ *tested by:*

Datum *Date*	Name/Stellung *Name/Position*	Unterschrift *Signature*
25.04.2012	Rech / Expert	

kontrolliert/ *reviewed by:*

Datum *Date*	Name/Stellung *Name/Position*	Unterschrift *Signature*
25.04.2012	Best / Expert	

Sonstiges/ *Other Aspects:*

Abkürzungen:				*Abbreviations:*			
	P(ass)	=	*entspricht Prüfgrundlage*		*P(ass)*	=	*passed*
	F(ail)	=	*entspricht nicht Prüfgrundlage*		*F(ail)*	=	*failed*
	N/A	=	*nicht anwendbar*		*N/A*	=	*not applicable*
	N/T	=	*nicht getestet*		*N/T*	=	*not tested*

Equipmentlist

Messung/Measuring	Gerätenummer/ Ident.-Nummer Barcode-Nummer Equipment number	nächste Kalibrierung/ Überwachung next calibration/ surveillance
Marking	Expert	---
Information to be supplied	Expert	---

Test results of accredited laboratories of competent subcontractor are marked with /*.

/*1	test results of test report	21177740 001 f (556-11-1495), 08.12.2011
/*2	test results of test report	21177740 002 f (556-12-0149), 05.03.2012
/*3	test results of test report	21177740 003 (556-12-0362), 30.03.2012
/*4	test results of test report	21177740 005 (556-12-0397), 03.04.2012

Article description

Item	**SE/2M0182/3**
Sizes	38 – 47
Category / Symbols	S3 SRA
Design	C
Picture	 
Collar material	

Insert material	

Upper material	
- Leather Barton	X
Vamp lining	
- fleece grey	X
Quarter lining	
- Non Woven fabric.ibiline 720 col.91	X
Back lining	
---	---
Tongue lining	
- Non Woven fabric.ibiline 720 col.91	X
Tongue	
- leather board .salmandra thread	X
Inlay sole	
- Ibitech 222 A20 014 2,5 mm	X
Insole	
- Ibiaoam 9605 3,0 mm ST TT4	X
Penetration proof insert	
- Steal midsole Art. 1604 SMAL	X

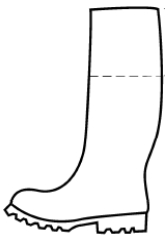
Article description

Item	**SE/2M0182/3**
Sizes	38 – 47
Category / Symbols	S3 SRA
Design	C
Picture	 
Outsole	
- dual density PU-PU system	
Toe cap	
- Steal 6522 SMAL	X
Overcap	

Marking - Meaning of the symbols:

P	:	Penetration resistance
C	.	Electrical resistance, conductive footwear
A	:	Electrical resistance, antistatic footwear
I	:	Electrically insulating footwear
HI	:	Heat insulation of sole complex
CI	:	Cold insulation of sole complex
E	:	Energy absorption of seat region
WR	:	Water resistant
M	:	Metatarsal protection
AN	:	Ankle protection
WRU	:	Water penetration and water absorption
CR	:	Resistance of upper to cutting
HRO	:	Resistance to hot contact
SRA	:	slip resistance on ceramic tile floor/ cleaning agent
SRB	:	slip resistance on steel plate/glycerine
SRC	:	slip resistance on ceramic tile floor/ cleaning agent and steel plate/glycerine

Test results

/4 **Classification** *classification I* *classification II*	20345/ 4 Tab. 1	Footwear shall be classified as follows: Footwear made from leather and other materials, excluding all-rubber or all-polymeric footwear all-rubber (i.e. entirely vulcanized) or all-polymeric (i.e. entirely moulded) footwear	X	
/5.2 **Form** Bild 3				
General requirements	Design			
/5.2.1 Height of upper *design: A* 	20344/ 6.2	size — height [mm] ≤ 36 — < 103 37/ 38 — < 105 39/ 40 — < 109 41/ 42 — < 113 43/ 44 — < 117 45 and bigger — < 121	---	N/A
design: B 		size — height [mm] ≤ 36 — at least 103 37/ 38 — at least 105 39/ 40 — at least 109 41/ 42 — at least 113 43/ 44 — at least 117 45 and bigger — at least 121	---	N/A
design: C 		size — height [mm] ≤ 36 — at least 162 37/ 38 — at least 165 39/ 40 — at least 172 41/ 42 — at least 178 43/ 44 — at least 185 45 and bigger — at least 192	size [mm] 38 224 42 238 47 263	P/*4
design: D 		size — height [mm] ≤ 36 — at least 255 37/ 38 — at least 260 39/ 40 — at least 270 41/ 42 — at least 280 43/ 44 — at least 290 45 and bigger — at least 300	---	N/A
design: E 		size — height [mm] ≤ 36 — at least 255 37/ 38 — at least 260 39/ 40 — at least 270 41/ 42 — at least 280 43/ 44 — at least 290 45 and bigger — at least 300	---	N/A

Parameter according to EN ISO 20345		Tested acc. to EN ISO	Test result	Remark P F N/A N/T
/5.2.2 Seat region *design A* *design B* *design C* *design D* *design E*	20345/ 5.2.2	- closed closed closed closed	closed	P/*4

/5.3 **General requirements**	/5.3.1 Outsole properties				
/5.3.1.1 Construction	20345/ 5.3.1.1	Insole (if used) not removable without damage of the shoe	given		P/*1
/5.3.1.2 Upper/ outsole bond strength	20344/ 5.2	at least 4,0 * at least 3,0 N/mm at material break	size 38 42 47	bond strength 7,3* 6,6* 4,2*	P/*1
General requirements	/5.3.2 Toe protection				
/5.3.2.1 General	20345/ 5.3.2.1	toe cap not removable without damage of the shoe; edge covering at least 5 mm beneath and at least 10 mm in the opposite direction; scuff resistant coverings at least 1 mm thick	given		P/*1
/5.3.2.2 Internal length	4.3.2.2	size / internal length [mm] ≤ 36 at least 34 37/ 38 at least 36 39/ 40 at least 38 41/ 42 at least 39 43/ 44 at least 40 45 and bigger at least 42	Size 38 42 47	 38/39 42/42 45/45	P/*1
/5.3.2.3 Impact resistance (minimum clearance)	20344/ 5.4	size / rest height [mm] ≤ 36 at least 12,5 37/ 38 at least 13,0 39/ 40 at least 13,5 41/ 42 at least 14,0 43/ 44 at least 14,5 45 and bigger at least 15,0	Size 38 42 47	 14,0 14,0 19,5	 P/*2 P/*2 P/*3
/5.3.2.4 Compression resistance (minimum clearance)	20344/ 5.5	size / rest height [mm] ≤ 36 at least 12,5 37/ 38 at least 13,0 39/ 40 at least 13,5 41/ 42 at least 14,0 43/ 44 at least 14,5 45 and bigger at least 15,0	Size 38 42 47	 14,0 14,0 18,0	 P/*2 P/*2 P/*3
/5.3.2.5.1 Corrosion resistance of metal toe cap	20344/ 5.6.2 20344/ 5.6.1	classification I: (48 h) - no more as 5 areas of corrosion; - none of which shall exceed 2,5 mm² classification II: (168 h) - no more as 5 areas of corrosion; - none of which shall exceed 2,5 mm²	given ---		P/*1 N/A

Parameter according to EN ISO 20345	Tested acc. to EN ISO	Requirement	Test result	Remark P F N/A N/T
/5.3.2.5.2 Toe Caps made of other materials	EN 12568/ 4.3	Following requirements should be fulfilled	---	N/A
- impact resistance after influence of higher temperatures (minimum clearance)	EN 12568/ 7.1.5.1	size / rest height [mm] ≤ 5 at least 19,5 6 at least 20,0 7 at least 20,5 8 at least 21,0 9 at least 21,5 ≥ 10 at least 22,0	---	N/A
- impact resistance after influence of lower temperatures (minimum clearance)	EN 12568/ 7.1.5.2	size / rest height [mm] ≤ 5 at least 19,5 6 at least 20,0 7 at least 20,5 8 at least 21,0 9 at least 21,5 ≥ 10 at least 22,0	---	N/A
- impact resistance after influence of acid (Minimum Clearance)	EN 12568/ 7.1.5.3	size / rest height [mm] ≤ 5 at least 19,5 6 at least 20,0 7 at least 20,5 8 at least 21,0 9 at least 21,5 ≥ 10 at least 22,0	---	N/A
- impact resistance after influence of lye (Minimum Clearance)	EN 12568/ 7.1.5.4	size / rest height [mm] ≤ 5 at least 19,5 6 at least 20,0 7 at least 20,5 8 at least 21,0 9 at least 21,5 ≥ 10 at least 22,0	---	N/A
- impact resistance after influence of fuel (Minimum Clearance)	EN 12568/ 7.1.5.5	size / rest height [mm] ≤ 5 at least 19,5 6 at least 20,0 7 at least 20,5 8 at least 21,0 9 at least 21,5 ≥ 10 at least 22,0	---	N/A
/5.3.3 Leak proofness	20344/ 5.7	no air bubbles	---	N/A
/5.3.4 Ergonomic features	20344/ 5.1	The following ergonomic requirements are fulfilled if answered with „Yes“: Is the inside surface of the footwear free from rough, sharp or hard areas that caused you irritation or injury? YES Are there no pinch points caused by the toecap or the edge covering of the toecap? YES Is the footwear free of features that you consider to make wearing the footwear hazardous? YES Can the fastening be adequately adjusted? (if necessary) YES Can the following activities be performed without problems? YES - walking (5 min bei 6 km/h) - climbing stairs (during 1 min 17 ± 3 stairs up and down) - kneeling/ crouching (acc. picture 1 DIN EN ISO 20344)		P/*4

Parameter according to EN ISO 20345	Tested acc. to EN ISO	Requirement	Test result	Remark P F N/A N/T
/5.3.5 Slip resistance Sliding friction coefficient - ceramic tile floor/ cleaning agent - steel plate/ glycerine - ceramic tile floor/ cleaning agent and steel plate/ glycerine	20345 Annex A	heel A ≥ 0,28 µ outsole B ≥ 0,32 µ symbol SRA heel C ≥ 0,13 µ outsole D ≥ 0,18 µ symbol SRB heel A ≥ 0,28 µ outsole B ≥ 0,32 µ heel C ≥ 0,13 µ outsole D ≥ 0,18 µ symbol SRC	Size 38 42 47 0,31 0,32 0,34 0,40 0,42 0,45 0,04 0,10 0,08 0,09 0,11 0,18	P/*1 symbol SRA

/5.4 **Shoe upper**	Height of inserts/ collar materials			
/5.4.1 General – *Design A*	20345/ 5.4.1	size: height [mm] ≤ 36: at least 44 37/ 38: at least 46 39/ 40: at least 48 41/ 42: at least 50 43/ 44: at least 52 ≥ 45: at least 53	---	N/A
General – *Design B*	20345/ 5.4.1	size: height [mm] ≤ 36: at least 64 37/ 38: at least 66 39/ 40: at least 68 41/ 42: at least 70 43/ 44: at least 72 ≥ 45: at least 73	---	N/A
General – *Design C*	20345/ 5.4.1	size: height [mm] ≤ 36: at least 113 37/ 38: at least 115 39/ 40: at least 119 41/ 42: at least 123 43/ 44: at least 127 ≥ 45: at least 131	---	N/A
General - *Design D*	20345/ 5.4.1	size: height [mm] ≤ 36: at least 172 37/ 38: at least 175 39/ 40: at least 182 41/ 42: at least 188 43/ 44: at least 195 ≥ 45: at least 202	---	N/A
General – *Design E*	20345/ 5.4.1	size: height [mm] ≤ 36: at least 265 37/ 38: at least 270 39/ 40: at least 280 41/ 42: at least 290 43/ 44: at least 300 ≥ 45: at least 310	---	N/A
Collar/ material insert		if collar and material inserts are above the set heights, it will be tested acc. to clause 5.5.1 und 5.5.2 and below as upper material (all properties)	tested as upper material	only for specification /*1

Parameter according to EN ISO 20345	Tested acc. to EN ISO	Requirement	Test result	Remark P F N/A N/T
Collar/ material inserts	Lining properties			
/5.5.1 Tear strength	20344/ 6.3	leather ≥ 30 N woven fabric/ textil ≥ 15 N	---	N/A
/5.5.2 Abrasion resistance	20344/ 6.12	dry 25.600 cycles wet 12.800 cycles no hole formation	---	N/A
/5.4.7 pH-value difference number	20344/ 6.9	at least 3,2 < 0,7 (if pH-value < 4,0)	---	N/A
/5.4.9 Chromium VI – conent	20344/ 6.11	not detectable (< 3 mg/ kg)	---	N/A
Collar/ material inserts	Upper properties		leather board salmandra thread	
/5.4.2 Thickness classification II	20344/ 6.1	rubber ≥1,5 mm polymer ≥1,0 mm	---	N/A
/5.4.3 Tear strength	20344/ 6.3	leather ≥ 120 N woven fabrics/ textil ≥ 60 N	direction I 204 175 209 direction II 216 247 251	P/*3
/5.4.4 Tensile properties	20344/ 6.4	split leather ≥ 15 N/ mm² rubber ≥ 180 N polymer at 100 % stretching 1,3 - 4,6 N/ mm² streching at break ≥ 250 %	---	N/A
/5.4.5 Flexing resistance	20344/ 6.5	no cracking at less than rubber: 125.000 cycles polymer: 150.000 cxcles	---	N/A
/5.4.6 Water vapour permeability	20344/ 6.6	at least 0,8 mg/cm²h	2,8 3,0 2,4	P/*3
Water vapour absorption	20344/ 6.7	mg/cm² x 8h	13,0 14,0 13,0	only for calculation
Water vapour coefficient	20344/ 6.8	at least 15 mg/cm²	35,5 37,5 32,0	P/*3
/5.4.7 pH-value difference number	20344/ 6.9	at least 3,2 < 0,7 (if pH-value < 4,0)	4,4	P/*1
/5.4.8 Hydrolysis	20344/ 6.10	after 150.000 flexing cycles: no cracks	---	N/A
/5.4.9 Chromium VI- content	20344/ 6.11	not detectable (< 3 mg/kg)	not detectable	P/*1

Parameter according to EN ISO 20345	Tested acc. to EN ISO	Requirement	Test result	Remark P F N/A N/T
Upper			leather Barton	
/5.4.2 Thickness classification II	20344/ 6.1	rubber ≥1,5 mm polymer ≥1,0 mm	---	N/A
/5.4.3 Tear strength	20344/ 6.3	leather ≥ 120 N woven fabrics/ textil ≥ 60 N	203 308 308 307 232 309	P/*1
/5.4.4 Tensile properties	20344/ 6.4	split leather ≥ 15 N/ mm² rubber ≥ 180 N polymer at 100 % stretching 1,3 - 4,6 N/ mm² streching at break ≥ 250 %	---	N/A
/5.4.5 Flexing resistance	20344/ 6.5	no cracking at less than rubber: 125.000 cycles polymer: 150.000 cxcles	---	N/A
/5.4.6 Water vapour permeability	20344/ 6.6	at least 0,8 mg/cm²h	13,1 15,4 14,8	P/*1
Water vapour absorption	20344/ 6.7	mg/cm² x 8h	0,8 0,9 0,8	only for calculation
Water vapour coefficient	20344/ 6.8	at least 15 mg/cm²	105 124 119	P/*1
/5.4.7 pH-value difference number	20344/ 6.9	at least 3,2 < 0,7 (if pH-value < 4,0)	4,5	P/*1
/5.4.8 Hydrolysis	20344/ 6.10	after 150.000 flexing cycles: no cracks	---	N/A
/5.4.9 Chromium VI- content	20344/ 6.11	not detectable (< 3 mg/kg)	not detectable	P/*1
/**5.5 Lining**				
Quarter lining			non woven fabric.ibiline 720 col.91	
/5.5.1 Tear strength	20344/ 6.3	leather ≥ 30 woven fabrics/ textil ≥ 15	19 15 16 26 17 16	P/*1
/5.5.2 Abrasion resistance	20344/ 6.12	dry 25.600 cycles wet 12.800 cycles no hole formation	no hole formation no hole formation	P/*1
/5.5.3 Water vapour permeability	20344/ 6.6	at least 2,0 mg/cm²h	9,5 10,4 8,8	P/*1
Water vapour absorption	20344/ 6.7	mg/cm² x 8h	3,3 3,0 3,8	only for calculation
Water vapour coefficient	20344/ 6.8	at least 20 mg/cm²	79 87 74	P/*1
/5.5.4 pH-value difference number	20344/ 6.9	at least 3,2 < 0,7 (if pH-value < 4,0)	---	N/A
/5.5.5 Chromium VI- content	20344/ 6.11	not detectable (< 3 mg/kg)	---	N/A
Vamp lining			fleece grey	
/5.5.1 Tear strength	20344/ 6.3	leather ≥ 30 woven fabrics/ textil ≥ 15	68 94 85 69 75 65	P/*1
/5.5.2 Abrasion resistance	20344/ 6.12	dry 25.600 cycles wet 12.800 cycles no hole formation	no hole formation no hole formation	P/*1
/5.5.3 Water vapour permeability	20344/ 6.6	at least 2,0 mg/cm²h	13,1 15,4 14,8	P/*1
Water vapour absorption	20344/ 6.7	mg/cm² x 8h	0,8 0,9 0,8	only for calculation /*1
Water vapour coefficient	20344/ 6.8	at least 20 mg/cm²	105 124 119	P/*1
/5.5.4 pH-value difference number	20344/ 6.9	at least 3,2 < 0,7 (if pH-value < 4,0)	---	N/A
/5.5.5 Chromium VI- content	20344/ 6.11	not detectable (< 3 mg/kg)	---	N/A

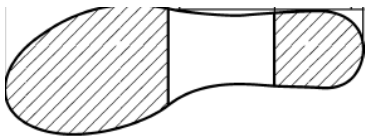
Parameter according to EN ISO 20345	Tested acc. to EN ISO	Requirement	Test result	Remark P F N/A N/T
/5.6 **Tongue**			leather board .salmandra thread	
/5.6.1 Tear strength	20344/ 6.3	leather ≥ 36 N woven fabrics/ textil ≥ 18 N	105 101 99 88 93 83	P/*1
/5.6.2 pH-value difference number	20344/ 6.9	at least 3,2 < 0,7 (if pH-value < 4,0)	4,4	P/*1
/5.6.3 Chromium VI content	20344/ 6.11	not detectable (< 3 mg/kg)	not detectable	P/*1
/**5.7 Lasting insole/ insock**/			Ibiaoam 9605 3,0 mm ST TT4/ Ibitech 222 A20 014 Industrie Biagioli SpA	
Water permeability (insock)	20344/ 7.2	≥ 60 s non permeable < 60 s permeable	permeable	only for specification
/5.7.1 Thickness (lasting insole)	20344/ 7.1	at least 2,0 mm	3,0	P/*3
/5.7.2 pH-value difference number (lasting insole and insock)	20344/ 6.9	at least 3,2 < 0,7 (if pH-value < 4,0)	---	N/A
/5.7.3 Water absorption Water desorption (lasting insole)	20344/ 7.2	at least 70 mg/cm² at least 80 %	153 143 154 110 119 109	P/*1
/5.7.5 Chromium VI- content (lasting insole and insock)	20344/ 6.11	not detectable (< 3 mg/kg)	---	N/A
/5.7.4.2 Abrasion resistance (insock)	20344/ 6.12	dry 25.600 cycles wet 12.800 cycles no hole formation	no hole formation no hole formation	P/*3
/5.7.4.1 Abrasion resistance (insole - not for leather insole)	20344/ 7.3	after 400 cycles not bad as reference sample	not bad as reference sample	P/*1
/5.8 **outsole**			dual density PU-PU system	
/5.8.1 Thickness of outsoles (non cleated)	20344/ 8.1	≥ 6,0 mm	---	N/A
/5.8.2 Tear strength	20344/ 8.2	density / tear strength ≤ 0,9 g/cm³ ≥ 5,0 kN/ m > 0,9 g/cm³ ≥ 8,0 kN/ m	density 1,17 g/cm³ 12,0 16,8 24,4	P/*1
5.8.3 Abrasion resistance	20344/8.3	density / abrasion resistance ≤ 0,9 g/cm³ max. 250 mm³ > 0,9 g/cm³ max. 150 mm³	density 1,17 g/cm³ 124 131 75	P/*1
/5.8.4 Rigidity test of the whole shoe	20344/ 8.4.1	if the flexing of the outsole is > 45° at 30 N testing of flexing resistance is required	43	only for specification
/5.8.4 Flexing resistance	20344/ 8.4.2	cut growth after 30.000 flexing cycles ≤ 4,0 mm	---	N/A
/5.8.5 Hydrolysis	20344/ 8.5	cut growth after 150.000 flexing cycles at –5°C ≤ 6,0 mm	0,0 0,0 0,0	P/*1
/5.8.6 Interlayer bond strength	20344/ 5.2	≥ 4,0 N/ mm *at material break at least 3,0 N/ mm	3,1* 4,7* 4,5*	P/*1
/5.8.7 Resistance to fuel oil	20344/ 8.6.1	volume increase ≤ 12 %	1 2 2	P/*1
	20344/ 8.6.2	cut growth after 150.000 flexing cycles ≤ 6,0 mm (*if volume decrease > 0,5% or if increase of hardness > 10 Shore-A-hardness-units*)	---	N/A

Parameter according to EN ISO 20345	Tested acc. to EN ISO	Requirement	Test result	Remark P F N/A N/T
Additional requests	Whole footwear			
/6.2.1.1 Penetration resistance	20344/ 5.8.2	at least 1100 N measured at 0 mm nail penetration	size 38 1279 42 1271 46 1111	 P/*3 P/*1 P/*1
/6.2.1.2 - Construction	20344/ 6.2.1.2	The penetration-resistant insert shall be built into the bottom of the shoe in such a manner that it cannot be removed without damaging the footwear. Except for the non-metallic inserts sewn in as part of the strobel stiched construction, the insert shall not lie about the flange of the safety toecap and shall not be attached to it.	given	P/*1
/6.2.1.3 - Dimensions	20344/ 5.8.1	Distance between the line of the last and the egde of the penetration resistant insert circumference max. 6,5 mm heel region max. 17 mm	given	P/*3
- Design	20345/ figure 4	not more than 3 holes of max. diameter 3 mm in the shaded area	given	P/*1
/6.2.1.4 - Flexing resistance	20344/ 5.9	no cracks after 1 x 10^6 flexing cycles	no cracks	P/*1
/6.2.1.5.1 - Corrosion resistance of penetration resistant inserts made of metal	20344/ 5.6.1	classification I: (48 h) - not more than 5 areas with corrosion - no one of this areas > 2,5 mm²	given	P/*1
	20344/ 5.6.2	classification II: (168 h) - not more than 5 areas with corrosion - no one of this areas > 2,5 mm²	---	N/A

Parameter according to EN ISO 20345	Tested acc. to EN ISO	Requirement	Test result	Remark P F N/A N/T
/6.2.1.5.2 - Non metallic inserts after influence of higher temperatures after influence of lower temperatures after influence of acid after influence of leach after influence of fuel	20345/ 6.2.1.5.2; EN 12568/ 5.2 EN 12568/ 7.1.5.1 EN 12568/ 7.1.5.2 EN 12568/ 7.1.5.3 EN 12568/ 7.1.5.4 EN 12568/ 7.1.5.5	at 1100 N for 10 s no nail penetration measured	---	N/A
/6.2.2 Electrical properties	20345/ 6.2.2			
/6.2.2.1 - Conductive footwear dry atmosphere	20344/ 5.10	≤ $10^5\Omega$	---	N/A
/6.2.2.2 - Antistatic footwear dry atmosphere	20344/ 5.10	10^5 - $10^9\Omega$	left/right with insock 38 $4{,}2x10^8/5{,}6x10^8$ 42 $4{,}9x10^8/7{,}3x10^8$ 47 $4{,}4x10^8/3{,}8x10^8$	P/*3
wet atmosphere			with insock 38 $9{,}1x10^6/9{,}4x10^6$ 42 $9{,}2x10^6/1{,}4x10^7$ 46 $1{,}4x10^7/1{,}4x10^7$	P/*1
/6.2.2.3 - Isulating footwear (classification II)	20344/ 5.11	electrical class 00 electrical class 0	---	N/A
/6.2.3 Adverse conditions	20345/ 6.2.3			
/6.2.3.1 Heat insulation of sole complex (increase of temperature)	20344/ 5.12	≤ 22 °C	---	N/A
/6.2.3.2 Cold insulation of sole complex (decrease of temperature)	20344/ 5.13	≤ 10 °C	---	N/A
/6.2.4 Energy absorption of seat region	20344/ 5.14	at least 20 J	size left/right 38 33/31 42 35/35 46 34/34 47 39/38	 P/*3 P/*3 P/*1 P/*3
/6.2.5 Water resistance trough test brushing	20344/ 5.15.1 20344/ 5.15.2	 after 1000 steps: area of water penetration < 3 cm^2 no water penetration before 15 min	---	N/A

Parameter according to EN ISO 20345	Tested acc. to EN ISO	Requirement	Test result	Remark P F N/A N/T
/6.2.6 Metatarsal protection	20345/ 6.2.6			
/6.2.6.1 - construction	20345/ 6.2.6.1	- shall have made from suitable materials - shall be attached to the footwear in such a manner that it cannot be removed without damaging the footwear - shall fit the shape of the footwear and shall be designed so as not to impair normal foot movement	---	N/A
/6.2.6.2 - impact resistance	20344/ 5.16	size min. clearance after impact ≤ 36 at least 37,0 37/ 38 at least 38,0 39/ 40 at least 39,0 41/ 42 at least 40,0 43/ 44 at least 40,5 ≥ 45 at least 41,0	---	N/A
/6.2.7 Ankle protection	20344/ 5.17	average value ≤ 20 kN several value ≤ 30 kN	---	N/A

Additional requirements	/6.3 upper			
/6.3.1 water penetration and water absorption	20344/ 6.13	water penetration: after 60 min ≤ 0,2 g water absorption: ≤ 30 %	0,01 0,00 0,01 5,6 12,0 6,2	P/*1
/6.3.2 construction	20345/ 6.3.2	non functional and decorative stichings are not allowed	given	P/*3
/6.3.3 cut resistance of upper			---	N/A
/6.3.3.1 design	20344/ 6..3.1	design B, C, D, E		
/6.3.3.2 construction	20344/ 6.3.3.2; Bild 5			
cut	20344/ 6.14	factor *I*: not less than 2,5		

Additional requirements	/6.4 outsole			
/6.4.1 Cleated area	20344/ 6.4.1; picture 6	With exception of the region under the flange of the toe cap, at least the shaded area as shown in following picture shall have cleats which are open to the side. 	---	N/A
/6.4.2 Thickness	20344/ 8.1.2	[mm] d_1 (direct-injected, vulcanized or cemented) not less than 4,0 d_1 (multilayered outsoles) not less than 4,0 d_1 (all-rubber or all-polymeric footwear) not less than 3,0 d_3 (all-rubber or all-polymeric footwear) not less than 6,0	---	N/A

Parameter according to EN ISO 20345	Tested acc. to EN ISO	Requirement	Test result	Remark P F N/A N/T
/6.4.4 Cleat height	20344/ 8.1	[mm] d_2 (direct-injected, vulcanized or cemented) not less than 2,5 d_2 (multilayered outsoles) not less than 2,5 d_2 (all-rubber or all-polymeric footwear) not less than. 4,0	---	N/A
/6.4.4 Resistance to hot contact	20344/ 8.7	rubber and polymeric outsoles: - shall not melt - shall not develop any cracks when bent around the mandrel leather outsoles: - shall develop no cracks or charring which extend into the corium when bent around the mandrel	---	N/A
Marking and Information to be supplied				
/7 Marking	20345/ 7	CE size manufacturer's identification mark manufacturer's type designation year of manufacture and at least quarter number and year of European standard: EN ISO 20345: 2007 category and symbols	given	P
/8 Users Information General	20345/ 8 20345/ 8.1	- name and full address of the manufacturer and/ or his authorized representative - notified body, involved in type examination (for category III –products the notified body involved with article 11) - number and year of standard - explanation of any pictograms, markings and performance levels; a basic explanation of the tests that have been applied to the footwear - instruction for use - tests to be carried out by the wearer before use - fitting, how to put on and take off the footwear, if relevant - application; basic information on possible uses - limitations of use - instructions for storage and maintenance - instructions for cleaning and/ or decontamination - obsolescence deadline or period of obsolescence - if appr., warnings against problems likely to be encountered - reference to accessories and spare parts - type of packaging suitable for transport	given	P/*4

Parameter according to EN ISO 20345	Tested acc. to EN ISO	Requirement	Test result	Remark P F N/A N/T
/8.2 Electrical properties	20345/ 8.2 20345/ 8.2.1 20345/ 8.2.2 20345/ 8.2.3	in acc. to properties of the footwear: - leaflet for conductive footwear - leaflet for shoes with antistatic properties - leaflet for electrically insulating shoes	--- given ---	N/A P/*4 N/A
/8.3 Insocks	20345/ 8.3	If the footwear is supplied with a removable insock it should be made clear in the leaflet that testing was carried out with the insock in place. A warning shall be given that the footwear shall only be used with the insock in place and that the insock shall only be replaced by a comparable insock supplied by the original footwear manufacturer. If the footwear is supplied without an insock it should be made clear in leaflet that testing was carried out with no insock present. A warning shall be given that fitting an insock can affect the protective properties of the footwear.	given	P/*4