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TEST REPORT



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检测  
TESTING  
CNAS L0220

Number: GZHT90849675

Date: Dec 14, 2018

Applicant: GAOMI LUYUAN LABOUR CO.,LTD.  
ZHANGLUJI 4 VILLAGE  
CHAOYANG AREA GAOMI  
CITY SHANDONG PROVINCE  
CHINA  
Attn: BI WENQIANG

Sample Description:

Thirteen (13) pairs of submitted sample said to be Injection lace up safety low cut shoes in Black.

Standard	:	EN ISO 20345: 2011
Size	:	EUR 36, 42, 46, 47
Ref. No.	:	7132 2076 6602 2156 2136 2196 S3 SRC
Insert Plate	:	Steel plate
Toe Cap	:	Steel toecap
Sole	:	Dual density PU
Upper	:	Black embossed leather
Vamp Lining	:	White non-woven
Quarter Lining	:	Black mesh
Tongue	:	Black embossed leather
Collar	:	Black PU
Insole	:	Insole board
Full Removable Insock	:	Black mesh+EVA
Previous Report Number	:	--
Date Received/Date Test Started	:	Nov. 28, 2018
Date Final Information Confirmed/	:	--/--
Date Payment Received:	:	

Test Result Please Refer To Attached Page(S).

Should you have any query on this report, you may contact at [gzfootwear@intertek.com](mailto:gzfootwear@intertek.com)

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1 Height Of Upper (Design) (EN ISO 20344:2011(6.2))

Sample	Size	Results	Design A Requirement	Pass/Fail
-	36	85 mm	< 103 mm	Pass
	42	92 mm	< 113 mm	Pass
	47	102 mm	< 121 mm	Pass

Expanded Uncertainty: 0.79 mm, With k= 2.19 At 95% Confidence Level.

2 Seat Region (Design) (EN ISO 20345:2011(5.2.3))

Sample	Size	Assessment	Requirement	Pass/Fail
-	36	The Seat Region Was Closed. In This Area Of The Upper, There Are No Holes Other Than To Form Seams.	*	Pass
	42	The Seat Region Was Closed. In This Area Of The Upper, There Are No Holes Other Than To Form Seams.	*	Pass
	47	The Seat Region Was Closed. In This Area Of The Upper, There Are No Holes Other Than To Form Seams.	*	Pass

Remark: \* = The Seat Region Shall Be Closed. In This Area Of The Upper, Below The Minimum Height Given In Below, There Shall Be No Holes Other Than To Form Seams.  
Assessment

Size 36	44 mm
Size 42	50 mm
Size 47	53 mm

3 Specific Ergonomic Features (Whole Footwear) (EN ISO 20344:2011(5.1))

Sample	Size	Assessment		Requirement	Pass/Fail
-	36	Left	For Question 4, Kneeling / Crouching Down Was Not Performed Due To The Footwear Is Rigid In Accordance With ISO 20344,8.4.1. Except This, Other Answers Are Positive.	*	Pass
		Right	For Question 4, Kneeling / Crouching Down Was Not Performed Due To The Footwear Is Rigid In Accordance With ISO 20344,8.4.1. Except This, Other Answers Are Positive.	*	Pass
	42	Left	For Question 4, Kneeling / Crouching Down Was Not Performed Due To The Footwear Is Rigid In Accordance With ISO 20344,8.4.1. Except This, Other Answers Are Positive.	*	Pass
		Right	For Question 4, Kneeling / Crouching Down Was Not Performed Due To The Footwear Is Rigid In Accordance With ISO 20344,8.4.1. Except This, Other Answers Are Positive.	*	Pass
	46	Left	For Question 4, Kneeling / Crouching Down Was Not Performed Due To The Footwear Is Rigid In Accordance With ISO 20344,8.4.1. Except This, Other Answers Are Positive.	*	Pass
		Right	For Question 4, Kneeling / Crouching Down Was Not Performed Due To The Footwear Is Rigid In Accordance With ISO 20344,8.4.1. Except This, Other Answers Are Positive.	*	Pass

Remark: \* = All The Answers Are Positive In The Questionnaire As Below:  
 Question 1: Is The Inside Surface Of The Footwear Free From Rough, Sharp Or Hard Areas That Caused You Irritation Or Injury?  
 Question 2: Is The Footwear Free Of Features That You Consider To Make Wearing The Footwear Hazardous?  
 Question 3: Can The Fastening Be Adequately Adjusted (If Necessary)?  
 Question 4: Can The Following Activities Be Performed Without Problems?  
 4.1 Walking  
 4.2 Climbing Stairs  
 4.3 Kneeling/ Crouching Down (It Is Not Applicable If The Footwear Is Rigid In Accordance With ISO 20344, 8.4.1.)

4 Construction (Whole Footwear) (EN ISO 20345:2011(5.3.1.1))

Sample	Size	Assessment	Requirement	Pass/Fail
-	36	The Insole Cannot Be Removed Without Damaging The Footwear.	*	Pass
	42	The Insole Cannot Be Removed Without Damaging The Footwear.	*	Pass
	47	The Insole Cannot Be Removed Without Damaging The Footwear.	*	Pass

Remark: \* = The Insole Cannot Be Removed Without Damaging The Footwear.  
 If There Is No Insole, A Permanently Attached Insock Shall Be Present.

5 Upper/Outsole Bond Strength (Whole Footwear) (EN ISO 20344:2011(5.2))

Sample	Size	Results	Requirement	Pass/Fail
-	36	4.4 N/mm	*	Pass
	42	4.7 N/mm	*	Pass
	47	4.3 N/mm	*	Pass

Remark: \* = Min. 4.0 N/mm, If The Sole Was Torn, Min. 3.0 N/mm

Expanded Uncertainty: 0.10 N/mm, With k= 2 At 95% Confidence Level.

6 General (Toe Protection) (EN ISO 20345:2011(5.3.2.1))

Sample	Size	Assessment	Requirement	Pass/Fail
-	36	The Toecap Cannot Be Removed Without Damaging The Footwear. Edge Covering Beneath Toecap: 25 mm Edge Covering Behind Toecap: 12 mm Width Of Toecap Flange: 6 mm Thickness Of Scuff-Resistant Covering: 1.5 mm Vamp Lining Present.	*	Pass
	42	The Toecap Cannot Be Removed Without Damaging The Footwear. Edge Covering Beneath Toecap: 18 mm Edge Covering Behind Toecap: 12 mm Width Of Toecap Flange: 6 mm Thickness Of Scuff-Resistant Covering: 1.5 mm Vamp Lining Present.	*	Pass
	47	The Toecap Cannot Be Removed Without Damaging The Footwear. Edge Covering Beneath Toecap: 16 mm Edge Covering Behind Toecap: 12 mm Width Of Toecap Flange: 6 mm Thickness Of Scuff-Resistant Covering: 1.5 mm Vamp Lining Present.	*	Pass

Remark: \* = The Toecap Cannot Be Removed Without Damaging The Footwear.  
Edge Covering Beneath Toecap: Min. 5 mm  
Edge Covering Behind Toecap: Min. 10 mm  
Width Of Toecap Flange: Max. 10 mm  
Thickness Of Scuff-Resistant Covering: Min. 1 mm  
Footwear Shall Have A Vamp Lining Or An Element Of The Upper That Serves As A Lining.

Expanded Uncertainty:  
Edge Covering Beneath Toecap: 0.29 mm, With k= 1.96 At 95% Confidence Level.  
Edge Covering Behind Toecap: 0.45 mm, With k= 2.1 At 95% Confidence Level.  
Width Of Toecap Flange: 0.45 mm, With k= 2.1 At 95% Confidence Level.

7 Internal Length Of Toe Caps (Toe Protection) (EN ISO 20344:2011(5.3))

Sample	Size	Results		Requirement	Pass/Fail
-	36	Left	37 mm	Min. 34 mm	Pass
		Right	38 mm	Min. 34 mm	Pass
	42	Left	42 mm	Min. 39 mm	Pass
		Right	42 mm	Min. 39 mm	Pass
	47	Left	43 mm	Min. 42 mm	Pass
		Right	43 mm	Min. 42 mm	Pass

Expanded Uncertainty: 0.89 mm, With k = 2.22 At 95% Confidence Level.

8 Impact Resistance Of Safety Footwear (EN ISO 20344:2011(5.4))

Test Condition:

Mass Of Striker: (20±0.2) kg

Impact Energy: (200±4) J

Sample	Size	Results		Requirement	Pass/Fail
-	36	Left	16.0 mm	Min. 12.5 mm (#)	Pass
		Right	17.0 mm	Min. 12.5 mm (#)	Pass
	42	Left	19.0 mm	Min. 14.0 mm (#)	Pass
		Right	20.5 mm	Min. 14.0 mm (#)	Pass
	47	Left	20.5 mm	Min. 15.0 mm (#)	Pass
		Right	20.5 mm	Min. 15.0 mm (#)	Pass

Remark: # = In Addition, The Toecap Shall Not Develop Any Cracks Which Go Through The Material, i.e. Through Which Light Can Be Seen.

Expanded Uncertainty: 0.36(Urel), With k=1.96 At 95% Confidence Level.

9 Compression Resistance Of Safety Footwear (EN ISO 20344:2011(5.5))

Test Condition:

Compression Speed: (5±2) mm/min

Load: (15±0.1) kN

Sample	Size	Results		Requirement	Pass/Fail
-	36	Left	18.5 mm	Min. 12.5 mm	Pass
		Right	18.5 mm	Min. 12.5 mm	Pass
	42	Left	20.5 mm	Min. 14.0 mm	Pass
		Right	20.0 mm	Min. 14.0 mm	Pass
	47	Left	22.0 mm	Min. 15.0 mm	Pass
		Right	23.0 mm	Min. 15.0 mm	Pass

Expanded Uncertainty: 0.13 mm, With k= 1.96 At 95% Confidence Level

10 Slip Resistance (EN ISO 20344:2011(5.11) & ISO 13287:2012, SRC, Temperature: 23°C)

Sample	Size	Test Floor	Lubricant	Modes	Results	Requirement	Pass/Fail
-	36 (Right)	Eurotile 2	NaLS	Forward Heel Slip (#1)	0.39	Min. 0.28	Pass
				Forward Flat Slip (#2)	0.39	Min. 0.32	Pass
		Steel Floor	Glycerine	Forward Heel Slip (#1)	0.13	Min. 0.13	Pass
				Forward Flat Slip (#2)	0.19	Min. 0.18	Pass
	42 (Right)	Eurotile 2	NaLS	Forward Heel Slip (#1)	0.39	Min. 0.28	Pass
				Forward Flat Slip (#2)	0.37	Min. 0.32	Pass
		Steel Floor	Glycerine	Forward Heel Slip (#1)	0.13	Min. 0.13	Pass
				Forward Flat Slip (#2)	0.19	Min. 0.18	Pass
	47 (Right)	Eurotile 2	NaLS	Forward Heel Slip (#1)	0.40	Min. 0.28	Pass
				Forward Flat Slip (#2)	0.38	Min. 0.32	Pass
		Steel Floor	Glycerine	Forward Heel Slip (#1)	0.13	Min. 0.13	Pass
				Forward Flat Slip (#2)	0.19	Min. 0.18	Pass

Note:

It Must Be Noted That The Slip Resistance Test Carried Out In This Report Denotes An Indication Of Slip Of This Particular Footwear/Component On The Surface Mentioned In The Test Item. It Is Important To Note That Footwear Is Subject To Many Different Conditions Encountered In Everyday Use And That It Is Impossible To Make Footwear Resistant To Slip In All Conditions. Nevertheless, It Is Generally Accepted That Problems Are Minimized If The Guideline Coefficients Of Friction Are Achieved.

Remark: #1 = Using Standard Shoemaking Last  
#2 = Using Mechanical Foot

Expanded Uncertainty: 0.01, With K = 2.03 At 95% Confidence Level.





11 Penetration Resistance (Whole Footwear With Metallic Anti-penetration Insert) (EN ISO 20344:2011(5.8.2))

Sample	Size	Results		Requirement	Pass/Fail
-	36	Left	1288 N	Min. 1 100 N	Pass
		Right	1280 N	Min. 1 100 N	Pass
	42	Left	1128 N	Min. 1 100 N	Pass
		Right	1143 N	Min. 1 100 N	Pass
	47	Left	1167 N	Min. 1 100 N	Pass
		Right	1149 N	Min. 1 100 N	Pass

Expanded Uncertainty: 16.99 N, With k=2.26 At 95% Confidence Level.

12 Construction (Whole Footwear) EN ISO 20345:2011(6.2.1.2)

Sample	Size	Assessment		Requirement	Pass/Fail
-	36	Left	Comply With Requirement.	*	Pass
		Right	Comply With Requirement.	*	Pass
	42	Left	Comply With Requirement.	*	Pass
		Right	Comply With Requirement.	*	Pass
	47	Left	Comply With Requirement.	*	Pass
		Right	Comply With Requirement.	*	Pass

Remark: \* = The Penetration Resistance Insert Can Not Be Removed Without Damaging The Footwear. Except For Non-Metallic Inserts That Also Function As An Insole, The Insert Shall Not Lie Above The Flange Of The Safety Toecap And Shall Not Be Attached To It



13 Dimensions (Whole Footwear) (EN ISO 20344:2011(5.8.1))

Sample	Size	Results		Requirement	Pass/Fail
-	36	Left	Except The Heel Region: 0 mm In The Heel Region: 0 mm The Penetration-Resistant Insert Has No Holes.	*	Pass
		Right	Except The Heel Region: 0 mm In The Heel Region: 0 mm The Penetration-Resistant Insert Has No Holes.	*	Pass
	42	Left	Except The Heel Region: 0 mm In The Heel Region: 0 mm The Penetration-Resistant Insert Has No Holes.	*	Pass
		Right	Except The Heel Region: 0 mm In The Heel Region: 0 mm The Penetration-Resistant Insert Has No Holes.	*	Pass
	47	Left	Except The Heel Region: 0 mm In The Heel Region: 0 mm The Penetration-Resistant Insert Has No Holes.	*	Pass
		Right	Except The Heel Region: 0 mm In The Heel Region: 0 mm The Penetration-Resistant Insert Has No Holes.	*	Pass

Remark: \* = The Distance Between The Line Represented By The Feather Edge Of The Last And The Edge Of The Insert:  
 Except The Heel Region: Max. 6.5 mm  
 In The Heel Region: Max. 17 mm  
 The Penetration-Resistant Insert Shall Have No More Than Three Holes With A Maximum Diameter Of 3 mm To Attach It To The Bottom Of Footwear. The Holes Shall Not Lie In The Area Specified



14 Antistatic Footwear (Electrical Resistance) (EN ISO 20344:2011(5.10))

Test Condition:

Condition:	Dry	Wet
Temperature:	(20±2) °C	(20±2) °C
Relative Humidity:	(30±5) %	(85±5) %
Period:	7 Days	
Internal Electrode:	(4±1) kg Steel Balls Of 5 mm Diameter	
Test Voltage:	(100±2) V DC	
Test Period:	1 Minute	

Sample	Condition	Size	Results		Requirement	Pass/Fail
-	Dry	36	Left	68.6 MΩ	*	Pass
			Right	75.9 MΩ	*	Pass
		42	Left	54.8 MΩ	*	Pass
			Right	61.3 MΩ	*	Pass
		47	Left	51.6 MΩ	*	Pass
			Right	69.2 MΩ	*	Pass
	Wet	36	Left	8.34 MΩ	*	Pass
			Right	5.36 MΩ	*	Pass
		42	Left	1.76 MΩ	*	Pass
			Right	2.08 MΩ	*	Pass
		47	Left	2.92 MΩ	*	Pass
			Right	2.23 MΩ	*	Pass

Remark: \* = Above 100 kΩ And Less Than Or Equal To 1 000 MΩ

Expanded Uncertainty: 1.13 MΩ, With k= 2.06 At 95% Confidence Level.

15 Energy Absorption Of Seat Region (Whole Footwear) (EN ISO 20344:2011(5.14))

Sample	Size	Results		Requirement	Pass/Fail
-	36	Left	25 Joules	Min. 20 Joules	Pass
		Right	25 Joules	Min. 20 Joules	Pass
	42	Left	26 Joules	Min. 20 Joules	Pass
		Right	26 Joules	Min. 20 Joules	Pass
	47	Left	28 Joules	Min. 20 Joules	Pass
		Right	28 Joules	Min. 20 Joules	Pass

Expanded Uncertainty: 0.26 Joule, With k=2.11 At 95% Confidence Level.



16 General (Upper) (EN ISO 20345:2011(5.4.1))

Sample	Size	Assessment	Requirement	Pass/Fail
-	36	Black Embossed Leather Upper Should Completely Fulfill The Upper Requirements.	*	N/A
	42	Black Embossed Leather Upper Should Completely Fulfill The Upper Requirements.	*	N/A
	47	Black Embossed Leather Upper Should Completely Fulfill The Upper Requirements.	*	N/A

Remark: \* = Min. Height, Below Which The Upper Requirements Shall Be Fulfilled.

Size 36	44 mm
Size 42	50 mm
Size 47	53 mm

N/A = No Conclusion Since It Is Just A Judgment Testing.

17 Construction (Upper) (EN ISO 20345:2011(6.3))

Sample	Size	Assessment	Requirement	Pass/Fail
-	36	Comply With Requirement	*	Pass
	42	Comply With Requirement	*	Pass
	47	Comply With Requirement	*	Pass

Remark: \* = Non-Functional And Decorative Stitching And Perforations Shall Not Be Used On Footwear For Which Water Resistance Of The Upper Is Claimed. When The Requirement Of Water Resistance For Whole Footwear Has Been Met, Non-Functional And Decorative Stitching And Perforations Are Acceptable.

18 Tear Strength (Lining) (EN ISO 20344:2011(6.3) & ISO 4674-1:2003, Method B)

Sample	Size	Results (Vamp Lining)		Requirement	Pass/Fail
-	36	Middle Value	55.0 N	Min. 15 N	Pass
	42	Middle Value	58.1 N	Min. 15 N	Pass
	47	Middle Value	60.6 N	Min. 15 N	Pass

Expanded Uncertainty: 2.77 N, With k= 2.06 At 95% Confidence Level.

19 Water Vapour Permeability & Coefficient (Lining)(EN ISO 20344:2011(6.6 & 6.8))

Sample	Size	Results (Vamp Lining)		Requirement	Pass/Fail
		WVP	WVC		
-	36	41.2 mg/(cm <sup>2</sup> ·h)	329.7 mg/cm <sup>2</sup>	*	Pass
	42	47.5 mg/(cm <sup>2</sup> ·h)	380.3 mg/cm <sup>2</sup>	*	Pass
	47	44.8 mg/(cm <sup>2</sup> ·h)	358.6 mg/cm <sup>2</sup>	*	Pass

Remark: \* = WVP: Min. 2.0 mg/(cm<sup>2</sup>·h);  
WVC: Min. 20 mg/cm<sup>2</sup>

Expanded Uncertainty:

WVP: 0.16 mg/(cm<sup>2</sup>·h), With k = 2.23 At 95% Confidence Level;

WVC: 1.29 mg/cm<sup>2</sup>, With k = 2.22 At 95% Confidence Level.

20 Abrasion Resistance (Lining) (EN ISO 20344:2011(6.12))

Sample	Size	Results (Vamp Lining)	Requirement	Pass/Fail
-	36	Wearing Surface Did Not Develop Any Holes Before 25,600 Cycles Dry; Wearing Surface Did Not Develop Any Holes Before 12,800 Cycles Wet.	*	Pass
	42	Wearing Surface Did Not Develop Any Holes Before 25,600 Cycles Dry; Wearing Surface Did Not Develop Any Holes Before 12,800 Cycles Wet.	*	Pass
	47	Wearing Surface Did Not Develop Any Holes Before 25,600 Cycles Dry; Wearing Surface Did Not Develop Any Holes Before 12,800 Cycles Wet.	*	Pass

Remark: \* = Wearing Surface Shall Not Develop Any Holes Before 25,600 Cycles Dry;  
Wearing Surface Shall Not Develop Any Holes Before 12,800 Cycles Wet.

21 Thickness (Insole) (EN ISO 20344:2011(7.1))

Sample	Size	Results	Requirement	Pass/Fail
-	36	2.1 mm	Min. 2.0 mm	Pass
	42	2.1 mm	Min. 2.0 mm	Pass
	47	2.1 mm	Min. 2.0 mm	Pass

Expanded Uncertainty: 0.07 mm, With k= 1.96 At 95% Confidence Level.

22 Water Absorption & Desorption (Insole) (EN ISO 20344:2011(7.2))

Sample	Size	Results		Requirement	Pass/Fail
		Water Absorption	Water Desorption		
-	36	135 mg/cm <sup>2</sup>	112%	*	Pass
	42	127 mg/cm <sup>2</sup>	112%	*	Pass
	47	131 mg/cm <sup>2</sup>	111%	*	Pass

Remark: \* = Water Absorption: Min. 70 mg/cm<sup>2</sup>  
Water Desorption: Min. 80%

Expanded Uncertainty:

Water Absorption: 0.10 mg/cm<sup>2</sup>, With k= 1.96 At 95% Confidence Level.

Water Desorption: 0.03%, With k= 1.96 At 95% Confidence Level.

23 Abrasion Resistance (Insole) (EN ISO 20344:2011(7.3))

Sample	Size	Result	Requirement	Pass/Fail
-	36	No More Than Severe Damage Before 400 Cycles.	*	Pass
	42	No More Than Severe Damage Before 400 Cycles.	*	Pass
	47	No More Than Severe Damage Before 400 Cycles.	*	Pass

Remark: \* = There Shall Be No More Than Severe Damage Before 400 Cycles.

24 Tear Strength (Outsole) (EN ISO 20344:2011(8.2), ISO 34-1:2010, Method A)

Sample	Size	Density	Results	Requirement	Pass/Fail
-	36	0.7 g/cm <sup>3</sup>	8.4 kN/m	*	Pass
	42	0.7 g/cm <sup>3</sup>	9.0 kN/m	*	Pass
	47	0.7 g/cm <sup>3</sup>	9.2 kN/m	*	Pass

Remark: \* = Density: ≤ 0.9 g/cm<sup>3</sup>, Min. 5 kN/m

Expanded Uncertainty: 0.32 kN/m, With k= 2.26 At 95% Confidence Level.

25 Abrasion Resistance (Outsole) (EN ISO 20344:2011(8.3), ISO 4649:2010, Method A)

Sample	Size	Density	Results	Requirement	Pass/Fail
-	36	0.7 g/cm <sup>3</sup>	Relative Volume Loss: 76.6 mm <sup>3</sup>	*	Pass
	42	0.7 g/cm <sup>3</sup>	Relative Volume Loss: 91.6 mm <sup>3</sup>	*	Pass
	47	0.7 g/cm <sup>3</sup>	Relative Volume Loss: 114.5 mm <sup>3</sup>	*	Pass

Remark: \* = Density: ≤ 0.9 g/cm<sup>3</sup>, Max. 250 mm<sup>3</sup>

Expanded Uncertainty: 1.76 mm<sup>3</sup>, With k= 1.96 At 95% Confidence Level.

26 Rigidity Test (Outsole) (EN ISO 20344:2011(8.4))

Sample	Size	Result
-	42	38°

Conclusion: There's No Need To Be Performed The Flexing Test.

NOTE Footwear Whose Angle Under The Applied Force Is Lower Than 45° From The Horizontal Is Not Subjected To The Flexing Test.

27 Cleated Area (Outsole) (EN ISO 20345:2011(5.8.1.2))

Sample	Size	Results	Requirement	Pass/Fail
-	36	Specified Areas Have Cleats, Which Are Open To The Side. Front Cleats Area: 0.53 L Heel Cleats Area : 0.30 L	*	Pass
	42	Specified Areas Have Cleats, Which Are Open To The Side. Front Cleats Area: 0.53 L Heel Cleats Area : 0.30 L	*	Pass
	47	Specified Areas Have Cleats, Which Are Open To The Side. Front Cleats Area: 0.53 L Heel Cleats Area : 0.30 L	*	Pass

Remark: \* = Specified Area Shall Have Cleats, Which Are Open To The Side.  
Front Cleats Area: Min. 0.45 L.  
Heel Cleats Area : Min. 0.25 L.





31 Resistance To Fuel Oil (Outsole) (EN ISO 20344:2011(8.6.1), ISO 1817:2011(8.3), EN ISO 868:2003)

Sample	Size	Results (Black PU Compact Layer + Black PU Expanded Layer)	Requirement	Pass/Fail
-	36	Change In Volume: +1.48%	Max. +12%(*)	Pass
	42	Change In Volume: +0.49%	Max. +12%(*)	Pass
	47	Change In Volume: +0.46%	Max. +12%(*)	Pass

Remark: \* = If The Test Piece Shrinks By More Than 1% In Volume Or Increase In Hardness By More Than 10 Shore A Hardness Units, Then A Further Flex Test Shall Be Performed In Accordance With The Method Described In EN ISO 20344:2011, 8.6.2.  
(+) Means Increase And (-) Means Shrinkage.

Expanded Uncertainty: 0.16%, With k= 2.13 At 95% Confidence Level.

32 Interlayer Bond Strength (Whole Footwear) (EN ISO 20344:2011(5.2))

Sample	Size	Results	Requirement	Pass/Fail
-	36	5.2 N/mm	*	Pass
	42	5.4 N/mm	*	Pass
	47	4.5 N/mm	*	Pass

Remark: \* = Min. 4.0 N/mm, If The Sole Was Torn, Min. 3.0 N/mm

Expanded Uncertainty: 0.10 N/mm, With k= 2 At 95% Confidence Level.

33 Detection Of Amines Derived From Azocolourants and Azodyes

With Reference To Test Method: Textile Method (EN 14362-1: 2012);

Amines Content Was Determined By Gas Chromatography-Mass Spectrometry (GC-MS)

	Forbidden Amine	CAS No.	Result (mg/kg)
1.	4-Aminodiphenyl	92-67-1	ND
2.	Benzidine	92-87-5	ND
3.	4-Chloro-o-toluidine	95-69-2	ND
4.	2-Naphthylamine	91-59-8	ND
5.	o-Aminoazotoluene	97-56-3	ND
6.	2-Amino-4-nitrotoluene	99-55-8	ND
7.	p-Chloroaniline	106-47-8	ND
8.	2,4-Diaminoanisole	615-05-4	ND
9.	4,4'-Diaminodiphenylmethane	101-77-9	ND
10.	3,3'-Dichlorobenzidine	91-94-1	ND
11.	3,3'-Dimethoxybenzidine	119-90-4	ND
12.	3,3'-Dimethylbenzidine	119-93-7	ND
13.	3,3'-Dimethyl-4,4'diaminodiphenylmethane	838-88-0	ND
14.	p-Cresidine	120-71-8	ND
15.	4,4'-Methylene-bis(2-chloroaniline)	101-14-4	ND
16.	4,4'-Oxydianiline	101-80-4	ND
17.	4,4'-Thiodianiline	139-65-1	ND
18.	o-Toluidine	95-53-4	ND
19.	2,4-Toluylenediamine	95-80-7	ND
20.	2,4,5-Trimethylaniline	137-17-7	ND
21.	o-Anisidine	90-04-0	ND
22.	4-Aminoazobenzene	60-09-3	ND

Remark: ND = Not detected  
Detection limit = 5 mg/kg  
Limit = 30 mg/kg

Tested Component: Black Mesh With Glue (Quarter Lining & Counter Lining).

Conclusion:

Standard  
REACH Regulation (EC) No.1907/2006 Annex XVII  
Item 43 and its Amendments No. 552/2009 and  
126/2013 (Formerly Known As Directive 2002/61/EC)

Result  
Pass



*End Of Report*

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