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TEST REPORT



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国际互认
检测
TESTING
CNAS L0220

Number: GZHT90734929

Date: Sep 15, 2017

Applicant: RUIAN BOAN NON-METALLIC MATERIAL
TECHNOLOGY CO.,LTD
NO.1 DAOHANG ROAD,
ECONOMIC DEVELOPMENT ZONE,
RUIAN CITY,ZHEJIANG CHINA
Attn: MR ZHAO

Sample Description:

Twelve (12) pieces of submitted samples said to be non-metallic penetration resistance insole materials.
Standard : EN 12568:2010
Date Received/Date Test Started: Sep 07, 2017
Date Final Information Confirmed/ --/Sep 15, 2017
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

Authorized By:
For Intertek Testing Services Shenzhen Ltd.
Guangzhou Branch

Huang Ning, Andy
Assistant General Manager



bf / nicoleho

Intertek Testing Services Shenzhen Ltd, Guangzhou Branch

深圳天祥质量技术服务有限公司广州分公司

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1 Nail Penetration Resistance After Thermal Ageing Test Of Non-Metal Penetration Resistant Inserts
(EN 12568:2010, 6.2.1 & 6.4)

Effect Of High Temperature Temp. (60°C × 4 Hours, Then 45°C × 18 Hours)				
Sample	Specimen	Results	Requirement	Pass/Fail
-	Specimen 1	No Nail Penetration At 1,100 N & No Separation Of The Layers Occurred Before 1,100 N.	*	Pass
	Specimen 2	No Nail Penetration At 1,100 N & No Separation Of The Layers Occurred Before 1,100 N.	*	Pass

Remark: * = The Tip Of The Test Nail Shall Not Penetrate Through The Test Piece And Separation Of The Layers Shall Not Occur Before 1,100 N.

2 Nail Penetration Resistance After Thermal Ageing Test Of Non-Metal Penetration Resistant Inserts
(EN 12568:2010, 6.2.1 & 6.4)

Effect Of Low Temperature Temp. (-20°C × 4 Hours, Then -6°C × 18 Hours)				
Sample	Specimen	Results	Requirement	Pass/Fail
-	Specimen 1	No Nail Penetration At 1,100 N & No Separation Of The Layers Occurred Before 1,100 N.	*	Pass
	Specimen 2	No Nail Penetration At 1,100 N & No Separation Of The Layers Occurred Before 1,100 N.	*	Pass

Remark: * = The Tip Of The Test Nail Shall Not Penetrate Through The Test Piece And Separation Of The Layers Shall Not Occur Before 1,100 N.

3 Nail Penetration Resistance After Chemical Ageing Test Of Non-Metal Penetration Resistant Inserts
(EN 12568:2010, 6.2.1 & 6.4)

Effect Of Acid (1 mol/l H ₂ SO ₄ × 23°C × 24 Hours)				
Sample	Specimen	Results	Requirement	Pass/Fail
-	Specimen 1	No Nail Penetration At 1,100 N & No Separation Of The Layers Occurred Before 1,100 N.	*	Pass
	Specimen 2	No Nail Penetration At 1,100 N & No Separation Of The Layers Occurred Before 1,100 N.	*	Pass

Remark: * = The Tip Of The Test Nail Shall Not Penetrate Through The Test Piece And Separation Of The Layers Shall Not Occur Before 1,100 N.

4 Nail Penetration Resistance After Chemical Ageing Test Of Non-Metal Penetration Resistant Inserts (EN 12568:2010,6.2.1 & 6.4)

Effect Of Alkali (1 mol/l NaOH × 23°C × 24 Hours)				
Sample	Specimen	Results	Requirement	Pass/Fail
-	Specimen 1	No Nail Penetration At 1,100 N & No Separation Of The Layers Occurred Before 1,100 N.	*	Pass
	Specimen 2	No Nail Penetration At 1,100 N & No Separation Of The Layers Occurred Before 1,100 N.	*	Pass

Remark: * = The Tip Of The Test Nail Shall Not Penetrate Through The Test Piece And Separation Of The Layers Shall Not Occur Before 1,100 N.

5 Nail Penetration Resistance After Chemical Ageing Test Of Non-Metal Penetration Resistant Inserts (EN 12568:2010, 6.2.1 & 6.4)

Effect Of Fuel Oil (2,2,4-Trimethylpentane × 23°C × 24 Hours)				
Sample	Specimen	Results	Requirement	Pass/Fail
-	Specimen 1	No Nail Penetration At 1,100 N & No Separation Of The Layers Occurred Before 1,100 N.	*	Pass
	Specimen 2	No Nail Penetration At 1,100 N & No Separation Of The Layers Occurred Before 1,100 N.	*	Pass

Remark: * = The Tip Of The Test Nail Shall Not Penetrate Through The Test Piece And Separation Of The Layers Shall Not Occur Before 1,100 N.

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TEST REPORT



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Number: GZHT90734931

Date: Sep 15, 2017

Applicant: RUIAN BOAN NON-METALLIC MATERIAL
TECHNOLOGY CO.,LTD
NO.1 DAOHANG ROAD,
ECONOMIC DEVELOPMENT ZONE,
RUIAN CITY,ZHEJIANG CHINA
Attn: MR ZHAO

Sample Description:

Twelve (12) pieces of submitted samples said to be Non-metallic penetration resistant insole materials.
Standard : EN ISO 20345:2011
EN 12568:2010
Previous Report Number : --
Date Received/Date Test Started: Sep 07, 2017
Date Final Information Confirmed/ --/Sep 15, 2017
Date Payment Received:

Test Result Please Refer To Attached Page(S).

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Tel: +86 20 83966868 Fax: +86 20 82228169 Postcode: 510730

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

Sample	Specimen	Results		Requirement	Pass/Fail
		Water Absorption	Water Desorption		
-	Specimen 1	121 mg/cm ²	102%	*	Pass
	Specimen 2	120 mg/cm ²	102%	*	Pass
	Specimen 3	120 mg/cm ²	102%	*	Pass

Remark: * = Water Absorption: Min. 70 mg/cm²
Water Desorption: Min. 80%

Expanded Uncertainty:

Water Absorption: 0.10 mg/cm², With k= 1.96 At 95% Confidence Level.

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

2 Multiple Flex Resistance Of Penetration Resistant Inserts (EN 12568:2010, 6.2.2 & 7.2.2)

		Requirement	Pass/Fail
<u>Specimen 1</u>	No Visible Signs Of Cracking, Disintegration Or Delamination After 1 × 10 ⁶ Flexion Cycles.	*	Pass
<u>Specimen 2</u>	No Visible Signs Of Cracking, Disintegration Or Delamination After 1 × 10 ⁶ Flexion Cycles.	*	Pass
<u>Specimen 3</u>	No Visible Signs Of Cracking, Disintegration Or Delamination After 1 × 10 ⁶ Flexion Cycles.	*	Pass

Remark: * = The Inserts Shall Exhibit No Visible Signs Of Cracking, Disintegration Or Delamination After Having Been Subjected To 1 × 10⁶ Flexion Cycles.

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Number: GZHT90734931

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TEST REPORT



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CNAS L0220

Number: GZHT90894189

Date: Jun 11, 2019

Applicant: LINYI GUANG BO INDUSTRY AND TRADE
NO.2 YINGCHUN ROAD, INDUSTRIAL
CONSTRUCTION ZONE, YINAN COUNTY, LINYI
CITY SHANDONG PROVINCE, CHINA
Attn: LIN YING

Sample Description:

Twenty-one (21) pairs of submitted samples said to be 189 Fiberglass toe caps.
Standard : EN 12568:2010
Size : 7, 9, 12
Style No./Name : 189
Date Received/Date Test Started: Jun 01, 2019
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

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For Intertek Testing Services Shenzhen Ltd.
Guangzhou Branch



Guiliang Dong
Senior Lab Manager



EC / bettyxlchen

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Tel: +86 20 83966868 Fax: +86 20 82228169 Postcode: 510730

1 Compression Resistance Of Toe Caps (EN 12568:2010, 5.2.3, Compression Load: 15 kN)

Sample	Size	Results		Requirement	Pass/Fail
-	7	Left	> 30.0 mm	Min. 20.5 mm (#)	Pass
		Right	> 30.0 mm	Min. 20.5 mm (#)	Pass
	9	Left	> 30.0 mm	Min. 21.5 mm (#)	Pass
		Right	> 30.0 mm	Min. 21.5 mm (#)	Pass
	12	Left	> 30.0 mm	Min. 22.0 mm (#)	Pass
		Right	> 30.0 mm	Min. 22.0 mm (#)	Pass

Remark: # = In Addition, The Toe Cap Shall Not Develop Sharp Edges Or Any Cracks Passing Through The Material (i.e. Through Which Light Can Be Seen).
Expanded Uncertainty: 0.97 mm, With k= 2 At 95% Confidence Level.

2 Impact Resistance Of Toe Caps (EN 12568:2010, 5.2.2, Energy Level: 200 Joules)

Sample	Size	Results		Requirement	Pass/Fail
-	7	Left	22.0 mm	Min. 20.5 mm (#)	Pass
		Right	22.0 mm	Min. 20.5 mm (#)	Pass
	9	Left	22.5 mm	Min. 21.5 mm (#)	Pass
		Right	23.0 mm	Min. 21.5 mm (#)	Pass
	12	Left	23.0 mm	Min. 22.0 mm (#)	Pass
		Right	23.5 mm	Min. 22.0 mm (#)	Pass

Remark: # = In Addition, The Toe Cap Shall Not Develop Sharp Edges Or Any Cracks Passing Through The Material (i.e. Through Which Light Can Be Seen).
Expanded Uncertainty: 0.99 mm, With k= 2 At 95% Confidence Level.

3 Impact Resistance After Chemical Aging Test Of Non-Metal Toe Caps (EN 12568:2010, 5.4.4, 200 Joules)

Effect Of Alkali (1 mol/l NaOH × 23°C × 24 Hours)					
Sample	Size	Results		Requirement	Pass/Fail
-	12	Left	24.0 mm	Min. 22.0 mm (#)	Pass
		Right	25.0 mm	Min. 22.0 mm (#)	Pass

Remark: # = In Addition, The Toe Cap Shall Not Develop Sharp Edges Or Any Cracks Passing Through The Material (i.e. Through Which Light Can Be Seen).
Expanded Uncertainty: 0.99 mm, With k= 2 At 95% Confidence Level.

4 Impact Resistance After Chemical Aging Test Of Non-Metal Toe Caps (EN 12568:2010, 5.4.5, 200 Joules)

Effect of Acid (1 mol/l H ₂ SO ₄ × 23°C × 24 Hours)					
Sample	Size	Results		Requirement	Pass/Fail
-	12	Left	25.0 mm	Min. 22.0 mm (#)	Pass
		Right	24.5 mm	Min. 22.0 mm (#)	Pass

Remark: # = In Addition, The Toe Cap Shall Not Develop Sharp Edges Or Any Cracks Passing Through The Material (i.e. Through Which Light Can Be Seen).
Expanded Uncertainty: 0.99 mm, With k= 2 At 95% Confidence Level.

5 Impact Resistance After Thermal Aging Test Of Non-Metal Toe Caps (EN 12568:2010, 5.4.3, 200 Joules)

Effect Of Low Temperature (-20°C × 4 Hours, Then -6°C × 18 Hours)					
Sample	Size	Results		Requirement	Pass/Fail
-	12	Left	24.5 mm	Min. 22.0 mm (#)	Pass
		Right	24.5 mm	Min. 22.0 mm (#)	Pass

Remark: # = In Addition, The Toe Cap Shall Not Develop Sharp Edges Or Any Cracks Passing Through The Material (i.e. Through Which Light Can Be Seen).
Expanded Uncertainty: 0.99 mm, With k= 2 At 95% Confidence Level.

6 Impact Resistance After Thermal Aging Test Of Non-Metal Toe Caps (EN 12568:2010, 5.4.2, 200 Joules)

Effect Of High Temperature (60°C × 4 Hours, Then 45°C × 18 Hours)					
Sample	Size	Results		Requirement	Pass/Fail
-	12	Left	24.0 mm	Min. 22.0 mm (#)	Pass
		Right	23.0 mm	Min. 22.0 mm (#)	Pass

Remark: # = In Addition, The Toe Cap Shall Not Develop Sharp Edges Or Any Cracks Passing Through The Material (i.e. Through Which Light Can Be Seen).
Expanded Uncertainty: 0.99 mm, With k= 2 At 95% Confidence Level.

7 Impact Resistance After Chemical Aging Test Of Non-Metal Toe Caps (EN 12568:2010, 5.4.6, 200 Joules)

Effect Of Fuel Oil (2,2,4-Trimethylpentane × 23°C × 24 Hours)					
Sample	Size	Results		Requirement	Pass/Fail
-	12	Left	25.0 mm	Min. 22.0 mm (#)	Pass
		Right	23.5 mm	Min. 22.0 mm (#)	Pass

Remark: # = In Addition, The Toe Cap Shall Not Develop Sharp Edges Or Any Cracks Passing Through The Material (i.e. Through Which Light Can Be Seen).
Expanded Uncertainty: 0.99 mm, With k= 2 At 95% Confidence Level.



End Of Report

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Applicant: LINYI JIPUAI SAFETY PROTECTION PRODUCTS
INTERSECTION OF YUQUAN ROAD AND YUYE ROA
YINAN COUNTY, LINYI CITY
SHANDONG PROVINCE, CHINA
Attn: MARINA

Sample Description:

Two (2) groups of submitted samples said to be:

(A) Thirteen (13) pairs of Injection lace up safety boots in Black

(B) One (1) piece of Black smooth leather

Standard : EN ISO 20345:2011
Size : EUR 36, 42, 46, 48
Ref. No. : JPA 153 ADFT02
Insert Plate : Anti-penetration resistant textile
Toe Cap : Fiberglass toecap
Sole : PU/PU
Upper : Black smooth leather + TPU part + Black oxford fabric
Vamp Lining : White non-woven
Quarter Lining : Orange PK mesh
Tongue : Black oxford fabric
Collar : Black oxford fabric
Insole : Anti-penetration resistant textile
Full Removable Insock : Black mesh + PU
Previous Report Number : --
Date Received/Date Test Started: Jun 17, 2020
Date Final Information Confirmed/ Jul 13, 2020/--
Date Payment Received:

Test Result Please Refer To Attached Page(S).

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Authorized By:
For Intertek Testing Services Shenzhen Ltd.
Guangzhou Branch



Shengning Bi
Assistant General Manager

Authorized By:
For Intertek Testing Services Shenzhen Ltd.
Guangzhou Branch



Guiliang Dong
Senior Lab Manager



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

Sample	Size	Results	Design B Requirement	Pass/Fail
(A)	36	126 mm	Min. 103 mm	Pass
	42	135 mm	Min. 113 mm	Pass
	48	148 mm	Min. 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
(A)	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
	48	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

Sample A	
Size 36	44 mm
Size 42	50 mm
Size 48	53 mm

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

Sample	Size	Assessment		Requirement	Pass/Fail
(A)	36	Left	All The Answers Are Positive.	*	Pass
		Right	All The Answers Are Positive.	*	Pass
	42	Left	All The Answers Are Positive.	*	Pass
		Right	All The Answers Are Positive.	*	Pass
	46	Left	All The Answers Are Positive.	*	Pass
		Right	All The 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
(A)	36	The Insole Cannot Be Removed Without Damaging The Footwear	*	Pass
	42	The Insole Cannot Be Removed Without Damaging The Footwear	*	Pass
	48	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
(A)	36	3.7 N/mm (The Sole Was Torn)	*	Pass
	42	3.4 N/mm (The Sole Was Torn)	*	Pass
	48	3.5 N/mm (The Sole Was Torn)	*	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
(A)	36	The Toecap Cannot Be Removed Without Damaging The Footwear. Edge Covering Beneath Toecap: 7 mm Edge Covering Behind Toecap: 13 mm Width Of Toecap Flange: 7 mm Thickness Of Scuff-Resistant Covering: 2 mm Vamp Lining Present.	*	Pass
	42	The Toecap Cannot Be Removed Without Damaging The Footwear. Edge Covering Beneath Toecap: 8 mm Edge Covering Behind Toecap: 14 mm Width Of Toecap Flange: 8 mm Thickness Of Scuff-Resistant Covering: 2 mm Vamp Lining Present.	*	Pass
	48	The Toecap Cannot Be Removed Without Damaging The Footwear. Edge Covering Beneath Toecap: 8 mm Edge Covering Behind Toecap: 14 mm Width Of Toecap Flange: 9 mm Thickness Of Scuff-Resistant Covering: 2 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
(A)	36	Left	39 mm	Min. 34 mm	Pass
		Right	39 mm	Min. 34 mm	Pass
	42	Left	42 mm	Min. 39 mm	Pass
		Right	42 mm	Min. 39 mm	Pass
	48	Left	45 mm	Min. 42 mm	Pass
		Right	45 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
(A)	36	Left	12.0 mm	Min. 12.5 mm (#)	Fail
		Right	12.5 mm	Min. 12.5 mm (#)	Pass
	42	Left	16.0 mm	Min. 14.0 mm (#)	Pass
		Right	15.0 mm	Min. 14.0 mm (#)	Pass
	48	Left	17.0 mm	Min. 15.0 mm (#)	Pass
		Right	16.0 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
(A)	36	Left	14.0 mm	Min. 12.5 mm	Pass
		Right	14.0 mm	Min. 12.5 mm	Pass
	42	Left	17.5 mm	Min. 14.0 mm	Pass
		Right	18.0 mm	Min. 14.0 mm	Pass
	48	Left	20.0 mm	Min. 15.0 mm	Pass
		Right	20.0 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 13287:2019, SRC, Temperature: 23°C)

Sample	Size	Test Floor	Lubricant	Modes	Results	Requirement	Pass/Fail
(A)	36 (Left)	Eurotile 2	NaLS	Forward Heel Slip (#1)	0.53	Min. 0.28	Pass
				Forward Flat Slip (#2)	0.49	Min. 0.32	Pass
		Steel Floor	Glycerine	Forward Heel Slip (#1)	0.15	Min. 0.13	Pass
				Forward Flat Slip (#2)	0.20	Min. 0.18	Pass
	42 (Right)	Eurotile 2	NaLS	Forward Heel Slip (#1)	0.49	Min. 0.28	Pass
				Forward Flat Slip (#2)	0.49	Min. 0.32	Pass
		Steel Floor	Glycerine	Forward Heel Slip (#1)	0.16	Min. 0.13	Pass
				Forward Flat Slip (#2)	0.21	Min. 0.18	Pass
48 (Left)	Eurotile 2	NaLS	Forward Heel Slip (#1)	0.51	Min. 0.28	Pass	
			Forward Flat Slip (#2)	0.50	Min. 0.32	Pass	
	Steel Floor	Glycerine	Forward Heel Slip (#1)	0.16	Min. 0.13	Pass	
			Forward Flat Slip (#2)	0.20	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 Non-metallic Anti-Penetration Insert)(EN ISO 20344:2011(5.8.3))

Sample	Size	Results		Requirement	Pass/Fail
(A)	36	Left	The Tip Of The Test Nail Did Not Penetrate Through The Test Piece Before 1100 N	Min. 1100 N (*)	Pass
		Right	The Tip Of The Test Nail Did Not Penetrate Through The Test Piece Before 1100 N	Min. 1100 N (*)	Pass
	42	Left	The Tip Of The Test Nail Did Not Penetrate Through The Test Piece Before 1100 N	Min. 1100 N (*)	Pass
		Right	The Tip Of The Test Nail Did Not Penetrate Through The Test Piece Before 1100 N	Min. 1100 N (*)	Pass
	48	Left	The Tip Of The Test Nail Did Not Penetrate Through The Test Piece Before 1100 N	Min. 1100 N (*)	Pass
		Right	The Tip Of The Test Nail Did Not Penetrate Through The Test Piece Before 1100 N	Min. 1100 N (*)	Pass

Remark: * = The Tip Of The Test Nail Shall Not Penetrate Through The Test Piece.

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

Sample	Size	Assessment		Requirement	Pass/Fail
(A)	36	Left	Comply With Requirement.	*	Pass
		Right	Comply With Requirement.	*	Pass
	42	Left	Comply With Requirement.	*	Pass
		Right	Comply With Requirement.	*	Pass
	48	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

This Test In The Report Is Not Included In The CNAS Accreditation Schedule For Our Laboratory.



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

Sample	Size	Results		Requirement	Pass/Fail
(A)	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
	48	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

This Test In The Report Is Not Included In The CNAS Accreditation Schedule For Our Laboratory.

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±0.1) kg Steel Balls Of 5 mm Diameter	
Test Voltage:	(100±2) V DC	
Test Period:	1 Minute	

Sample	Condition	Size	Results		Requirement	Pass/Fail
(A)	Dry	36	Left	62.1 MΩ	*	Pass
			Right	56.2 MΩ	*	Pass
		42	Left	52.7 MΩ	*	Pass
			Right	43.8 MΩ	*	Pass
		48	Left	162.8 MΩ	*	Pass
			Right	42.5 MΩ	*	Pass
	Wet	36	Left	17.1 MΩ	*	Pass
			Right	12.2 MΩ	*	Pass
		42	Left	8.27 MΩ	*	Pass
			Right	9.15 MΩ	*	Pass
		48	Left	82.9 MΩ	*	Pass
			Right	33.8 MΩ	*	Pass

Remark: * = Above 100 kΩ And Less Than Or Equal To 1000 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
(A)	36	Left	29 Joules	Min. 20 Joules	Pass
		Right	29 Joules	Min. 20 Joules	Pass
	42	Left	30 Joules	Min. 20 Joules	Pass
		Right	30 Joules	Min. 20 Joules	Pass
	48	Left	30 Joules	Min. 20 Joules	Pass
		Right	30 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
(A)	36	Black Smooth Leather Upper And TPU Part Upper And Black Oxford Fabric Upper Should Completely Fulfill The Upper Requirements.	*	N/A
	42	Black Smooth Leather Upper And TPU Part Upper And Black Oxford Fabric Upper Should Completely Fulfill The Upper Requirements.	*	N/A
	48	Black Smooth Leather Upper And TPU Part Upper And Black Oxford Fabric Upper Should Completely Fulfill The Upper Requirements.	*	N/A

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

Sample A	
Size 36	64 mm
Size 42	70 mm
Size 48	73 mm

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

17 Tear Strength (Upper) (EN ISO 20344:2011(6.3), ISO 3377-2:2016)

Sample	Size	Results (Black Smooth Leather Upper)		Requirement	Pass/Fail
(A)	36	Mean Value	202.1 N	Min. 120 N	Pass
	42	Mean Value	247.2 N	Min. 120 N	Pass
	48	Mean Value	198.9 N	Min. 120 N	Pass

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

18 Tensile Properties (Upper) (EN ISO 20344:2011(6.4), ISO 3376:2011)

Sample	Size	Results (Black Smooth Leather Upper)		Requirement	Pass/Fail	
(A)	36	Tensile Strength	Mean Value	20 N/mm ²	Min. 15 N/mm ²	Pass
	42		Mean Value	19 N/mm ²	Min. 15 N/mm ²	Pass
	48		Mean Value	22 N/mm ²	Min. 15 N/mm ²	Pass

Expanded Uncertainty:
Leather Split: 0.3 N/mm², With k= 2.14 At 95% Confidence Level.

19 Water Vapour Permeability & Coefficient (Upper) (EN ISO 20344:2011(6.6 & 6.7 & 6.8))

Sample	Size	Results (Black Smooth Leather Upper With Grey EVA Backing)		Requirement	Pass/Fail
		WVP	WVC		
(A)	36	0.01 mg/(cm²·h)	0.4 mg/cm²	*	Fail
	42	0.01 mg/(cm²·h)	0.3 mg/cm²	*	Fail
	48	0.01 mg/(cm²·h)	0.1 mg/cm²	*	Fail

Remark: * = WVP: Min. 0.8 mg/(cm²·h);
WVC: Min. 15 mg/cm².

Expanded Uncertainty:
WVP: 0.16 mg/(cm²·h), With k= 2.23 At 95% Confidence Level;
WVC: 1.29 mg/cm², With k= 2.22 At 95% Confidence Level.

20 Water Penetration And Water Absorption (Upper) (EN ISO 20344:2011(6.13))

Sample	Sample (#)	Results		Requirement	Pass/Fail
		Water Absorption	Water Penetration		
(B)	Sample 1	37.0%	0.1 g	*	Fail
	Sample 2	40.1%	0.1 g	*	Fail
	Sample 3	40.3%	0.1 g	*	Fail

Remark: * = Water Absorption: Max. 30.0% After 60 Minutes
Water Penetration: Max. 0.2 g After 60 Minutes

= It Is Not Possible To Take Specimens From Complete Footwear Due To Restrictions On The Footwear Design. All Specimens Are Taken From The Composites Of Material Which Are The Same As The Corresponding Materials Of The Complete Footwear By Visual Inspection And Measurement.

Expanded Uncertainty:
Water Absorption: 0.07%, With k=1.96 At 95% Confidence Level;
Water Penetration: 0.0008 g, With k=1.96 At 95% Confidence Level.

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

Sample	Size	Assessment	Requirement	Pass/Fail
(A)	36	Comply With Requirement	*	Pass
	42	Comply With Requirement	*	Pass
	48	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.

22 Abrasion Resistance (Collar) (EN ISO 20344:2011(6.12))

Sample	Size	Results	Requirement	Pass/Fail
(A)	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
	48	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.

23 Tear Strength (Tongue) (EN ISO 20344:2011(6.3), ISO 4674-1:2003, Method B)

Sample	Size	Results		Requirement	Pass/Fail
(A)	36	Middle Value	83.4 N	Min. 18 N	Pass
	42	Middle Value	73.6 N	Min. 18 N	Pass
	48	Middle Value	90.1 N	Min. 18 N	Pass

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

Sample	Size	Density	Results	Requirement	Pass/Fail
(A)	36	1.03 g/cm ³	8.2 kN/m	*	Pass
	42	1.04 g/cm ³	8.2 kN/m	*	Pass
	48	1.03 g/cm ³	8.0 kN/m	*	Pass

Remark: * = Density: > 0.9 g/cm³, Min. 8 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
(A)	36	1.03 g/cm ³	Relative Volume Loss: 24.5 mm ³	*	Pass
	42	1.04 g/cm ³	Relative Volume Loss: 21.2 mm ³	*	Pass
	48	1.03 g/cm ³	Relative Volume Loss: 26.9 mm ³	*	Pass

Remark: * = Density: > 0.9 g/cm³, Max. 150 mm³

Expanded Uncertainty: 1.76 mm³, With k= 1.96 At 95% Confidence Level.

26 Tear Strength (Collar) (EN ISO 20344:2011(6.3), ISO 4674-1:2003, Method B)

Sample	Size	Results	Requirement	Pass/Fail
(A)	36	Middle Value 78.7 N	Min. 15 N	Pass
	42	Middle Value 84.7 N	Min. 15 N	Pass
	48	Middle Value 72.6 N	Min. 15 N	Pass

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

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

Sample	Size	Result
(A)	42	> 60°

Conclusion: There's 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.

28 Flexing Resistance (Outsole) (EN ISO 20344:2011(8.4))

Sample	Size	Results (Cut Growth)	Requirement	Pass/Fail
(A)	36	0.1 mm	Max. 4 mm (*)	Pass
	42	0.1 mm	Max. 4 mm (*)	Pass
	48	0.1 mm	Max. 4 mm (*)	Pass

Remark: * = Spontaneous Cracks Are Acceptable In The Following Circumstances.
 a) Only The Centre Of The Tread Area Shall Be Assessed For Cracking, i.e. Cracks Under The Toecap Zone Shall Be Ignored.
 b) Superficial Cracks Up To 0.5 mm Deep Shall Be Ignored.
 c) Soles Shall Be Deemed To Be Satisfactory If Cracks Are No Deeper Than 1.5 mm, No Longer Than 4 mm And No More Than Five In Number.

Expanded Uncertainty: 0.06 mm, With k= 1.96 At 95% Confidence Level.

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

Sample	Size	Results	Requirement	Pass/Fail
(A)	36	Specified Areas Have Cleats, Which Are Open To The Side. Front Cleats Area: 0.51 L Heel Cleats Area : 0.32 L	*	Pass
	42	Specified Areas Have Cleats, Which Are Open To The Side. Front Cleats Area: 0.51 L Heel Cleats Area : 0.31 L	*	Pass
	48	Specified Areas Have Cleats, Which Are Open To The Side. Front Cleats Area: 0.50 L Heel Cleats Area : 0.32 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.

30 Cleat Height (Cleated Outsole) (EN ISO 20344:2011(8.1))

Sample	Size	Results	Requirement	Pass/Fail
(A)	36	4.5 mm	Min. 2.5 mm	Pass
	42	4.5 mm	Min. 2.5 mm	Pass
	48	4.5 mm	Min. 2.5 mm	Pass

Expanded Uncertainty: 0.13 mm, With k= 2.03 At 95% Confidence Level.

31 Thickness (Outsoles) (EN ISO 20344:2011(8.1.2))

Sample	Size	Results (Class I)		Requirement	Pass/Fail
		Type Of Outsole	d ₁		
(A)	36	Cleated	8.0 mm	Min. 4 mm	Pass
	42	Cleated	6.0 mm	Min. 4 mm	Pass
	48	Cleated	6.0 mm	Min. 4 mm	Pass

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

32 Hydrolysis (Outsole) (EN ISO 20344:2011(8.5), ISO 5423:1992, Annex C&E)

Test Condition:

Hydrolysis Procedure (ISO 5423:1992 Annex E) Temperature step 1: (70±1) °C For 7 Days
Temperature step 2: (23±2) °C For 24 h

Flexing Procedure (ISO 5423:1992 Annex C) Temperature: (-5±2) °C
Flex Cycles: 150,000

Sample	Size	Results (Cut Growth)	Requirement	Pass/Fail
(A)	36	0.1 mm	Max. 6 mm	Pass
	42	0 mm	Max. 6 mm	Pass
	48	0 mm	Max. 6 mm	Pass

Expanded Uncertainty: 0.08 mm, With k=1.96 At 95% Confidence Level.

33 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
(A)	36	Change In Volume: +1.96%	Max. +12%(*)	Pass
	42	Change In Volume: +0.48%	Max. +12%(*)	Pass
	48	Change In Volume: +0.84%	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.

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

Sample	Size	Results	Requirement	Pass/Fail
(A)	36	3.1 N/mm (The Sole Was Torn)	*	Pass
	42	4.4 N/mm	*	Pass
	48	4.4 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.

35 Cold Insulation Of Sole Complex (Whole Footwear) (EN ISO 20344:2011(5.13))

Test Condition:

Thermal Transfer Medium: (4000±40) g Steel Balls Of 5 mm Diameter

Temperature Of Cold Box: (-17±2)°C

Test Period: 30 Minutes

Sample	Size	Results	Requirement	Pass/Fail
(A)	36	Left 8.0°C Temperature Decrease. (#)	*	Pass
	42	Right 7.5°C Temperature Decrease. (#)	*	Pass

Remark: * = Max. 10°C Temperature Decrease On The Upper Surface Of The Insole.
Except For The Insock, The Insulation Shall Be Incorporated In The Footwear In Such A Manner That It Cannot Be Removed Without Damaging The Footwear.

= Except For The Insock, The Insulation Is Incorporated In The Footwear That It Cannot Be Removed Without Damaging The Footwear.

Expanded Uncertainty: 1.10°C, With k= 2.12 At 95% Confidence Level.

36 Detection Of Amines Derived From Azocolourants and Azodyes

With Reference To Test Method: Textile Method (EN 14362-1: 2012)
Leather Method (ISO 17234-1:2010)
P-Aminoazobenzene (ISO 17234-2:2011)

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

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

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

Tested Components: Please See Component List In The Last Section Of This Report.

Conclusion:

<u>Standard</u>	<u>Result</u>
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)	Pass



37 Pentachlorophenol (PCP) Content:

With Reference To ISO 17070:2015, Analysis By Gas Chromatographic-Mass Spectrometric (GC-MS)

Tested Component	Result In mg/kg	Limit In mg/kg
(1)	ND	5

Remark: Detection Limit = 0.5 mg/kg
ND = Not Detected

Tested Component: Please See Component List In The Last Section Of This Report.

Conclusion:

<u>Test Item</u>	<u>Result</u>
Pentachlorophenol (PCP) Content	Pass

38 Chromium (VI) Content

As Per EN ISO 20344:2011, 6.11, With Reference To ISO 17075-1:2017, The Hexavalent Chromium Content Was Determined By UV-Visible Spectrophotometry

<u>Tested Component</u>	<u>Result In ppm</u>	<u>Requirement In ppm</u>
(1)	ND	ND

Remark: Detection Limit = 3 ppm
ND = Not Detected
ppm = Parts Per Million = mg/kg

Tested Component: Please See Component List In The Last Section Of This Report.

Conclusion:

<u>Standard</u>	<u>Result</u>
EN ISO 20345:2011 For Chromium (VI) Content	Pass



39 pH Value

As Per EN ISO 20344:2011, 6.9, With Reference To ISO 4045:2018, pH Value Was Measured By pH Meter.

Tested Component	Result	Difference Figure	Requirement
(1)	3.80	0.60	*

Remark: * = Min. 3.20, If The pH Value Is Below 4.00, The Difference Figure Shall Be Less Than 0.70

Tested Component: Please See Component List In The Last Section Of This Report.

Conclusion:

<u>Standard</u>	<u>Result</u>
EN ISO 20345:2011 For pH Value	Pass

Component List:

- (1) Black Smooth Leather (Upper Of Sample A)
- (2) Black Oxford Fabric (Collar/Tongue Of Sample A)



End Of Report

This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct. No copy of the test report(except for full text copy) shall be made without the written approval by Intertek.



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TEST REPORT



中国认可
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检测
TESTING
CNAS L0220

Number: GZHT90976515

Date: Jul 20, 2020

Applicant: LINYI JIPUAI SAFETY PROTECTION PRODUCTS
INTERSECTION OF YUQUAN ROAD AND YUYE ROA
YINAN COUNTY, LINYI CITY
SHANDONG PROVINCE, CHINA
Attn: MARINA

Sample Description:

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

- Standard : EN ISO 20345:2011
- Size : EUR 36, 42, 46, 48
- Ref. No. : JPA154 ADFT01
- Insert Plate : Anti-penetration resistant textile
- Toe Cap : Fiberglass toecap
- Sole : PU/PU
- Upper : Blue suede leather+Grey suede leather+Grey 3D mesh
- Vamp Lining : White non-woven
- Quarter Lining : Grey PK mesh
- Tongue : Grey 3D mesh
- Collar : Grey 3D mesh
- Insole : Anti-penetration resistant textile
- Full Removeable Insock : Black mesh+PU
- Previous Report Number : --
- Date Received/Date Test Started: Jun 09, 2020/Jun 30, 2020
- Date Final Information Confirmed/ Jul 20, 2020/--
- 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

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1 Tear Strength (Upper) (EN ISO 20344:2011(6.3), ISO 3377-2:2016, ISO 4674-1:2003, Method B)

Sample	Size	Results (Blue Suede Leather)		Requirement	Pass/Fail
-	36	Mean Value	166.9 N	Min. 120 N	Pass
	42	Mean Value	284.1 N	Min. 120 N	Pass
	48	Mean Value	248.0 N	Min. 120 N	Pass

Sample	Size	Results (Grey 3D Mesh)		Requirement	Pass/Fail
-	36	Middle Value	80.9 N	Min. 60 N	Pass
	42	Middle Value	78.2 N	Min. 60 N	Pass
	48	Middle Value	79.9 N	Min. 60 N	Pass

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

2 Tensile Properties (Upper) (EN ISO 20344:2011(6.4), ISO 3376:2011)

Sample	Size	Results (Blue Suede Leather)		Requirement	Pass/Fail	
-	36	Tensile Strength	Mean Value	17 N/mm ²	Min. 15 N/mm ²	Pass
	42		Mean Value	17 N/mm ²	Min. 15 N/mm ²	Pass
	48		Mean Value	32 N/mm ²	Min. 15 N/mm ²	Pass

Expanded Uncertainty:

Leather Split: 0.3 N/mm², With k= 2.14 At 95% Confidence Level.

Tests Conducted (As Requested By The Applicant)

3 Water Vapour Permeability & Coefficient (Upper) (EN ISO 20344:2011(6.6 & 6.7 & 6.8))

Sample	Size	Results (Grey 3D Mesh Upper With Black Non-Woven Backing)		Requirement	Pass/Fail
		WVP	WVC		
-	36	34.4 mg/(cm ² ·h)	275.2 mg/cm ²	*	Pass
	42	30.4 mg/(cm ² ·h)	243.5 mg/cm ²	*	Pass
	48	36.2 mg/(cm ² ·h)	289.8 mg/cm ²	*	Pass

Sample	Size	Results (Grey Suede Leather Upper With Black Non-Woven Backing)		Requirement	Pass/Fail
		WVP	WVC		
-	36	4.1 mg/(cm ² ·h)	36.2 mg/cm ²	*	Pass
	42	5.8 mg/(cm ² ·h)	50.0 mg/cm ²	*	Pass
	48	4.4 mg/(cm ² ·h)	39.7 mg/cm ²	*	Pass

Remark: * = WVP: Min. 0.8 mg/(cm²·h);
WVC: Min. 15 mg/cm².

Expanded Uncertainty:

WVP: 0.16 mg/(cm²·h), With k= 2.23 At 95% Confidence Level;

WVC: 1.29 mg/cm², With k= 2.22 At 95% Confidence Level.

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

Sample	Size	Results (Quarter/Seat Region Lining)		Requirement	Pass/Fail
-	36	Middle Value	27.5 N	Min. 15 N	Pass
	42	Middle Value	24.4 N	Min. 15 N	Pass
	48	Middle Value	24.0 N	Min. 15 N	Pass

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

Sample	Size	Results (Quarter/Seat Region Lining)		Requirement	Pass/Fail
		WVP	WVC		
-	36	76.8 mg/(cm ² ·h)	614.4 mg/cm ²	*	Pass
	42	90.2 mg/(cm ² ·h)	721.5 mg/cm ²	*	Pass
	48	87.2 mg/(cm ² ·h)	697.7 mg/cm ²	*	Pass

Remark: * = WVP: Min. 2.0 mg/(cm²·h);
WVC: Min. 20 mg/cm²

Expanded Uncertainty:
WVP: 0.16 mg/(cm²·h), With k = 2.23 At 95% Confidence Level;
WVC: 1.29 mg/cm², With k = 2.22 At 95% Confidence Level.

6 Abrasion Resistance (Seat Region Lining) (EN ISO 20344:2011(6.12))

Sample	Size	Results	Requirement	Pass/Fail
-	36	Wearing Surface Did Not Develop Any Holes Before 51,200 Cycles Dry; Wearing Surface Developed Holes Before 25,600 Cycles Wet.	*	Fail
	42	Wearing Surface Did Not Develop Any Holes Before 51,200 Cycles Dry; Wearing Surface Developed Holes Before 25,600 Cycles Wet.	*	Fail
	48	Wearing Surface Did Not Develop Any Holes Before 51,200 Cycles Dry; Wearing Surface Developed Holes Before 25,600 Cycles Wet.	*	Fail

Remark: * = Wearing Surface Shall Not Develop Any Holes Before 51,200 Cycles Dry.
Wearing Surface Shall Not Develop Any Holes Before 25,600 Cycles Wet.

7 Tear Strength (Collar) (EN ISO 20344:2011(6.3), ISO 4674-1:2003, Method B)

Sample	Size	Results (Grey 3D Mesh With Black Non-Woven Backing)	Requirement	Pass/Fail
-	36	Middle Value	83.8 N	Min. 15 N Pass
	42	Middle Value	81.3 N	Min. 15 N Pass
	48	Middle Value	76.7 N	Min. 15 N Pass

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

8 Abrasion Resistance (Collar) (EN ISO 20344:2011(6.12))

Sample	Size	Results	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
	48	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.

9 Tear Strength (Tongue) (EN ISO 20344:2011(6.3), ISO 4674-1:2003, Method B)

Sample	Size	Results (Grey 3D Mesh)		Requirement	Pass/Fail
-	36	Middle Value	48.5 N	Min. 18 N	Pass
	42	Middle Value	41.3 N	Min. 18 N	Pass
	48	Middle Value	46.1 N	Min. 18 N	Pass

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

Sample	Size	Results	Requirement	Pass/Fail
-	36	4.0 mm	Min. 2.0 mm	Pass
	42	4.0 mm	Min. 2.0 mm	Pass
	48	4.0 mm	Min. 2.0 mm	Pass

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

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

Sample	Size	Results		Requirement	Pass/Fail
		Water Absorption	Water Desorption		
-	36	120 mg/cm ²	103%	*	Pass
	42	119 mg/cm ²	103%	*	Pass
	48	120 mg/cm ²	102%	*	Pass

Remark: * = Water Absorption: Min. 70 mg/cm²
Water Desorption: Min. 80%

Expanded Uncertainty:

Water Absorption: 0.10 mg/cm², With k= 1.96 At 95% Confidence Level.

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

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

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

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

13 Water Absorption & Desorption (Insock) (EN ISO 20344:2011(7.2))

Sample	Size	Results		Requirement	Pass/Fail
		Water Absorption	Water Desorption		
-	36	308 mg/cm ²	100%	*	Pass

Remark: * = Water Absorption: Min. 70 mg/cm²;
Water Desorption: Min. 80%.

Expanded Uncertainty:

Water Absorption: 0.10 mg/cm², With k= 1.96 At 95% Confidence Level.

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

14 Abrasion Resistance (Insock) (EN ISO 20344:2011(6.12))

Sample	Size	Results	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

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.



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TEST REPORT



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检测
TESTING
CNAS L0220

Number: GZHT90980889

Date: Jul 28, 2020

Applicant: LINYI JIPUAI SAFETY PROTECTION PRODUCTS
INTERSECTION OF YUQUAN ROAD AND YUYE ROA
YINAN COUNTY, LINYI CITY
SHANDONG PROVINCE, CHINA
Attn: MARINA

Sample Description:

Two (2) groups of submitted samples said to be:

(A) Thirteen (13) pairs of Injection lace up safety boots in Black

(B) One (1) piece of Black smooth leather

Standard	:	EN ISO 20345:2011
Size	:	EUR 36, 42, 46, 48
Ref. No.	:	JPA 153 ADFT02
Insert Plate	:	Anti-penetration resistant textile
Toe Cap	:	Fiberglass toecap
Sole	:	PU/PU
Upper	:	Black smooth leather + TPU part + Black oxford fabric
Vamp Lining	:	White non-woven
Quarter Lining	:	Orange PK mesh
Tongue	:	Black oxford fabric
Collar	:	Black oxford fabric
Insole	:	Anti-penetration resistant textile
Full Removable Insock	:	Black mesh + PU
Previous Report Number	:	--
Date Received/Date Test Started:	:	Jun 17, 2020/Jul 22, 2020
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

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

Sample	Size	Results (Vamp Lining)		Requirement	Pass/Fail
(A)	36	Middle Value	64.5 N	Min. 15 N	Pass
	42	Middle Value	73.9 N	Min. 15 N	Pass
	48	Middle Value	72.1 N	Min. 15 N	Pass

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

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

Sample	Size	Results (Vamp Lining)		Requirement	Pass/Fail
		WVP	WVC		
(A)	36	39.2 mg/(cm ² ·h)	313.5 mg/cm ²	*	Pass
	42	31.8 mg/(cm ² ·h)	254.3 mg/cm ²	*	Pass
	48	30.0 mg/(cm ² ·h)	240.0 mg/cm ²	*	Pass

Remark: * = WVP: Min. 2.0 mg/(cm²·h);
WVC: Min. 20 mg/cm²

Expanded Uncertainty:
WVP: 0.16 mg/(cm²·h), With k = 2.23 At 95% Confidence Level;
WVC: 1.29 mg/cm², With k = 2.22 At 95% Confidence Level.

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

Sample	Size	Results (Vamp Lining)	Requirement	Pass/Fail
(A)	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
	48	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.

4 Abrasion Resistance (Quarter Lining) (EN ISO 20344:2011(6.12))

Sample	Size	Results	Requirement	Pass/Fail
(A)	36	Wearing Surface Did Not Develop Any Holes Before 51,200 Cycles Dry; Wearing Surface Developed Holes Before 25,600 Cycles Wet.	*	Fail
	42	Wearing Surface Did Not Develop Any Holes Before 51,200 Cycles Dry; Wearing Surface Developed Holes Before 25,600 Cycles Wet.	*	Fail
	48	Wearing Surface Did Not Develop Any Holes Before 51,200 Cycles Dry; Wearing Surface Developed Holes Before 25,600 Cycles Wet.	*	Fail

Remark: * = Wearing Surface Shall Not Develop Any Holes Before 51,200 Cycles Dry.
Wearing Surface Shall Not Develop Any Holes Before 25,600 Cycles Wet.



5 Water Absorption & Desorption (Insock) (EN ISO 20344:2011(7.2))

Sample	Size	Results		Requirement	Pass/Fail
		Water Absorption	Water Desorption		
(A)	42	145 mg/cm ²	100%	*	Pass
	48	137 mg/cm ²	100%	*	Pass

Remark: * = Water Absorption: Min. 70 mg/cm²;
Water Desorption: Min. 80%.

Expanded Uncertainty:

Water Absorption: 0.10 mg/cm², With k= 1.96 At 95% Confidence Level.

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

6 Abrasion Resistance (Insock) (EN ISO 20344:2011(6.12))

Sample	Size	Results	Requirement	Pass/Fail
(A)	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
	48	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.



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检测
TESTING
CNAS L0220

Number: GZHT90985161

Applicant: LINYI JIPUAI SAFETY PROTECTION PRODUCTS
INTERSECTION OF YUQUAN ROAD AND YUYE ROA
YINAN COUNTY, LINYI CITY
SHANDONG PROVINCE, CHINA
Attn: MARINA

Date: Aug 18, 2020

Sample Description:

Three (3) pairs of submitted samples said to be Injection lace up safety boots in Black
Standard : EN ISO 20345:2011
Size : EUR 36, 42, 48
Ref. No. : JPA 153 ADFT02
Insert Plate : Anti-penetration resistant textile
Toe Cap : Fiberglass toecap
Sole : PU/PU
Upper : Black smooth leather + TPU part + Black oxford fabric
Vamp Lining : White non-woven
Quarter Lining : Orange PK mesh
Tongue : Black oxford fabric
Collar : Black oxford fabric
Insole : Anti-penetration resistant textile
Full Removable Insock : Black mesh + PU
Previous Report Number : GZHT90974424 & GZHT90980889
Date Received/Date Test Started: Aug 12, 2020
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

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1 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	12.5 mm	Min. 12.5 mm (#)	Pass
		Right	14.5 mm	Min. 12.5 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.

2 Water Vapour Permeability & Coefficient (Upper) (EN ISO 20344:2011(6.6 & 6.7 & 6.8))

Sample	Size	Results (Black Smooth Leather Upper)		Requirement	Pass/Fail
		WVP	WVC		
-	36	1.6 mg/(cm ² ·h)	16.3 mg/cm ²	*	Pass
	42	2.3 mg/(cm ² ·h)	22.8 mg/cm ²	*	Pass
	48	2.7 mg/(cm ² ·h)	25.1 mg/cm ²	*	Pass

Remark: * = WVP: Min. 0.8 mg/(cm²·h);
WVC: Min. 15 mg/cm².

Expanded Uncertainty:

WVP: 0.16 mg/(cm²·h), With k= 2.23 At 95% Confidence Level;

WVC: 1.29 mg/cm², With k= 2.22 At 95% Confidence Level.





3 Water Penetration And Water Absorption (Upper) (EN ISO 20344:2011(6.13))

Sample	Size	Results		Requirement	Pass/Fail
		Water Absorption	Water Penetration		
-	36	2.1%	0.02 g	*	Pass
	42	1.9%	0.03 g	*	Pass
	48	2.7%	0.02 g	*	Pass

Remark: * = Water Absorption: Max. 30.0% After 60 Minutes
Water Penetration: Max. 0.2 g After 60 Minutes

Expanded Uncertainty:

Water Absorption: 0.07%, With k=1.96 At 95% Confidence Level;

Water Penetration: 0.0008 g, With k=1.96 At 95% Confidence Level.

4 Abrasion Resistance (Quarter Lining) (EN ISO 20344:2011(6.12))

Sample	Size	Results	Requirement	Pass/Fail
-	36	Wearing Surface Did Not Develop Any Holes Before 51,200 Cycles Dry; Wearing Surface Did Not Develop Any Holes Before 25,600 Cycles Wet.	*	Pass
	42	Wearing Surface Did Not Develop Any Holes Before 51,200 Cycles Dry; Wearing Surface Did Not Develop Any Holes Before 25,600 Cycles Wet.	*	Pass
	48	Wearing Surface Did Not Develop Any Holes Before 51,200 Cycles Dry; Wearing Surface Did Not Develop Any Holes Before 25,600 Cycles Wet.	*	Pass

Remark: * = Wearing Surface Shall Not Develop Any Holes Before 51,200 Cycles Dry.
Wearing Surface Shall Not Develop Any Holes Before 25,600 Cycles Wet.



5 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: Orange PK Mesh (Lining)

Conclusion:

Standard	Result
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)	Pass





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