

Test Report

Number: GZHT90510943

Applicant: BATA INDUSTRIALS EUROPE
EUROPAPLEIN 1, 5684 ZC BEST
P.O. BOX 10050, 5680 DB BEST
THE NETHERLANDS
Attn: JOEY CHAN

Date: May 05, 2015

Sample Description:

- Nine (9) groups of submitted sample said to be:
- (A) Seven (7) pairs of Injection lace up low cut safety shoes in Black (Sabre Shoe II (L-C))
 - (B) One (1) pair of Injection lace up low cut safety shoes in Black (Sabre Low-cut II (L-C)) Size: UK 8
 - (C) Four (4) pairs of Injection lace up safety ankle boots in Black (Sabre Lace-up II (Ankle Boot))
 - (D) Four (4) pairs of Injection pull on safety ankle boots in Black (Sabre Chelsea Boot II (Ankle Boot))
 - (E) One (1) piece of Black embossed action leather upper
 - (F) One (1) piece of White non-woven vamp lining
 - (G) One (1) piece of Red mesh quarter lining
 - (H) One (1) piece of White non-woven insole
 - (I) One (1) piece of Black mesh with top layer insock material.

Standard : EN ISO 20345: 2011
Size : UK 3, 8, 12, 13
Insert Plate : None
Toe Cap : Steel toecap
Sole : Single density PU
Upper : Black embossed action leather 1.4-1.6mm
Vamp Lining : White non-woven
Quarter Lining : (A) Red mesh
(B) Orange mesh
(C) Red mesh
(D) Red mesh
Insole : Non-woven
Insock : EVA
Date Received/Date Test Started : Apr. 25, 2015
Date Final Information Confirmed: --

Test Result Please Refer To Attached Page(S).

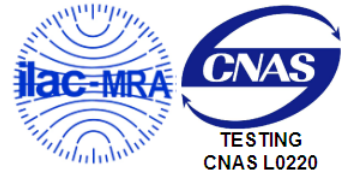
Should you have any query on this report, you may contact at gzfootwear@intertek.com

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



Huang Ning, Andy
Assistant General Manager





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Tests Conducted (As Requested By The Applicant)

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

	(A)	Requirement	Pass/Fail
		Design A	
<u>Size 3</u>	70 mm	< 103 mm	Pass
<u>Size 8</u>	80 mm	< 113 mm	Pass
<u>Size 13</u>	90 mm	< 121 mm	Pass
	(C)	Requirement	Pass/Fail
		Design B	
<u>Size 3</u>	115 mm	Min. 103 mm	Pass
<u>Size 8</u>	130 mm	Min. 113 mm	Pass
<u>Size 13</u>	140 mm	Min. 121 mm	Pass
	(D)	Requirement	Pass/Fail
		Design B	
<u>Size 3</u>	115 mm	Min. 103 mm	Pass
<u>Size 8</u>	125 mm	Min. 113 mm	Pass
<u>Size 13</u>	135 mm	Min. 121 mm	Pass

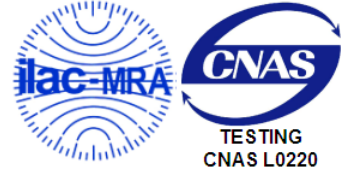
Expanded Uncertainty: 0.79 mm, With k= 2.19 At 95% Confidence Level.

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

	(A)	Requirement	Pass/Fail
<u>Size 3</u>	The Seat Region Was Closed. In This Area Of The Upper, There Are No Holes Other Than To Form Seams.	*	Pass
<u>Size 8</u>	The Seat Region Was Closed. In This Area Of The Upper, There Are No Holes Other Than To Form Seams.	*	Pass
<u>Size 13</u>	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.
 Size 3: 44 mm
 Size 8: 50 mm
 Size 13: 53 mm



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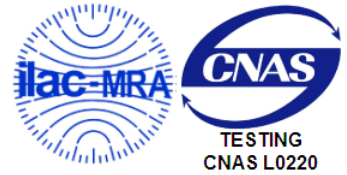
3 Specific Ergonomic Features (Whole Footwear) (EN ISO 20344:2011(5.1))

	(A)	Requirement	Pass/Fail
<u>Size 3</u>	Left : All The Answers Are Positive. Right: All The Answers Are Positive.	*	Pass
<u>Size 8</u>	Left : All The Answers Are Positive. Right: All The Answers Are Positive.	*	Pass
<u>Size 12</u>	Left : All The Answers Are Positive. Right: All The Answers Are Positive.	*	Pass

	(C)	Requirement	Pass/Fail
<u>Size 3</u>	Left : All The Answers Are Positive. Right: All The Answers Are Positive.	*	Pass
<u>Size 8</u>	Left : All The Answers Are Positive. Right: All The Answers Are Positive.	*	Pass
<u>Size 12</u>	Left : All The Answers Are Positive. Right: All The Answers Are Positive.	*	Pass

	(D)	Requirement	Pass/Fail
<u>Size 3</u>	Left : All The Answers Are Positive. Right: All The Answers Are Positive.	*	Pass
<u>Size 8</u>	Left : All The Answers Are Positive. Right: All The Answers Are Positive.	*	Pass
<u>Size 12</u>	Left : All The Answers Are Positive. 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.)



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

	(A)	Requirement	Pass/Fail
<u>Size 3</u>	The Insole Cannot Be Removed Without Damaging The Footwear	*	Pass
<u>Size 8</u>	The Insole Cannot Be Removed Without Damaging The Footwear	*	Pass
<u>Size 13</u>	The Insole Cannot Be Removed Without Damaging The Footwear	*	Pass

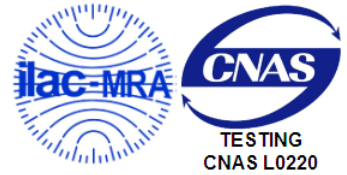
Remark: * = The Insole Cannot Be Removed Without Damaging The Footwear. If There Is No Insole, A Permanently Attached Insock Shall Be Present.

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

	(A)	Requirement	Pass/Fail
<u>Size 3</u>	4.7 N/mm	*	Pass
<u>Size 8</u>	5.0 N/mm	*	Pass
<u>Size 13</u>	4.8 N/mm	*	Pass

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

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



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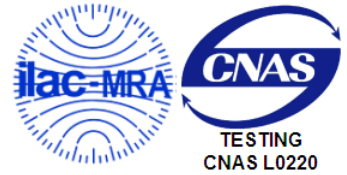
Tests Conducted (As Requested By The Applicant)

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

	(C)	Requirement	Pass/Fail
<u>Size3</u>	The Toecap Cannot Be Removed Without Damaging The Footwear. Edge Covering Beneath Toecap: 5 mm Edge Covering Behind Toecap: 13 mm Width Of Toecap Flange: 5 mm The Scuff -Resistant Covering Is Not Present. Vamp Lining Present.	*	Pass
<u>Size 8</u>	The Toecap Cannot Be Removed Without Damaging The Footwear. Edge Covering Beneath Toecap: 5 mm Edge Covering Behind Toecap: 13 mm Width Of Toecap Flange: 5 mm The Scuff -Resistant Covering Is Not Present. Vamp Lining Present.	*	Pass
<u>Size 13</u>	The Toecap Cannot Be Removed Without Damaging The Footwear. Edge Covering Beneath Toecap: 5 mm Edge Covering Behind Toecap: 13 mm Width Of Toecap Flange: 5 mm The Scuff -Resistant Covering Is Not Present. 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.



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

	(C)		<u>Requirement</u>	<u>Pass/Fail</u>
<u>Size 3</u>	Left	39 mm	Min. 34 mm	Pass
	Right	40 mm	Min. 34 mm	Pass
<u>Size 8</u>	Left	42 mm	Min. 39 mm	Pass
	Right	42 mm	Min. 39 mm	Pass
<u>Size 13</u>	Left	44 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))

	(A)		<u>Requirement</u>	<u>Pass/Fail</u>
<u>Size 8</u>	Left:	15.5 mm	Min. 14.0 mm (#)	Pass
	Right:	16.0 mm	Min. 14.0 mm (#)	Pass
<u>Size 13</u>	Left:	19.5 mm	Min. 15.0 mm (#)	Pass
	Right:	20.0 mm	Min. 15.0 mm (#)	Pass

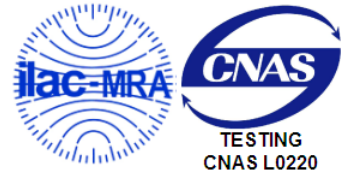
Remark: # = In Addition, The Toecap Shall Not Develop Any Cracks Which Go Through The Material, i.e. Through Which Light Can Be Seen.

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))

	(A)		<u>Requirement</u>	<u>Pass/Fail</u>
<u>Size 3</u>	Left:	17.5 mm	Min. 12.5 mm	Pass
	Right:	14.5 mm	Min. 12.5 mm	Pass
<u>Size 8</u>	Left:	18.5 mm	Min. 14.0 mm	Pass
	Right:	20.5 mm	Min. 14.0 mm	Pass
<u>Size 13</u>	Left:	24.0 mm	Min. 15.0 mm	Pass
	Right:	22.0 mm	Min. 15.0 mm	Pass

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



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

		(A)	Requirement	Pass/Fail
<u>Size 3</u>	Left	On Eurotile 2 With NaLS		
		Forward Heel Slip (#1): 0.36	Min. 0.28	Pass
		Forward Flat Slip (#2): 0.35	Min. 0.32	Pass
<u>Size 8</u>	Right	On Eurotile 2 With NaLS		
		Forward Heel Slip (#1): 0.35	Min. 0.28	Pass
		Forward Flat Slip (#2): 0.35	Min. 0.32	Pass
<u>Size 13</u>	Right	On Eurotile 2 With NaLS		
		Forward Heel Slip (#1): 0.34	Min. 0.28	Pass
		Forward Flat Slip (#2): 0.35	Min. 0.32	Pass

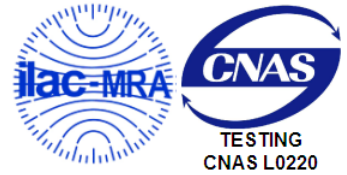
Note:

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.



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

	(A)	Requirement	
<u>Size 3</u>	Black 1.4 mm-1.6 mm Embossed Action Leather Upper Should Completely Fulfil The Upper Requirements.	*	N/A
<u>Size 8</u>	Black 1.4 mm-1.6 mm Embossed Action Leather Upper Should Completely Fulfil The Upper Requirements.	*	N/A
<u>Size 13</u>	Black 1.4 mm-1.6 mm Embossed Action Leather Upper Should Completely Fulfil The Upper Requirements.	*	N/A

Remark:

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

Size 3: 44 mm

Size 8: 50 mm

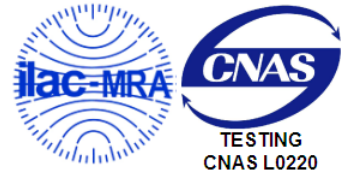
Size 13: 53 mm

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

12 Tear Strength (Upper) (EN ISO 20344:2011(6.3), ISO 3377-2:2002 (Leather))

	(A)	Requirement	Pass/Fail
<u>Size 3</u>	Mean Value: 160.8 N	Min. 120 N	Pass
<u>Size 8</u>	Mean Value: 163.3 N	Min. 120 N	Pass
<u>Size 13</u>	Mean Value: 181.3 N	Min. 120 N	Pass

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



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13 Tensile Properties (Upper) (EN ISO 20344:2011(6.4), ISO 3376:2002)

	(A)	Requirement	Pass/Fail
	Tensile Strength:		
<u>Size 3</u>	Mean Value: 17 N/mm ²	≥ 15 N/mm ²	Pass
<u>Size 8</u>	Mean Value: 19 N/mm ²	≥ 15 N/mm ²	Pass
<u>Size 13</u>	Mean Value: 16 N/mm ²	≥ 15 N/mm ²	Pass

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

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

	(A)	Requirement	Pass/Fail
	WVP	WVC	
<u>Size 3</u>	1.6 mg/(cm ² ·h)	19.4 mg/cm ²	*
<u>Size 8</u>	1.9 mg/(cm ² ·h)	22.0 mg/cm ²	*
<u>Size 13</u>	1.6 mg/(cm ² ·h)	19.3 mg/cm ²	*

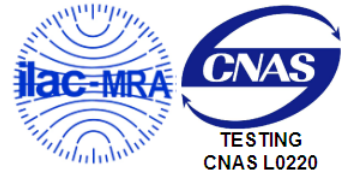
Remark: * = WVP: Min. 0.8 mg/(cm²·h);
WVC: Min. 15 mg/cm².

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.

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

	(A)	Requirement	Pass/Fail
	Vamp Lining		
<u>Size 3</u>	Middle Value: 50.5 N	Min. 15 N	Pass
<u>Size 8</u>	Middle Value: 49.3 N	Min. 15 N	Pass
<u>Size 13</u>	Middle Value: 49.5 N	Min. 15 N	Pass
	Quarter Lining		
<u>Size 3</u>	Middle Value: 26.5 N	Min. 15 N	Pass
<u>Size 8</u>	Middle Value: 26.6 N	Min. 15 N	Pass
<u>Size 13</u>	Middle Value: 28.1 N	Min. 15 N	Pass

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



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

	(A)	Requirement	Pass/Fail
<u>Vamp Lining</u>			
	WVP	WVC	
<u>Size 3</u>	38.2 mg/(cm ² ·h)	305.7 mg/cm ²	*
<u>Size 8</u>	37.1 mg/(cm ² ·h)	297.0 mg/cm ²	*
<u>Size 13</u>	36.0 mg/(cm ² ·h)	288.0 mg/cm ²	*
<u>Quarter Lining</u>			
	WVP	WVC	
<u>Size 3</u>	122.2 mg/(cm ² ·h)	978.1 mg/cm ²	*
<u>Size 8</u>	122.0 mg/(cm ² ·h)	976.0 mg/cm ²	*
<u>Size 13</u>	117.2 mg/(cm ² ·h)	938.1 mg/cm ²	*

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

Expanded Uncertainty:

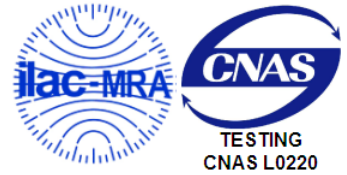
WVP: 0.16 mg/(cm²·h), With k = 2.23 At 95% Confidence Level;

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

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

	(A)	Requirement	Pass/Fail
<u>Size 3</u>	2.1 mm	Min. 2.0 mm	Pass
<u>Size 8</u>	2.1 mm	Min. 2.0 mm	Pass
<u>Size 13</u>	2.1 mm	Min. 2.0 mm	Pass

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



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

	(A)	Requirement	Pass/Fail
<u>Size 3</u>	No More Than Severe Damage Before 400 Cycles.	*	Pass
<u>Size 8</u>	No More Than Severe Damage Before 400 Cycles.	*	Pass
<u>Size 13</u>	No More Than Severe Damage Before 400 Cycles.	*	Pass

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

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

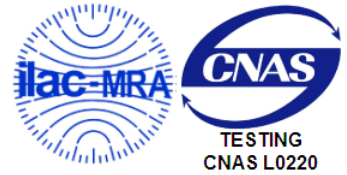
	(A)	Requirement	Pass/Fail
<u>Size 3</u>	Water Through Less Than 60 s	*	Pass
<u>Size 8</u>	Water Through Less Than 60 s	*	Pass
<u>Size 13</u>	Water Through Less Than 60 s	*	Pass

Remark: * = Water Permeable Insock: Water Through In 60 s Or Less.

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

	(A)	Requirement	Pass/Fail
<u>Size 3</u>	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
<u>Size 8</u>	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
<u>Size 13</u>	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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Tests Conducted (As Requested By The Applicant)

21 Detection Of Amines Derived From Azocolourants And Azodyes

By GAS Chromatographic - MASS Spectrometric (GC-MS) And High Performance Liquid Chromatographic (HPLC) Analysis.

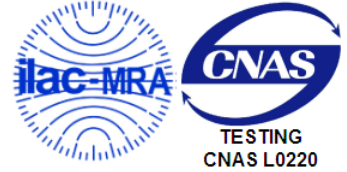
Test Method : Textile Method (EN 14362-1 : 2012)

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

Remark: N = Not Detected
Detection Limit = 5 ppm
Requirement = 30 ppm (MAX.)
ppm = Parts Per Million = mg/kg

Conclusion:

<u>Standard</u>	<u>Result</u>
Azocolourants Content Requirement In Annex XVII Item 43 Of The REACH Regulation (EC) NO. 1907/2006 & Amendment No. 552/2009 and 126/2013 (Formerly Known As Directive 2002/61/EC)	Pass



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22 Chromium (VI) Content

As Per EN ISO 20344:2011,6.11, With Reference To ISO 17075:2007, the Hexavalent Chromium Content Was Determined By Uv-Visible Spectrophotometry

<u>Tested Samples</u> (E)	<u>Result In ppm</u> ND	<u>Requirement In ppm</u> ND
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Remark: Detection Limit = 3 ppm
ND = Not Detected
ppm = Parts Per Million = mg/kg

Conclusion:

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

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