

NUMBER : TSNT01174106

Original Picture



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Applicant : Qingdao Eternity Safety Co., Ltd.
Room 411, Zijinshan Road, Huangdao District, Qingdao China.
Attn : Billy Chen

Date : Mar 01, 2019

Sample Description:

Several Pairs Of Submitted Sample Said To Be 13 Gauge Nitrile Coated Gloves, Marked As (A) White Back With Gery Plam, (B) Grey Back With Gery Plam, (C) Grey Back With Black Plam, (D) Red Back With Black Plam, (E) Black Back With Black Plam, (F) Fluorescent Orange Back With Black Plam, (G) Fluorescent Green Back With Black Plam.

Eco Test Component:

- (1) Grey Nitrile Cover Palm Fabric Of Sample (A)
- (2) White Polyester Back Fabric Of Sample (A)
- (3) White Polyester/Elastic Cuff Fabric Of Sample (A)
- (4) Grey Polyester Back Fabric Of Sample (B)
- (5) Grey Polyester/Elastic Cuff Fabric Of Sample (B)
- (6) Black Nitrile Cover Palm Fabric Of Sample (C)
- (7) Red Polyester Back Fabric Of Sample (D)
- (8) Red Polyester/Elastic Cuff Fabric Of Sample (D)
- (9) Black Polyester Back Fabric Of Sample (E)
- (10) Black Polyester/Elastic Cuff Fabric Of Sample (E)
- (11) Black Polyester Binding Of Sample (E)
- (12) Fluorescent Orange Polyester Back Fabric Of Sample (F)
- (13) Fluorescent Orange Polyester/Elastic Cuff Fabric Of Sample (F)
- (14) Fluorescent Green Polyester Back Fabric Of Sample (G)
- (15) Fluorescent Green Polyester/Elastic Cuff Fabric Of Sample (G)

Standard : BS EN 420: 2003+A1: 2009
BS EN 388: 2016

Colour : (A) White Back With Gery Plam, (B) Grey Back With Gery Plam, (C) Grey Back With Black Plam, (D) Red Back With Black Plam, (E) Black Back With Black Plam, (F) Fluorescent Orange Back With Black Plam, (G) Fluorescent Green Back With Black Plam.

Authorized By :
For Intertek Testing Services
(Tianjin) Ltd.



Patrick Gong
General Manager



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Size Range : 7-11
Palm Material : 13 Gauge Nitrile Coated Gloves
Back Material : Polyester
Cuff Material : Polyester/Elastic
Cuff Binding Material : Polyester
Lining Material : -
Order No. : -
Style No. : NR1390
Manufacturer's Name : -

Date Received/Date Test Started : Feb 26, 2019

Authorized By :
For Intertek Testing Services
(Tianjin) Ltd.



Patrick Gong
General Manager



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Tests Conducted:

1. pH Value

As Per BS EN 420:2003+A1:2009,4.3.2, With Reference To BS EN ISO 3071:2006 For Textile, KCl Solution Was Used For Extraction, pH Value Was Measured By pH Meter.

<u>Tested Component</u>	<u>Result</u>	<u>Requirement</u>
(1)	6.7	3.5-9.5
(2)	6.8	3.5
(3)	7.8	3.5
(4)	6.5	3.5
(5)	6.5	3.5
(6)	7.4	3.5
(7)	7.0	3.5
(8)	6.7	3.5
(9)	7.0	3.5
(10)	7.0	3.5
(11)	6.7	3.5
(12)	6.6	3.5
(13)	6.5	3.5
(14)	7.3	3.5
(15)	6.9	3.5

Temperature Of The Extracting Solution:20.0°C

pH Of The Extracting Solution:5.7

Remark: * = The pH Value Shall Be Greater Than 3.5 And Less Than 9.5. And For Method EN ISO 4045:2008 The Difference Figure Do Not Need To Test.

Conclusion:

<u>Tested Components</u>	<u>Test Item/Standard</u>	<u>Result</u>
(1)(2)(3)(4)(5)(6)(7)(8)(9)(10) (11)(12)(13)(14)&(15)	BS EN 420:2003+A1:2009 For pH Value	Pass

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Tests Conducted :

- Design And Construction (BS EN 420: 2003+A1: 2009, 4.1):

Sample (A)	Requirement	Pass/Fail
	Comply With Requirement	Pass

Remark: * = The Protective Glove Shall Be Designed And Manufactured So That In The Foreseeable Conditions Of Use For Which It Is Intended, The User Can Perform The Hazard Related Activity Normally Whilst Enjoying Appropriate Protection At The Highest Possible Level. If Required, The Glove Shall Be Designed To Minimize The Time Needed For Putting On And Taking Off.
When The Glove Construction Includes Seams, The Material And Strength Of The Seams Shall Be Such That The Overall Performance Of The Glove Is Not Significantly Decreased.

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Tests Conducted :

3. Sizing (BS EN 420: 2003+A1: 2009, 6.1):

<u>Sample (A)</u>		<u>Requirement</u>	<u>Pass/Fail</u>
Size	7		
Glove Length:	219 mm	*	Fail
Corresponding Size (By Extrapolation):	-		
		<u>Requirement</u>	<u>Pass/Fail</u>
Size	8		
Glove Length:	230 mm	*	Fail
Corresponding Size (By Extrapolation):	7(#)		
		<u>Requirement</u>	<u>Pass/Fail</u>
Size	9		
Glove Length:	236 mm	*	Fail
Corresponding Size (By Extrapolation):	7(#)		
		<u>Requirement</u>	<u>Pass/Fail</u>
Size	10		
Glove Length:	251 mm	*	Fail
Corresponding Size (By Extrapolation):	9(#)		
		<u>Requirement</u>	<u>Pass/Fail</u>
Size	11		
Glove Length:	260 mm	*	Fail
Corresponding Size (By Extrapolation):	10(#)		

Remark:

= The Size Is Derived By Extrapolation Of The Data In Below Table In Accordance With BS EN 420:2003, 5.1.

*= Sizes Of Gloves

Glove Size	Fit	
6	Hands Size 6	Min. 220 mm
7	Hands Size 7	Min. 230 mm
8	Hands Size 8	Min. 240 mm
9	Hands Size 9	Min. 250 mm
10	Hands Size 10	Min. 260 mm
11	Hands Size 11	Min. 270 mm

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Tests Conducted :

4. Finger Dexterity Test (BS EN 420:2003+A1: 2009, 6.2):

Sample (A)	The Smallest Diameter Of Pin Picked Up
Specimen 1(Left Hand):	5 mm
Specimen 2(Right Hand):	5 mm
Specimen 3(Left Hand):	5 mm
Specimen 4(Right Hand):	5 mm
Performance Level:	5(*)

Remark: * = The Classification Is Determined By The Smallest Diameter Of Pin Picked Up Of The Four Test Specimens.

Remark:

Performance Level	The Smallest Diameter Of Pin Shall Be Picked Up
Level 1	11 mm
Level 2	9.5 mm
Level 3	8 mm
Level 4	6.5 mm
Level 5	5 mm

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Tests Conducted :

5. Abrasion Resistance (BS EN 388: 2016, 6.1, 9 kPa):
Sample (A)

Adhesion Contact Time Of Test Specimen With The Double-Sided Adhesive Tape Under A Weight Of A Approximatley 10 Kg	At Least 5 Min
Surface Treatment Of Test Specimen In Order To Improve Adhesion	No Surface Treatment
Abradant	The Klingspor PL 31 B-Grit 180 Grain Aluminium Oxide
Double-Sided Adhesive Tape	3M™ Double-Sided Adhesive Tape

Observation	Specimen 1	Specimen 2	Specimen 3	Specimen 4
<u>After 100 Cycles:</u>	O	O	O	O
<u>After 500 Cycles:</u>	O	O	O	O
<u>After 2 000 Cycles:</u>	O	O	O	O
<u>After 8 000 Cycles:</u>	O	O	O	O

Performance Level :

4

Remark:

The Minimum Requirements For Each Level:

Level 1: 100 Cycles

Level 2: 500 Cycles

Level 3: 2 000 Cycles

Level 4: 8 000 Cycles

Level 5: -

O = No Breakthrough

X = Breakthrough

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Tests Conducted :

6. Blade Cut Resistance (BS EN 388:2016, 6.2):

Sample (A)

	Specimen 1 (Index)	Specimen 2 (Index)
	I ₁ :1.5	I ₆ :1.8
	I ₂ :1.5	I ₇ :1.9
	I ₃ :1.5	I ₈ :1.6
	I ₄ :1.5	I ₉ :1.6
	I ₅ :1.6	I ₁₀ :1.5
	Average Index:1.5	Average Index:1.7
The Lowest Average Index:		1.5
Performance Level :		1(*)

Remark:

The Minimum Requirements For Each Level:

Level 1: 1.2

Level 2: 2.5

Level 3: 5.0

Level 4: 10.0

Level 5: 20.0

* = The Performance Level Is Defined As The Lowest Average Index Values Of Two Test Specimens From The Different Gloves.

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Tests Conducted :

7. Resistance To Cutting By Sharp Objects (BS EN 388:2016, 6.3 & EN ISO 13997:1999):

Sample (A)
 Test Condition: Temperature (20±2) °C; Relative Humidity (65±4)%
 Test Area: Glove Palm
 Blade Sharpness Correction Factor: -
 Normalized Cutting Stroke Length: -
 Result:
 Cutting Force (*): #1
 Performance Level (#) : -

Remark: * = Calculated Force That Would Be Required To Be Applied To A Blade Of Standard Sharpness To Just Cut Through A Material In A Blade Stroke Of Length 20 mm.
 # = Levels Of Performance For Materials Tested With EN ISO 13997

	Level A	Level B	Level C	Level D	Level E	Level F
6.3 TDM: Cut Resistance (N)	2	5	10	15	22	30

Note: #1 = In Blade Cut Resistance Test, Test Specimens Did Not Dull The Blade To Specified Degree. There Is No Need To Be Performed The EN ISO 13997:1999 Cut Resistance Method.

8. Tear Resistance (BS EN 388: 2016, 6.4):

Sample (A)
 Specimen 1: 29 N
 Specimen 2: 27 N
 Specimen 3: 36 N
 Specimen 4: 34 N
 Performance Level: 2(*)

Remark:
 The Minimum Requirements For Each Level:
 Level 1: 10 N
 Level 2: 25 N
 Level 3: 50 N
 Level 4: 75 N
 Level 5: -

* = The Classification Is Determined By Taking The Lowest Of The Four Values

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Tests Conducted :

9. Puncture Resistance (BS EN 388: 2016, 6.5):

Sample (A)	
Specimen 1:	69 N
Specimen 2:	70 N
Specimen 3:	61 N
Specimen 4:	63 N
Performance Level :	2(*)

Remark:

Level 1: 20 N
Level 2: 60 N
Level 3: 100 N
Level 4: 150 N
Level 5: -

Remark: * = The Classification Is Determined By The Lowest Value Of The Four Test Specimens.

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Tests Conducted :

10. 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) And High Performance Liquid Chromatography (HPLC)

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

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Tests Conducted :

Detection Of Amines Derived From Azocolourants and Azodyes(Cont'd)

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

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Tests Conducted :

Detection Of Amines Derived From Azocolourants and Azodyes(Cont'd)

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

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

Conclusion:

Tested Components	Test Item/Standard	Result
(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)(12)(13)(14)&(15)	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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