



CTC Shanghai
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TEST REPORT

Report No.: SH60998-11



TESTING
CNAS L4577

August 16, 2011

Page 1/6

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Reasons

Test(s) requested : -- Product Category : -- Product Type : --
Sample description: HPPE Cut Resistant gloves
Style / Article no.: TEK 3000
Ref no.: --
Buyer: --
Exported to: --
Date of receipt of application form: August 8, 2011pm
Date of receipt of sample: August 8, 2011pm
Testing period: August 8, 2011pm-- August 16, 2011
REGULAR
Order no.: --
End use: --
Number of sample(s): SEVERAL PAIRS OF SAMPLES Service required: REGULAR

1. Conclusion:

Testing	Result	Combine / Separate Test Item(s)	Failed Test Item(s)
Dexterity	Level 5	(S01)	--
Sizing of glove	8, 9, 10, 11	(S01) (S06) (S07) (S08)	--
Tear resistance of glove	Level 4	(S01)	--
Abrasion resistance	Level 4	(S01)	--
Puncture resistance of glove	Level 2	(S01)	--
Blade cut resistance of glove	Level 3	(S01)	--
Azo dyes	P P P P	(S02) (S03) (S04) (S05)	--
pH value	P P P P	(S02) (S03) (S04) (S05)	--
Dimethyl Fumarate Content	P	(S02)	--
Tin detection	P	(S02)	--

■ This test is not covered by CNAS accreditation.

Note: P: Pass F: Fail

Comments:

For the submitted sample, the Dexterity got level 5; the expect size of glove 8, 9, 10, 11 and the pH value tests passed the requirement according to EN420 standard.

The Abrasion resistance of glove got level 4; the Blade cut resistance of glove got level 3; the Tear resistance of glove got level 4; the Puncture resistance of glove got level 2 according to EN388 standard.

All the other tests passed the requirements.

Approved by

Original Signed

Henry YAN
Lab Supervisor

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TEST REPORT

Report No.: SH60998-11

August 16, 2011

Page 2/6

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2. Label(s) on the sample(s):

Sample(s)	Size	Style / Article no.:	Sub-sample(s)	Component(s)	Colour
(01)	--	TEK 3000	(a)	Glove	Grey
			(b)	Palm	Grey
			(c)	Back	Grey
		TEK 3000	(d)	Wrist	Grey
			(e)	Binding	White
(02)	--		(a)	Glove	Grey
(03)	--		(a)	Glove	Grey
(04)	--		(a)	Glove	Grey

3. Sample(s) description assigned by laboratory:

Test item	Sample(s)	Combine / Separate sub-sample(s)
(S01)	(01)	(a)
(S02)	(01)	(b)
(S03)	(01)	(c)
(S04)	(01)	(d)
(S05)	(01)	(e)
(S06)	(02)	(a)
(S07)	(03)	(a)
(S08)	(04)	(a)



4. Testing result:

4.1 EN 420

TEST METHOD		Test item(s)	Requirement	P/F
		(S01)		
1	Dexterity of glove # (EN 420:2003 §6.2)			
	Highest value of four tests :	5.0	---	
	Performance Level :	5	---	---

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Report No.: SH60998-11

TEST METHOD		Test item(s)		Requirement	P/F
		(S01)			
1	Sizing of glove (EN 420:2003 §6.1)	Total length (mm)	Maximum corresponding sizes	8	P
	Test 1	243	8		
	Test 2	242	8		
	Test 3	242	8		
	Test 4	242	8		

Note: P: Pass F: Fail

TEST METHOD		Test item(s)		Requirement	P/F
		(S06)			
2	Sizing of glove (EN 420:2003 §6.1)	Total length (mm)	Maximum corresponding sizes	9	P
	Test 1	255	9		
	Test 2	255	9		
	Test 3	255	9		
	Test 4	255	9		

Note: P: Pass F: Fail

TEST METHOD		Test item(s)		Requirement	P/F
		(S07)			
3	Sizing of glove (EN 420:2003 §6.1)	Total length (mm)	Maximum corresponding sizes	10	P
	Test 1	265	10		
	Test 2	265	10		
	Test 3	264	10		
	Test 4	265	10		

Note: P: Pass F: Fail

TEST METHOD		Test item(s)		Requirement	P/F
		(S08)			
4	Sizing of glove (EN 420:2003 §6.1)	Total length (mm)	Maximum corresponding sizes	11	P
	Test 1	275	11		
	Test 2	275	11		
	Test 3	273	11		
	Test 4	274	11		

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4.2 EN 388

TEST METHOD		Test item(s)	Requirement	P/F	
		(S01)			
1	Blade cut resistance of glove # (NF EN 388:2004 §6.2) Sequence 1 2 3 4 5 Average (I): Lowest average value (I) : Performance Level :	Index (I)			
		Test 1	Test 2		
		5.3	5.0		
		5.2	5.1		
		5.4	4.9		
		5.4	5.6		
		6.0	5.9		
		5.5	5.3		
		5.3	---	---	
		3	---	---	
2	Tear resistance of glove # (NF EN 388:2004 §6.3) Lowest value of four tests (N): Performance Level :				
		297	---		
		4	---	---	
3	Puncture resistance of glove # (NF EN 388:2004 §6.4) Lowest value of four tests (N): Performance Level :				
		70	---		
		2	---	---	
4	Abrasion resistance of glove # (NF EN 388:2004 §6.1) Lowest value of four tests : Performance Level :				
		>8000	---		
		4	---	---	

Refer to the below page for details of the performance level of glove.

Note: P: Pass F: Fail

Table of Performance Level for Glove

Test Item	Performance Level					
	0 ^{##}	1	2	3	4	5
Abrasion Resistance (NF EN 388:2004 §6.1) Number of cycles (minimum)	< 100	100	500	2000	8000	---
Blade Cut Resistance (NF EN 388:2004 §6.2) Index (I) (minimum)	< 1.2	1.2	2.5	5.0	10.0	20.0
Tear Resistance (NF EN 388:2004 §6.3) Force (N) (minimum)	< 10	10	25	50	75	---
Puncture Resistance (NF EN 388:2004 §6.4) Force (N) (minimum)	< 20	20	60	100	150	---
Dexterity (EN 420:2003 §6.2) Diameter of pin (in mm)	---	11.0	9.5	8.0	6.5	5.0

^{##} Performance level 0 means the glove falls below the minimum performance level for the given individual hazard.

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4.3 Azo dyes

TEST METHOD		Test Items	Client Requirement	P/F
		(S02)		
1	Azo dyes* (mg/kg) (EN 14362-1:2004)	<10.0	≤30	P

TEST METHOD		Test Items	Client Requirement	P/F
		(S03)		
2	Azo dyes* (mg/kg) (EN 14362-2:2004)	<10.0	≤30	P

TEST METHOD		Test Items	Client Requirement	P/F
		(S04)		
3	Azo dyes* (mg/kg) (EN 14362-1:2004)	<10.0	≤30	P
4	Azo dyes* (mg/kg) (EN 14362-2:2004)	<10.0	≤30	P

TEST METHOD		Test Items	Client Requirement	P/F
		(S05)		
5	Azo dyes* (mg/kg) (EN 14362-2:2004)	<10.0	≤30	P

Note: P: Pass F: Fail

*Test method according to EN14362-1:2004, EN14362-2:2004 or CEN ISO/TS17234:2010 or §64 LFGB B 82.02-9:2006. Removal of fat by n-hexane (in case of leather), treatment with citric buffer, reductive cleavage with sodium dithionite, extraction with ether, detection by GC/MS and/or HPLC/DAD. (Detection limit: 5 mg/kg)

List of aromatic amines

(Detection limit: 5mg/kg)

Benzidine	3,3'-Dimethoxybenzidine	O-Anisidine
4-Aminodiphenyl	3,3'-Dimethylbenzidine	4-Aminoazobenzene
4-Chloro-O-Toluidine	4,4'-Methylenedi-o-Toluidine	
2-Naphthylamine	P-Cresidine	
O-Aminoazotoluene	4,4'-Methylene-BIS-(2-Chloroaniline)	
5-Nitro-O-Toluidine	4,4'-Oxydianiline	
4-Chloroaniline	4,4'-Thiodianiline	
4-Methoxy-M-Phenylenediamine	O-Toluidine	
4,4'-Diaminodiphenylmethane	2,4,5-Trimethylaniline	
3,3'-Dichlorobenzidine	4-Methyl-M-Phenylenediamine	

Interpretation of test results:

- (1) In the case of levels per amine component ≤30 mg/kg: Not detected. According to the analysis as carried out, azo colourants banned under the ordinance on commodities were not detected in the article submitted.
- (2) In the case of levels per amine component >30 mg/kg: The analysis result suggests that the article submitted has been manufactured or treated by using azo colourants banned under the ordinance on commodities.
- (3) In case of a result between 25 and 35 mg/kg: We remark that due to the error range of the method, these measurement values represent a border line case.
- (4) For polyester blend sample, two test methods (EN 14362-1:2004 and EN 14362-2:2004) are performed on the sample, result of either one test method or both test methods shown any forbidden amines with content greater than 30 mg/kg will be considered as detected.
- (5) For determination of 4-Aminoazobenzene, §64 LFGB B 82.02-9:2006 will be performed on the sample.

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4.4 pH value

According to EN ISO 3071:2006

TEST METHOD	Test Items				Client's Requirement	P/F
	(S02)	(S03)	(S04)	(S05)		
pH value Average value(nearest to 0.1)	7.3	6.9	7.0	6.4	>3.5 & <9.5	P P P P

Note: P: Pass F: Fail

4.5 Dimethyl Fumarate Content:

TEST METHOD		Test Items	Requirement	P/F
		(S02)		
1	Dimethyl Fumarate Content (CAS: 624-49-7) Method used: extracted with organic solvent, GCMS analysis Detection Limit: =0.1mg/kg	<0.1	<0.1	P

Note: P: Pass F: Fail

Remark:

Laboratory Reporting Limit = 0.1 mg/kg

Mg/kg = milligram per kilogram

ND = Not detected

Method: Sample was extracted with organic solvent and analyzed by Gas Chromatograph Mass Spectrometer.

4.6 Tin Detection:

TEST METHOD		Test Items	Requirement	P/F
		(S02)		
	Tin XRF Screening (With reference to IEC 62321 (Ed.1) Chapter 6) Detection limit: 350 (mg/kg or ppm)	<350	<350	P

Note: P: Pass F: Fail

- End of report -

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