



RM 1801-02, 1808 & RM 2010,
TOWER B, REGENT CENTRE,
63 WO YI HOP ROAD, KWAI CHUNG,
NEW TERRITORIES, HONG KONG
TEL: (852) 2429 7022 FAX: (852) 2429 7266
ctcasia@ctcgroupe.com

TEST REPORT

Report No.: 03286-13



November 28, 2013

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APPLICANT:
IRONCLAD PERFORMANCE WEAR

MR. ERIC JAEGER
DEPT: REDEARCH & DEVELOPMENT
2201, PARK PLACE SUITE 101 EL SEGUNDO CA
90245, USA

Test(s) requested : EN 388, EN 420 &
CHEMICAL TESTS
Sample description: ---

Product Category : --

Product Type : --

Style / Article no. : SDG
Ref no. : --
Order no. : --

Buyer : --
Exported to : --
Date of receipt of application form : May 24, 2013
Date of receipt of sample : May 24, 2013
Testing period : May 24, 2013 – November 28, 2013
Service required : REGULAR

Supplier : --

Number of sample(s) : 3 PAIRS OF GLOVES

1. Conclusion:

Testing	Result	Combine / Separate Test Item(s)	Failed Test Item(s)
Abrasion resistance of glove	Level 4	(S01)	---
Blade cut resistance of glove	Level 1	(S02)	---
Tear resistance of glove	Level 3	(S01)	---
Puncture resistance of glove	Level 2	(S01)	---
pH value	P	(S03)	---
●/■ Azo dyes	P	(S04)	---

- This test was sub-contracted to an approved sub-contractor.
- This test is not covered by HOKLAS accreditation

Note: P: Pass F: Fail

The pH value test fulfilled the requirement according to EN 420 standard. The abrasion resistance got level 4; the blade cut resistance got level 1; the tear resistance got level 3 and puncture resistance got level 2 according to EN 388 standard. The azo dyes fulfilled the client requirements.

Approved by

Original signed

John Cheung Fai Cheong
Assistant Laboratory Supervisor

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

Sample(s)	ID	Size	Style/Art. No.	Sub-sample(s)	Component(s)	Colour
(01)	i	--	SDG (SUPER DUTY GLOVE)	(a) (b)	Glove Palm	Black/Yellow Black
(01)	ii	--	SDG (SUPER DUTY GLOVE)	(a) (b)	Glove Palm	Black/Yellow Black
(01)	iii	--	SDG (SUPER DUTY GLOVE)	(a) (b)	Glove Palm	Black/Yellow Black

Remarks: (1) ID is used for identification in which the numbers of sample received are of the same article, ref. no., colour, etc.

3. Sample(s) description assigned by laboratory:

Test item	Sample(s)	Combine / Separate sub-sample(s)
(S01)	(01)-i+ii	(a)
(S02)	(01)-iii	(a)
(S03)	(01)-i	(b)
(S04)	(01)-ii+iii	(b)



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4. Test Results :

TEST METHOD		Test item(s) (S01)	Requirement	P/F
1	Abrasion resistance of glove # (NF EN 388:2004 §6.1) Lowest value of four tests : Performance Level :	>8,000 4	--- ---	--- ---
2	Tear resistance of glove # (NF EN 388:2004 §6.3) Lowest value of four tests (N): Performance Level :	56 3	--- ---	--- ---
3	Puncture resistance of glove # (NF EN 388:2004 §6.4) Lowest value of four tests (N): Performance Level :	67 2	--- ---	--- ---

TEST METHOD		Test item(s)		Requirement	P/F	
		(S02)				
4	Blade cut resistance of glove[#] (NF EN 388:2004 §6.2) Sequence	Index (I)		---	---	
		Test 1	Test 2			
		1	1.4			
		2	1.2			
		3	1.2			
		4	1.2			
		5	1.3			
		Average (I):	1.3			1.4
		Lowest average value (I) :	1.3			1.4
Performance Level :	1					

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	---

Performance level 0 means the glove falls below the minimum performance level for the given individual hazard.

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TEST METHOD		Test item(s)	Requirement	P/F
		(S03)		
5	pH value (EN 420:2003+A1:2009 §4.3.2) pH of the component pH of the extracting solution Temperature of the solution (°C)	7.5 6.2 20.9	>3.5&<9.5 --- ---	P

TEST METHOD		Test item(s)	Client's Requirement	P/F
		(S04)		
6 ●/■	Azo dyes (EN 14362-1:2012) * Detection after aqueous extraction (ppm) (mg/kg)	<30	--- <30	P

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Note: P: Pass F: Fail

*TEST METHOD ACCORDING TO EN 14362-1:2012, ISO 17234-1:2010, ISO 17234-2:2011 OR EN 14362-3:2012. 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.

LIST OF AROMATIC AMINES (DETECTION LIMIT=5 mg/kg)

BENZIDINE
4-AMINODIPHENYL
4-CHLORO-O- TOLUIDINE

2-NAPHTHYLAMINE
O-AMINOAZOTOLUENE
2-AMINO-4-NITROTOLUENE
P-CHLOROANILINE
2,4'-DIAMINOANISOLE
4,4'-DIAMINODIPHENYLMETHANE
3,3'-DICHLOBENZIDINE

3,3'-DIMETHOXYBENZIDINE
3,3'-DIMETHYLBENZIDINE
3,3'-DIMETHYL-4,4'-
DIAMINODIPHENYLMETHANE
P-CRESIDINE
4,4'-METHYLENE-BIS-(2-CHLOROANILINE)
4,4'-OXYDIANILINE
4,4'-THIODIANILINE
O-TOLUIDINE
2,4,5-TRIMETHYLANILINE
2,4-TOLUYLENEDIAMINE

O-ANISIDINE
4-AMINOAZOBENZENE
2,4 DIMETHYLANILINE (XYLIDINE)
2,6 DIMETHYLANILINE (XYLIDINE)

- End of report -

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