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国际互认
检测
TESTING
CNAS L4577

TEST REPORT

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Report No.: S240201042_1

06 February 2024

rubby@xrdgloves.com

APPLICANT: SHANDONG XINRUIDA LABOR PROTECTIVE
PRODUCTS CO., LTD (C06235)

NORTH OF WEIJIAO ROAD, EAST OF
KANGCHENG STREET, ECONOMIC
DEVELOPMENT ZONE
261500 GAOMI SHANDONG
CHINA

Date of receipt : 02 Feb. 2024
Testing period : 04 Feb. 2024
: 06 Feb. 2024

Buyer: —

Sample description: 13 Gauge HPPE Liner with Grey PU Coating Glove

Reference no. : PU905101G

Test(s) requested : —

Service : REGULAR

Brand / Section : —

Season : —

End use : —

Factory name : —

Factory code : —

Previous report : —

Product category : —

Product type : —

Test stage : FIRST TEST

Supplier name : —

Exported to : —

1. Conclusion:

	Tests description	Conformity
	EN 388:2016+A1:2018	
1	Abrasion resistance: 2016	Level 4
2	Cut resistance: 2016	Level 4
3	Cutting resistance TDM	Level C
4	Tear strength resistance: 2016	Level 4
5	Puncture resistance: 2016	Level 4

	Tests description	Conformity
	EN ISO 21420:2020	
6	pH - Textile (KCl solution)	Pass
7	Aromatic amines derived from azo colorants	Pass
8	Dimethylformamide (DMF/DMFo/DMFa)	Pass
9	Polycyclic Aromatic Hydrocarbons (8)	Pass
10	Dexterity	Level 5
11	XRF screening	Pass
12	XRF screening (Tin)	Pass
13	Phthalates	Pass

Pass: requirements met Fail: requirements not met None: no requirement for this test N/A: not applicable

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Approved by

Henry YAN 严滨
Laboratory Manager

Tony SHU 束永玮
Technical Supervisor for Chemical Lab

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2. Sample(s) description assigned by laboratory:

<u>Size</u>	<u>Analyzed product</u>	<u>Description</u>	<u>Sample information</u>
	GLOVE	Whole glove grey(black/white) PU(HPPE(high performance polyethylene)) palm grey(black/white) PU(HPPE(high performance polyethylene)) palm black/white HPPE(high performance polyethylene) back black/white HPPE(high performance polyethylene)/elastic cuff	



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3. GLOVE/

Whole glove

	Method	Client Requirement	Unit	Result	Conformity
▲ 4.2. Dimethylformamide (DMF/DMFo/DMFa) Dimethylformamide Dimethylformamide (2) Dimethylformamide - average	EN 16778: 2016		mg/kg	111.7	Pass
			mg/kg	98.3	
		<1000	mg/kg	105.0	
(+) 5.2. Dexterity Smallest diameter of pin fulfilling test condition Smallest diameter of pin fulfilling test condition (2) Smallest diameter of pin fulfilling test condition (3) Smallest diameter of pin fulfilling test condition (4) Performance level	EN ISO 21420: 2020		mm	5.0	
			mm	5.0	
			mm	5.0	
			mm	5.0	
				5	

grey(black/white) PU(HPPE(high performance polyethylene)) palm

	Method	Client Requirement	Unit	Result	Conformity
(+) 4.1. Abrasion resistance: 2016 used consumables - abrasive used consumables - adhesive Number of cycles at the hole detection Number of cycles at the hole detection (2) Number of cycles at the hole detection (3) Number of cycles at the hole detection (4) Performance level	EN 388:2016 + A1:2018			Klingspor PL31B Grit 180 3M Scotch >8000 >8000 >8000 >8000 4	
(+) 4.1. Cut resistance: 2016 Deviation from the test method used consumables - canvas used consumables - blade	EN 388:2016 + A1:2018			No LEM 6 OLFA RB45	

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	Method	Client Requirement	Unit	Result	Conformity
C1				0.8	
T1				60.0	
1C1				8.8	
I1				13.5	
C2				0.8	
T2				60.0	
1C2				8.9	
I2				13.4	
C3				0.9	
T3				60.0	
1C3				8.4	
I3				13.9	
C4				0.8	
T4				60.0	
1C4				7.3	
I4				15.8	
C5				0.9	
T5				60.0	
1C5				7.3	
I5				15.6	
Mean value of test piece 1				14.4	
C1 bis				1.0	
T1 bis				60.0	
2C1bis				6.9	
I1 bis				16.2	
C2 bis				1.2	
T2 bis				60.0	
2C2bis				7.4	
I2 bis				15.0	
C3 bis				1.3	
T3 bis				60.0	
2C3bis				7.7	
I3 bis				14.3	

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	Method	Client Requirement	Unit	Result	Conformity		
C4 bis				1.4			
T4 bis				60.0			
2C4bis				8.0			
I4 bis				13.8			
C5 bis				0.8			
T5 bis				60.0			
2C5bis				8.8			
I5 bis				13.5			
Mean value of test piece 2				14.5			
Considered value				14.4			
Performance level				4			
Observation				First sequence Cn+1 higher than 3xCn, switch to EN13997			
(+) 4.1. Cutting resistance TDM	EN ISO 13997:1999						
used consumables - blade						20240002	
Coefficient of variation						%	3.5
Adjusted factor for blade with neoprene							0.97
Normalized cutting stroke lengths						mm	39.6
Normalized cutting stroke lengths (2)						mm	23.8
Normalized cutting stroke lengths (3)						mm	34.5
Normalized cutting stroke lengths (4)						mm	17.8
Normalized cutting stroke lengths (5)						mm	10.5
Mean normalized cutting stroke length						mm	25.2
Cut load adjusted for a cut length of 20 mm						N	10.0
Level Performance							Level C

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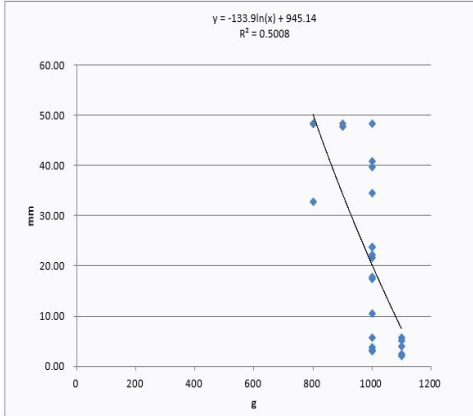
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	Method	Client Requirement	Unit	Result	Conformity
					
(+) 4.1. Tear strength resistance: 2016	EN 388:2016 + A1:2018				
Tear strength			N	>75	
Tear strength (2)			N	>75	
Tear strength (3)			N	>75	
Tear strength (4)			N	>75	
Performance level				4	
(+) 4.1. Puncture resistance: 2016	EN 388:2016 + A1:2018				
Puncture resistance			N	161	
Puncture resistance (2)			N	173	
Puncture resistance (3)			N	166	
Puncture resistance (4)			N	158	
Performance level				4	

grey(black/white) PU(HPPE(high performance polyethylene)) palm

	Method	Client Requirement	Unit	Result	Conformity
(+) 4.2. pH - Textile (KCl solution)	ISO 3071:2020				Pass
pH value		3.5< - <9.5		6.3	
▲ 4.2. Polycyclic Aromatic Hydrocarbons (8)	ISO 16190:2021				Pass
Benzo(a)anthracene		<1	mg/kg	<0.2	
Chrysene		<1	mg/kg	<0.2	

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	Method	Client Requirement	Unit	Result	Conformity
Benzo(b)fluoranthene/ Benz[e]acephenanthrylene		<1	mg/kg	<0.2	
Benzo(k)fluoranthene		<1	mg/kg	<0.2	
Benzo(a)pyrene/ Benzo[def]chrysene		<1	mg/kg	<0.2	
Dibenzo(a,h)anthracene		<1	mg/kg	<0.2	
Benzo(e)pyrene		<1	mg/kg	<0.2	
Benzo(j)fluoranthene		<1	mg/kg	<0.2	
(+) XRF screening	ASTM F2617 – 15				Pass
Cd (Cadmium)		<100	ppm	<100	
XRF screening (Tin)	ASTM F2617 – 15				Pass
Sn (Tin)		<150	ppm	<150	
(+) Phthalates	ISO 16181-1:2021				Pass
BBP . Butyl benzyl phthalate		<0.1	%	<0.0020	
DBP . Di-butyl phthalate		<0.1	%	<0.0020	
DEHP . Di-(2-ethylhexyl) phthalate		<0.1	%	<0.0020	
DIBP . Di-iso-butyl phthalate		<0.1	%	<0.0020	

black/white HPPE(high performance polyethylene) back

	Method	Client Requirement	Unit	Result	Conformity
(+) 4.2. pH - Textile (KCl solution)	ISO 3071:2020				Pass
pH value		3.5< - <9.5		6.6	
(+) 4.2. Aromatic amines derived from azo colorants	ISO 14362-1:2017 (w/o extraction)				Pass
Accessible without fibre extraction		<30	mg/kg	<5	

black/white HPPE(high performance polyethylene)/elastic cuff

	Method	Client Requirement	Unit	Result	Conformity
(+) 4.2. pH - Textile (KCl solution)	ISO 3071:2020				Pass
pH value		3.5< - <9.5		6.6	
(+) 4.2. Aromatic amines derived from azo colorants	ISO 14362-1:2017 (w/o extraction)				Pass
Accessible without fibre extraction		<30	mg/kg	<5	

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END OF TEST REPORT

(+)CNAS accreditation

▲: The test was carried out by external accredited laboratory under their accreditation scope.

Unless otherwise specified, the physical test items in this report performed in CTC Shanghai lab were conditioned and tested in the environment of T 23±2°C / RH 50±4%.

Table of Performance Level for Glove

Test Item	Performance Level					
	0##	1	2	3	4	5
Abrasion Resistance (EN 388) Number of cycles (minimum)	<100	100	500	2000	8000	---
Blade Cut Resistance (EN 388) Index (I) (minimum)	<1.2	1.2	2.5	5.0	10.0	20.0
Tear Resistance (EN 388) Force (N) (minimum)	<10	10	25	50	75	---
Puncture Resistance (EN 388) Force (N) (minimum)	<20	20	60	100	150	---
Finger dexterity (EN ISO 21420) Smallest diameter of pin fulfilling test conditions (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

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

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