



Date: June 11,2023



中国认可 国际互认 检测 TESTING CNAS L0599

Page 1 of 9

Test Report

SL52105269005201TX

Xiantao Ruiyang Protective Products Co., Ltd.

No.4 Changshangkou Avenue, Changshangkou Town, Xiantao City, Hubei Province.

The following sample(s) was/were submitted and identified on behalf of the client as:

Sample Description : (A)SMS Coverall with hood, Elastic Wrists, Ankles&Waist, Zipper Front Opening

SGS Internal Ref.No. : 14S21009804 Sample Color : (A)White

Composition : (A)Polypropylene

Style No. : CV-02

Manufacturer : Xiantao Ruiyang Protective Products Co.,Ltd.

Proposed Care Instruction: -

Test Performed : Selected test(s) as requested by applicant

Sample Receiving Date : May 20, 2023

Testing Period : May 20, 2023 - Jun 11, 2023

Test Result(s) : Unless otherwise stated the results shown in this test report refer only to the

sample(s) tested, for further details, please refer to the following page(s).

Signed for and on behalf of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd Testing Center

Sara lan

Sara Guo (Account Executive)

SGS does not verify authenticity of any Brand/Trademark of products. Buyers must check if the product is genuine with the Brand/Trademark owner directly.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's esponsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or, email: CN_Doccheck@sgs.com



SL52105269005201TX

Date:June 11,2023

Page 2 of 9

Comment

	EN ISO 13982- 1:2004+A1:2010 (Type 5)	EN 13034:2005+A1:2009 (Type 6)
Abrasion Resistance	Class 1	Class 1
Compression-Folding (Schildknecht) Flex Cracking Resistance	Class 6	1
Trapezoidal Tear Resistance	Class 3	Class 3
Tensile Strength	1	Class 2
Puncture Resistance	Class 1	Class 1
Repellency by Liquids(30% H ₂ SO ₄)	1	Class 3
Repellency by Liquids(10% NaOH)	1	Class 3
Resistance to Penetration by Liquids (30% H ₂ SO ₄)	/	Class 3
Resistance to Penetration by Liquids (10% NaOH)	1	Class 3
Seam Strength	Class 3	Class 3
Whole Suits Testing	Pass	Pass

Remark: Pass = Meet Relative Standard Requirement Fail= Below Relative Standard Requirement



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions/Terms

3stBuilding,No.889,Yishan Road,Xuhui District Shanghai,China 200233 中国 • 上海 • 徐汇区宜山路889号3号楼 邮编: 200233 t (86-21) 61402666 t (86-21) 61402666

f (86–21) 64958763 f (86–21) 64958763



SL52105269005201TX

Date:June 11,2023

Page 3 of 9

Test Result

Personal Protective Equipment - Protective Clothing Against Chemicals -Test Methods and Performance Classification of Chemical Protective Clothing Materials, Seams, Joins and Assemblages

EN 14325:2018

Clause 4.4 Abrasion Resistance

(EN ISO 12947-2:2016; Martindale Abrasion & Pilling Tester, Pressure: 9kPa, Grit 240 abrasion paper.)

	Λ	
ı	4	

As Received	No. 1	No. 2	No. 3	No. 4	No. 5	Minimum
The quoted result(Rubs)	>10	>10	>10	>10	>10	>10

Method for end-point determination: Hydrostatic head method

Recommended Class:1

Remark:

- 1) Pressure pot method is used for damage assessment before and after abrasion, as given in EN 14325:2018 clause 4.4.2.2. And the maximum resultant value does not exceed 100 Pa in 1 min.
- Hydrostatic head method is used to damage assessment after abrasion, as given in EN 14325:2018 Clause 4.4.2.3, due to the performance of the material could not be evaluated by the pressure pot method. And the average hydrostatic head is above 200mm.
- Visual inspection is used for damage assessment after abrasion, as given in EN 14325:2018 clause 4.4.2.4, due to the performance of the material could not be evaluated by the pressure pot method or hydrostatic head method. If the determination is performed through visual inspection, the maximum classification that can be claimed is a Class 3.
- Classification of abrasion resistance: Class 1 >10rubs; Class 2 >40rubs; Class 3 >100rubs; Class 4 >400rubs; Class 5 >1000rubs; Class 6 >2000rubs.

Clause 4.5 Compression-Folding (Schildknecht) Flex Cracking Resistance

(EN ISO 7854:1997, Method B;)

1	Δ.	
•	٦.	

As Received	No. 1	No. 2	No. 3	Minimum
Warp/Lengthwise(Cycle s)	>50000	>50000	>50000	>50000
Weft/Widthwise(Cycles)	>50000	>50000	>50000	>50000

Method for end-point determination: Hydrostatic head method

Recommended Class:6

Remark:

- 1) Pressure pot method is used for damage assessment before and after flex cracking, as given in EN 14325:2018 clause 4.5.2.2. And the maximum resultant value does not exceed 100 Pa in 1 min.
- 2) Hydrostatic head method is used to damage assessment after abrasion, as given in EN 14325:2018 Clause 4.5.2.3, due to the performance of the material could not be evaluated by the pressure pot method. And the average hydrostatic head is above 200mm.
- Visual inspection is used for damage assessment after flex cracking, as given in EN 14325:2018 clause 4.5.2.4, due to the performance of the material could not be evaluated by the pressure pot method or hydrostatic head method. Visual inspection shall not be used for the performance classification of Type 1 through Type 3(EN 943-1, EN 943-2, EN 14605)
- Classification of leak tightness after compression-folding(Schildknecht) flex cracking resistance: Class 1



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions/Terms

t (86-21) 61402666 f (86-21) 64958763

3rd Building, No. 889, Yishan Road, Xuhui District Shanghai, China 200233 中国・上海・徐汇区宜山路889号3号楼 邮编: 200233

t (86-21) 61402666 f (86-21) 64958763

e sgs.china@sgs.com



Test Report SL52105269005201TX Date:June 11,2023 Page 4 of 9 >500cycles; Class 2 >1250cycles; Class 3 >3000cycles; Class 4 >8000cycles; Class 5 >20000cycles; Class 6 >50000cycles.

Clause 4.7 Trapezoidal Tear Resistance

(EN ISO 9073-4:1997;)

Α						
As Received	No. 1	No. 2	No. 3	No. 4	No. 5	Minimum
Warp/Length Yarns Torn(N)	79	89	90	94	87	79
Weft/Width Yarns Torn(N)	43	54	41	47	41	41

Recommended Class:3

Remark:

Classification of trapezoidal tear resistance: Class 1 >10N; Class 2 >20N; Class 3 >40N; Class 4 >60N; Class 5 >100N; Class 6 >150N.

Clause 4.9 Tensile Strength

(EN ISO 13934-1:2013; CRE - 2" Strip)

-	_	
	۰	
L		

As Received	No. 1	No. 2	No. 3	No. 4	No. 5	Minimum
Warp/Length(N)	130	130	130	140	140	130
Weft/Width(N)	69	73	74	70	72	69

Recommended Class:2

Remark:

Classification of tensile strength: Class 1 >30N; Class 2 >60N; Class 3 >100N; Class 4 >250N; Class 5 >500N; Class 6 >1000N.

Clause 4.10 Puncture Resistance

(EN 863:1995;)

Α

As Received	No. 1	No. 2	No. 3	No. 4	No. 5	Minimum
Puncture Force(N)	10	9	8	8	8	8

Recommended Class:1

Remark:

Classification of puncture resistance: Class 1 >5N; Class 2 >10N; Class 3 >50N; Class 4 >100N; Class 5 >150N; Class 6 >250N.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions/Terms

| 3"Building,No.889,Yishan Road,Xuhui District Shanghai,China 200233 t (86–21) 61402666 f (86–21) 64958763

中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t (86-21) 61402666

2666 f (86–21) 64958763



SL52105269005201TX

Date: June 11,2023

Page 5 of 9

EN 14325:2018 Clause 4.12 Repellency by Liquids

(EN ISO 6530:2005)

Test Liquid	Repellency Index (%)	# 1	# 2	#3	Min.	Recommended Class
200/ H.SO.	Warp/One direction	95.9	96.1	96.0	95.9	2
30% H ₂ SO ₄	Weft/The other direction	96.2	96.1	96.1	95.9	S
10% NaOH	Warp/One direction	98.2	98.4	98.5	00.0	2
10% NaOH	Weft/The other direction	98.1	98.0	98.1	98.0	S

Remark: Classification of repellency to liquids: Class 1 >70%; Class 2 >80%; Class 3 >90%.

EN 14325:2018 Clause 4.13 Resistance to Penetration by Liquids

(EN ISO 6530:2005)

Test Liquid	Penetration Index (%)	# 1	# 2	#3	Max.	Recommended Class	
200/ H-SO.	Warp/One direction	0	0	0	0	0	2
30% H ₂ SO ₄	Weft/The other direction	0	0	0	U	3	
100/ NaOH	Warp/One direction	0	0	0	0	2	
10% NaOH	Weft/The other direction	0	0	0	U	S	

Remark: Classification of resistance to penetration by liquids: Class 1 <10%; Class 2 <5%; Class 3<1%.

Clause 5.5 Seam Strength

(EN ISO 13935-2:2014)

	# 1	# 2	# 3	Average
Sleeve seam (N)	127(F.R.)	116(F.R.)	112(F.R.)	118(F.R.)
Armhole seam (N)	123(F.R.)	148(F.R.)	129(F.R.)	133(F.R.)
Shoulder seam (N)	177(F.R.)	154(F.R.)	183(F.R.)	171(F.R.)
In-side seam (N)	127(F.R.)	115(F.R.)	126(F.R.)	122(F.R.)
Back rise seam (N)	119(F.R.)	117(F.R.)	119(F.R.)	118(F.R.)
Crotch seam (N)	287(F.R.)	273(F.R.)	286(F.R.)	282(F.R.)

Recommended Class 3

Notes F.R. = Fabric Rupture;

Remark:

Classification of seam strength: Class 1 >30N; Class 2 >50N; Class 3 >75N; Class 4 >125N; Class 5 >300N; Class 6 >500N.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions/Terms

3rdBuilding,No.889,Yishan Road,Xuhui District Shanghai,China 200233 中国・上海・徐江区宜山路889号3号楼 邮编: 200233 t (86-21) 61402666 f (86-21) 64958763 t (86-21) 61402666 f (86-21) 64958763



SL52105269005201TX

Date:June 11,2023

Page 6 of 9

<u>Protective Clothing for Use against Solid Particulates - Part 1: Performance Requirements for Chemical Protective Clothing Providing Protection to The Full Body Against Airborne Solid Particulates (Type 5 Clothing)</u>

(EN ISO 13982-1:2004+A1:2010)

Clause 4.3 Performance Requirements for Whole Suits-Types 5 (Inward Leakage Test)

Sample A

Clause 4.3.1- General

Requirement	Result	Comment
Type 5 clothing is of the "full-body" type, i.e. it provides protection to at least the trunk, arms and legs, and consists of a one-piece coverall or a two-piece suits. Head protection, e.g. a hood with visor, and/or foot protection may be worn additionally.	Comply	Pass

	Description				
Undergarment:	cotton long trousers and a T-shirt with long sleeves				
Additional equipment:	1	1			
The physical dimensions of the wearers are shown below Tested Subjects Total Height(cm) Chest girth(cm) Suit size					
Huang	178	109	XXL		
Shen	180	112	XXL		
Xu	178	110	XXL		
Yuan	179	111	XXL		
Qin	177	112	XXL		

Prior to testing each suit in accordance with EN ISO 13982-2:2004, a practical test shall be carried out by a human test subject. The test shall comprise three repetitions, at moderate speed, of the "three movement" sequence described in below. If the test subject is not able to perform one or several movements due to the hindrance of the suit or if the movements result in substantial damage to the suit, the suit shall be considered to have failed.

Sequence of movements according to standard

Test sample	Assessment after Movements
1	Pass
2	Pass
3	Pass
4	Pass
5	Pass
6	Pass
7	Pass
8	Pass
9	Pass
10	Pass



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions/Terms

3¹¹Building,No.889,Yishan Road,Xuhui District Shanghai,China 200233 中国・上海・徐汇区宜山路889号3号楼 邮編: 200233 t (86-21) 61402666 t (86-21) 61402666 f (86-21) 64958763 f (86-21) 64958763



SL52105269005201TX

Date:June 11,2023

Page 7 of 9

Remark:

- -Movement 1: Kneel on both knees, lean forward and place both hands on the floor 45 cm in front of the knees. Crawl forward on hands and knees over a distance of 3 m and crawl backwards again over the same distance.
- -Movement 2: Stand with feet shoulder width apart, arms at side. Raise arms until they are parallel to the floor in front of the body. Squat down as far as possible.
- -Movement 3: Kneel on right knee, place left foot on floor with left knee bent 90°, left arm hanging loosely at side. Raise left arm fully overhead.

Clause 4.3.2- Inward Leakage of Aerosols of Solid Particles

(EN ISO 13982-2:2004)

The inward leakage value, expressed in percent

Ordina	Value	Ordina	Value	Ordina	Value	Ordina	Value	Ordina	Value	Ordina	Value
tion	Value	tion	Value	tion	Value	tion	Value	tion	Value	tion	Value
1	2.5	16	2.9	31	3.2	46	3.3	61	3.4	76	3.7
2	2.5	17	2.9	32	3.2	47	3.3	62	3.4	77	3.7
3	2.5	18	2.9	33	3.2	48	3.3	63	3.5	78	3.7
4	2.5	19	3.0	34	3.2	49	3.3	64	3.5	79	3.8
5	2.6	20	3.0	35	3.2	50	3.3	65	3.5	80	3.8
6	2.6	21	3.0	36	3.2	51	3.3	66	3.5	81	3.8
7	2.6	22	3.0	37	3.2	52	3.3	67	3.5	82	3.8
8	2.7	23	3.0	38	3.2	53	3.4	68	3.5	83	3.9
9	2.7	24	3.0	39	3.3	54	3.4	69	3.6	84	4.0
10	2.7	25	3.0	40	3.3	55	3.4	70	3.6	85	4.0
11	2.7	26	3.1	41	3.3	56	3.4	71	3.7	86	4.0
12	2.7	27	3.1	42	3.3	57	3.4	72	3.7	87	4.0
13	2.7	28	3.1	43	3.3	58	3.4	73	3.7	88	4.1
14	2.8	29	3.1	44	3.3	59	3.4	74	3.7	89	4.2
15	2.9	30	3.2	45	3.3	60	3.4	75	3.7	90	4.2
The inward leakage value - L _{jmn,82/90}			3.8						•		

The "total inward leakage per suit" value

Ordination	<u>Value</u>	<u>Ordination</u>	<u>Value</u>
1	3.2	6	3.3
2	3.2	7	3.3
3	3.2	<u>8</u>	3.4
4	3.3	9	3.4
5	3.3	10	3.4
The "total inward le	akage per suit" value - L _{S,8/10}	3.4	

Requirement:

When tested accordance with EN ISO 13982-2, the type 5 protective clothing shall be characterized by the following parameters:

- L_{jmn,82/90}: the inward leakage value, expressed in percent, corresponding to the 82nd L value of 90, i.e., the
 inward leakage values measured over all exercises, all sampling positions, all suits and sorted in ascending
 order:
- L_{S,8/10}: the "total inward leakage per suit" value, corresponding to the 8th Ls value of 10, i.e., the Ls values of all suits sorted in ascending order.

Type 5 chemical protective clothing shall meet at least the following requirements:

- L_{jmn,82/90} ≤30%;



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's esponsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or, email: CN_Doccheck@sgs.com

3^{rt}Building,No.889,Yishan Road,Xuhui District Shanghai,China 200233 t (86–21) 61402666

中国・上海・徐汇区宜山路889号3号楼 邮编: 200233

t (86–21) 61402666 f (8

f (86–21) 64958763 www.sgsgroup.com.cn f (86–21) 64958763 e sgs.china@sgs.com



L_{S,8/10} ≤15%

SL52105269005201TX

Date: June 11,2023

Page 8 of 9

Comment: The submitted samples complies with the requirements of EN ISO 13982-1:2004+A1:2010 Clause 4.3 whole Suits Test for Type 5

<u>Protective Clothing Against Liquid Chemicals - Performance Requirements for Chemical Protective Clothing Offering Limited Protective Performance Against Liquid Chemicals (Type 6 and Type PB [6] Equipment)</u>

(EN 13034:2005+A1:2009)

Clause 5 Performance Requirements for Whole Suits-Type 6

Sample A

Clause 5.1 General

Test Requirement	Results	Comment
The design of the clothing shall guarantee that there are no features which may collect liquid chemicals and hold them onto the fabric surface, e.g. unprotected pockets etc	Comply	Pass

Clause 5.2 Resistance to Penetration by Liquids in The Form of A Light Spray (Mist Test)

(EN ISO 17491-4:2008 Method A: low-level spray test)

	Description			
Absorbent overall:	Nonwovens			
Additional equipment:				
Tested Subjects	Total Height(cm)	Chest girth(cm)	Suit size	
Lu	180	105	XXL	

Prior to testing protective suits in accordance with a variant of EN ISO 17491-4, a sequence of seven movements (described below) shall be carried out by a human test subject. The test shall comprise three repetitions of the "seven movements" sequence. If the test subject is not able to perform the test due to the hindrance of the suit or if the test results in substantial damage to the suit, the suit will be considered to have failed.

Sequence of movements according to standard

Sequence of movements according to standard				
Test sample	Assessment after Movements			
1	Pass			
2	Pass			
3	Pass			

Remark:

- -Movement 1: Kneel on both knees, lean forward and place both hands on the floor (45 ±5) cm in front of the knees; crawl forward and backwards on hands and knees for a distance of three metres in each direction;
- -Movement 2: climb a vertical ladder at least four steps, rungs to be as encountered on a typical ladder;
- -Movement 3: position hands at chest level, palms out; reach directly overhead, interlock thumbs, extend arms fully upwards;



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions/Terms

3^{ri}Building,No.889,Yishan Road,Xuhui District Shanghai,China 200233 中国 • 上海 • 徐汇区宜山路889号3号楼 邮编: 200233 t (86-21) 61402666 t (86-21) 61402666 f (86-21) 64958763 f (86-21) 64958763



Test Report SL52105269005201TX Date: June 11,2023 Page 9 of 9

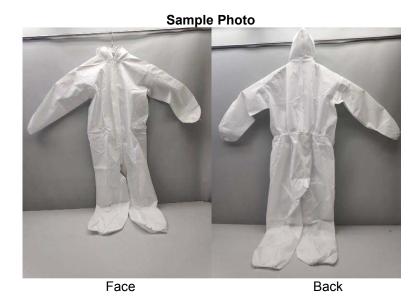
-Movement 4: kneel on right knee, place left foot on floor with left knee bent (90±10)°, touch thumb of right hand to toe of left shoe:

- -Movement 5:extend arms fully in front of body, lock thumbs together, twist upper body (90±10)°left and right;
- -Movement 6: stand with feet shoulder width apart, arms at side; raise arms until they are parallel to the floor in front of the body; squat down as far as possible;
- -Movement 7: kneel as in movement 4, left arm hanging loosely at side; raise arm fully overhead.

Test	Calibrated Stain area	Total stain area on Absorbent	Conclusion
sample	(cm ²)	overall (cm ²)	
1	3.60	0	Pass
2	3.60	0	Pass
3	3.60	0	Pass

Remark: All suits shall pass the test, i.e. there shall be no penetration of any suit, i.e. the total stain area on the Absorbent overall shall be less than or equal to three times the total calibrated stain area.

Comment: The submitted samples complies with the requirements of EN 13034:2005+A1:2009 Clause 5 whole Suits Test for Type 6



The statement of conformity in this test report is only based on measured values by the laboratory and does not take their uncertainties into consideration.

End of Report



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions/Terms

3rd Building,No.889,Yishan Road,Xuhui District Shanghai,China 200233 中国・上海・徐江区宜山路889号3号楼 邮编: 200233 t (86-21) 61402666 t (86-21) 61402666 f (86-21) 64958763 f (86-21) 64958763