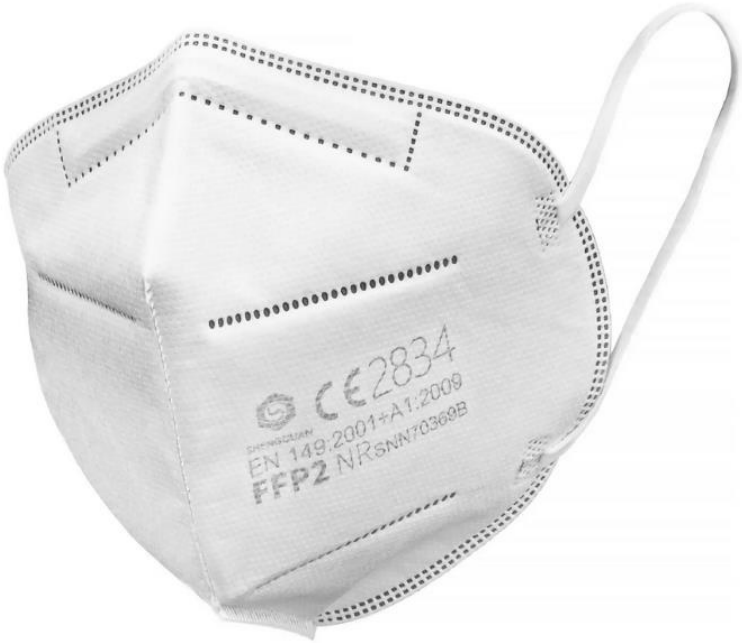
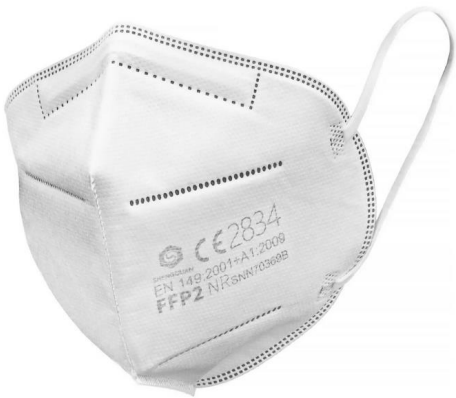
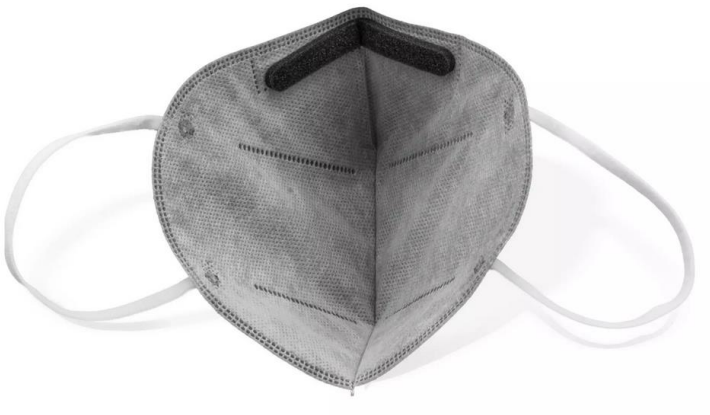


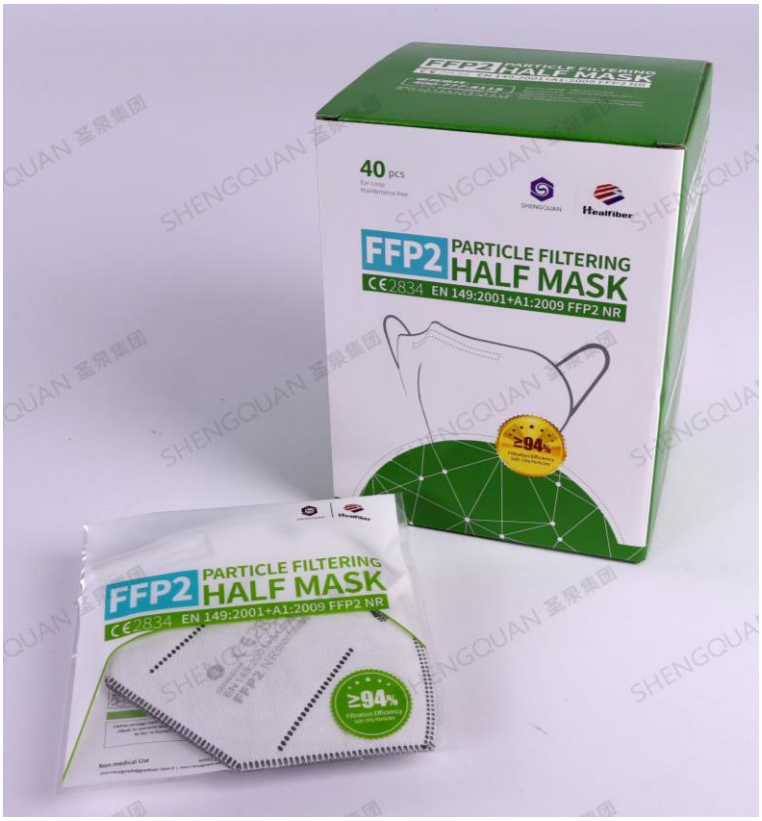
FFP2-Atemschutzmaske

Art.-Nr. SNN70369B
Baumusterprüfung CE2834
Zertifiziert nach DIN EN149
C-Shape

Produktbilder / Verpackung







BOX SIZE

14.2*13.5*19cm
2pas/bag，**20** bags/box
A box total **40** pcs

Gross weight: 270g~350g
Net weight: 180g~260g

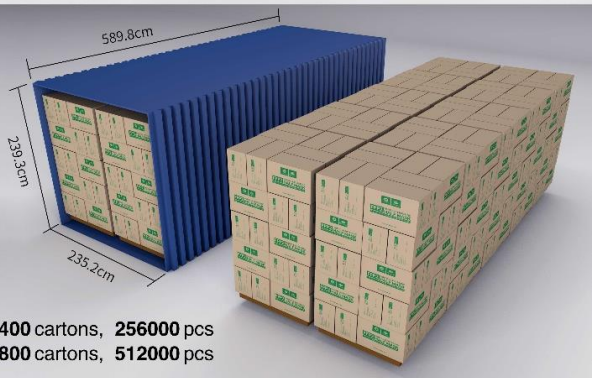
CARTON SIZE

58.5*28.5*41cm
16 boxes/ctn
A carton total **640** pcs

Gross weight: 5.3kg~6.6kg
Net weight: 4.3kg~5.6kg
(This data is for reference only, actual weight varies)

TRAY

110*110*200cm
8 cin/Floor
5 floors/tray
40 ctn/total
A tray total **25600** pcs



CONTAINER

20 gp: **10** pallets, **400** cartons, **256000** pcs
40 gp: **20** pallets, **800** cartons, **512000** pcs

Gebrauchsanleitung

GEBRAUCHSANLEITUNG

1. Nehmen Sie die Maske aus der Schachtel und klappen Sie sie durch Ziehen an den Bändern auf.
2. Setzen Sie die Maske mit der Nasendichtung nach oben auf Ihr Gesicht.
3. Dehnen Sie die Bänder und legen Sie sie auf Ihre Ohren.
4. Legen Sie die Maske auf Ihr Gesicht und drücken Sie die Nasendichtung um die Nase, um die Dichtigkeit zu gewährleisten.

ANWENDUNG

1. Das Produkt soll vor Partikeln mit einem Durchmesser von mehr als 0,075 Mikrometern schützen, wie z. B. Staub, der bei technischen Prozessen während der Reinigung entsteht, nichtflüchtigen Flüssigkeiten und Gemischen fester und flüssiger Verunreinigungen, die unter schlechten Umgebungsbedingungen gefunden werden (Smog).
2. Das Produkt ist nicht zum Schutz vor schädlichen Gasen oder Dämpfen, Aerosolen auf Ölbasis, Asbest, Cadmium, Blei, Aminverbindungen und während Sandstrahlprozessen bestimmt. Das Produkt ist nicht zur Verwendung an Orten vorgesehen, an denen die Schadstoffkonzentration das Zehnfache der in den geltenden Vorschriften angegebenen zulässigen Konzentration überschreitet. Das Produkt bietet keine zusätzliche Sauerstoffversorgung.

WARNHINWEISE

1. Wenn die Maske beschädigt, verschmutzt oder schwer zu atmen ist, verlassen Sie den gefährdeten Bereich und ersetzen Sie die Maske durch eine neue.
2. Das Produkt sollte an einem trockenen und kühlen Ort ohne Zugang zu aggressiven Gasen und einer Luftfeuchtigkeit von unter 80% gelagert werden.
3. Verwenden Sie das Produkt nicht an schlecht belüfteten Orten. Das Produkt sollte nicht von Personen mit Atemproblemen oder eingeschränkter Lungenkapazität verwendet werden. Das Produkt darf nicht im Schlaf verwendet werden.
4. Die Verwendung des Produkts in einer Weise, die nicht den Gebrauchsanweisungen entspricht, kann ein Risiko für die Gesundheit oder das Leben darstellen.
5. Das Produkt darf nicht gereinigt, gewaschen, wiederverwendet oder zusammen mit anderen Personen verwendet werden.

Importeur

SQ Deutschland GmbH
Gutenbergstraße 6
34466 Wolfhagen
DEUTSCHLAND

CE 2834

Zertifikate

Module B EU Type-Examination Certificate

For the requirements of PPE Regulation 2016/425

Certificate No.: CE-PC-200324-094-01-9C

Certificate holder:	**Shandong Shengquan New Materials Co., Ltd.** Diaozhen Industrial Development Zone, Zhangqiu, Jinan, China
Product:	**Particle filtering half masks** Detailed product description listed in the Annex
Model(s):	SNN200647
Standard(s):	EN 149:2001 + A1:2009 Respiratory protective devices - Filtering half masks to protect against particles - Requirements, testing, marking
Issue date:	2020-04-10
Revision date:	2020-06-18
Expiry date:	2025-04-09

The product(s) on this certificate and the Technical File have been assessed and found to be in conformance with the applicable Essential Health and Safety Requirements in Annex II of the PPE regulation 2016/425.
Any changes to the design, manufacturing location or manufacture of the PPE product certified here must be advised to CCQS Certification Services Limited for review.
CE marking shall not be applied until the requirements of all the PPE Regulation 2016/425 and relevant EN Harmonised standards and/or Technical specifications have been met.
If the certified product is Category III then this certificate is only valid if used in conjunction with Conformity Assessment against Module C2 or Module D.
This certificate remains the property of CCQS and maybe withdrawn at any time if it is considered that the equipment is no longer in conformity with the requirements of the PPE Regulation 2016/425.

CE

Approved by Ireland Government as a Notified Body for CE Marking No.2834

IVNAB ISO 17065 ACCREDITED PRODUCT CERTIFICATION

Approved by:

CQS Ireland Certification

Owen Bian, Office Manager

CCQS Certification Services Limited
Block 1 Blanchardstown Corporate Park, Ballycoolin Road, Blanchardstown, Dublin15, D15 AKK1, Ireland
Tel: +00 353 1 588 6920 Website: www.ccqs.co.uk E-mail: info@ccqs.ie
If in any doubt about the integrity of this certificate, please contact CCQS by email to verify.

Module B EU Type-Examination Certificate

Annex

For the requirements of PPE Regulation 2016/425

Certificate No.: CE-PC-200324-094-01-9C

Applicable standards and specification:

EN 149:2001 + A1:2009 Respiratory protective devices - Filtering half masks to protect against particles - Requirements, testing, marking

Model reference	Product description
SNN200647	Folding particle filtering half mask with adjustment ear loops without valves, internal metal nose clip Class: FFP2 NR Test report No.:2020(D) - 0003

Certificate Revision	Revision date	Revision details
B	2020-04-10	Initial issue
C	2020-06-18	Editorial change to description to include ear loops

CCQS Ireland Certification

Certificate of Module C2 production monitoring for equipment within the scope of Personal Protective Equipment Regulation (EU) 2016/425 Category III

FPC Certificate No.: CE-PC-200227-018-FPC-C

Certificate holder:	**Shandong Shengquan New Materials Co., Ltd.** Diaozhen Industrial Development Zone, Zhangqiu, Jinan, China
Manufacturing location:	Diaozhen Industrial Development Zone, Zhangqiu, Jinan, China
The scope of the certification for:	**The manufacture of respiratory protective device** See annex for articles covered by this certificate
Validity from:	2020-04-10
Revision date:	2020-12-23
To:	2021-04-09

CCQS Certification Services Limited in its role as a Notified Body for PPE Regulation, is monitoring that the manufacturer is producing PPE in conformity with the type described in the EU type-examination certificate and associated technical file and which satisfies the Essential Health and Safety Requirements of the Regulation.
The equipment covered by this certificate is listed in the accompanying schedule. This certificate is not complete and has no validity without the accompanying schedule and revision index.
The manufacturer is hereby authorized to affix our Notified Body number, 2834, to each item of PPE mentioned in the schedule which accompanies this certificate whilst this certificate remains valid.
This certificate and the accompanying schedule remain the property of CCQS and maybe withdrawn or revised at any time if CCQS considers that the equipment is no longer in conformity with the requirements of the Regulation.

CE

Approved by Ireland Government as a Notified Body for CE Marking No.2834

IVNAB ISO 17065 PRODUCT CERTIFICATION

Approved by:

CCQS Ireland Certification

Owen Bian Director

CCQS Certification Services Limited
Block 1 Blanchardstown Corporate Park, Ballycoolin Road, Blanchardstown, Dublin15, D15 AKK1, Ireland
Tel: +00 353 1 588 6920 Website: www.ccqs.co.uk E-mail: verify@ccqs.ie
If in any doubt about the integrity of this certificate, please contact CCQS by email to verify.

Schedule of Module C2 production monitoring for equipment within the scope of Personal Protective Equipment Regulation (EU) 2016/425 Category III

Schedule to CCQS FPC Certificate No.: CE-PC-200227-018-FPC-C

Product reference and description		Reference standard
Particle Filtering Half Mask	Model: SNN70370B	EN 149:2001+A1:2009
Particle Filtering Half Mask	Model: SNN70369B	EN 149:2001+A1:2009
Particle Filtering Half Mask	Model: SNN200647	EN 149:2001+A1:2009
Particle Filtering Half Mask	Model: FP2254	EN 149:2001+A1:2009
Particle Filtering Half Mask	Model: FP2244	EN 149:2001+A1:2009
Particle Filtering Half Mask	Model: FP2444	EN 149:2001+A1:2009

Certificate Revision	Revision date	Revision details
B	2020-04-10	Initial issue
C	2020-12-23	Add model: FP2254, FP2244, FP2444

This schedule has no validity without the accompanying certificate.
This schedule and the accompanying certificate remain the property of CCQS and maybe withdrawn or revised at any time if CCQS considers that the equipment is no longer in conformity with the requirements of the Regulation.

CCQS Ireland Certification

CE

CCQS Certification Services Limited
Block 1 Blanchardstown Corporate Park, Ballycoolin Road, Blanchardstown, Dublin15, D15 AKK1, Ireland
Tel: +00 353 1 588 6920 Website: www.ccqs.co.uk E-mail: verify@ccqs.ie
If in any doubt about the integrity of this certificate, please contact CCQS by email to verify.

Module B EU Type-Examination Certificate

For the requirements of PPE Regulation 2016/425

Certificate No.: CE-PC-200227-018-01-9C

Certificate holder:	**Shandong Shengquan New Materials Co., Ltd.** Diaozhen Industrial Development Zone, Zhangqiu, Jinan, China
Product:	**Particle filtering half masks** Detailed product description listed in the Annex
Model(s):	See Annex
Standard(s):	EN 149:2001 + A1:2009 Respiratory protective devices - Filtering half masks to protect against particles - Requirements, testing, marking
Issue date:	2020-04-10
Revision date:	2020-06-18
Expiry date:	2025-04-09

The product(s) on this certificate and the Technical File have been assessed and found to be in conformance with the applicable Essential Health and Safety Requirements in Annex II of the PPE regulation 2016/425.
Any changes to the design, manufacturing location or manufacture of the PPE product certified here must be advised to CCQS Certification Services Limited for review.
CE marking shall not be applied until the requirements of all the PPE Regulation 2016/425 and relevant EN Harmonised standards and/or Technical specifications have been met.
If the certified product is Category III then this certificate is only valid if used in conjunction with Conformity Assessment against Module C2 or Module D.
This certificate remains the property of CCQS and maybe withdrawn at any time if it is considered that the equipment is no longer in conformity with the requirements of the PPE Regulation 2016/425.

CE

Approved by Ireland Government as a Notified Body for CE Marking No.2834

IVNAB ISO 17065 ACCREDITED PRODUCT CERTIFICATION

Approved by:

CCQS Ireland Certification

Owen Bian, Office Manager

CCQS Certification Services Limited
Block 1 Blanchardstown Corporate Park, Ballycoolin Road, Blanchardstown, Dublin15, D15 AKK1, Ireland
Tel: +00 353 1 588 6920 Website: www.ccqs.co.uk E-mail: info@ccqs.ie

Module B EU Type-Examination Certificate

Annex

For the requirements of PPE Regulation 2016/425

Certificate No.: CE-PC-200227-018-01-9C

Applicable standards and specification:

EN 149:2001 + A1:2009 Respiratory protective devices - Filtering half masks to protect against particles - Requirements, testing, marking

Model reference	Product description
SNN70370B	Folding particle filtering half mask with adjustment ear loops without valves, internal metal nose clip Class: FFP2 NR Test report No.:2020(D) - 0005
SNN70369B	Folding particle filtering half mask with adjustment ear loops without valves, internal metal nose clip Class: FFP2 NR Test report No.:2020(D) - 0004

Certificate Revision	Revision date	Revision details
B	2020-04-10	Initial issue
C	2020-06-18	Editorial change to description to include ear loops

CCQS Ireland Certification

Konformitätserklärung

EU DEU-KONFORMITÄTSERKLÄRUNG

CE

Die vorliegende Konformitätserklärung, die unter der alleinigen Verantwortung des Herstellers

Shandong Shengquan New Materials Co., Ltd.

Diaozhen Industrial Development Zone, Zhangqiu, Jinan, China

ausgestellt wurde, bezieht sich auf die folgende persönliche Schutzausrüstung (PSA)

Produktmodell: **SNN200647, SNN70370B, SNN70369B**

Produktbeschreibung: **Particle Filtering Half Mask**

stimmt mit den Bestimmungen der folgenden europäischen Verordnungen und/oder Richtlinien überein

Verordnung über persönliche Schutzausrüstungen (PSA)

Das Modell entspricht den Bestimmungen der Verordnung (EU) 2016/425, einschließlich der Erfüllung der geltenden grundlegenden Gesundheits- und Sicherheitsanforderungen gemäß Anhang II, und der nationalen Norm zur Umsetzung der harmonisierten europäischen Standardnorm(en):

EN149:2001+A1:2009

und ist identisch mit der PSA, die Gegenstand der EU-Baumusterprüfung (Modul B der Verordnung [EU] 2016/425) ist, auf die in der Zertifikatsnummer verwiesen wird:

CE-PC-200324-094-01-9C
CE-PC-200227-018-01-9C
CE-PC-200227-018-FPC-B (Module C2)

Ausgestellt von

CCQS Certification Services Limited, Block 1 Blanchardstown Corporate Park, Ballycoolin Road, Blanchardstown, Dublin 15, D15 AKK1, Ireland

und unterliegt den Verfahren des Moduls C2 der Verordnung (EU) 2016/425 unter der

Aufsicht von CCQS, Nummer der benannten Stelle 2834.

Unterzeichnet von: Chua

Xu President

Datum: 18th June 2020

DE

Testbericht

National Quality Supervision and Testing Center for Personal Protective Equipment (Beijing)
No.55 Taoranting Street, Xicheng District, Beijing, China.
Phone: +86 10 63519250
Fax: +86 10 63519250

TESTING
CNAS L1499

The Testing Center is accredited for compliance with ISO/IEC 17025.
The results of tests, calibrations and/or measurements included in this document are traceable to Chinese/national standards.
CNAS is a signatory to the ILAC mutual recognition arrangement for the mutual recognition of the equivalence of testing, calibration and inspection reports.

TEST REPORT
Particulate respirator-half facepiece
EN 149: 2001 +A1: 2009 Respiratory protective devices — Filtering half masks to protect against particles — Requirements, testing, marking

Product:	**Biomass Graphene Particulate Respirator**
Report No:	**2020 (D) - 0003**
Client:	**Shandong Shengquan New Materials Co., Ltd**
Contact:	**Li Xuewei**
Model (s):	**SNN200647**
Date(s) of tests:	**2020.03.11-2020.03.24**

DESCRIPTION OF SAMPLES

General Information	**Classification**	**Main Components**
	FFP2 NR	Grey folding mask
Manufacturer	Shandong Shengquan New Materials Co., Ltd	
Manufacturer Address	Industry Development Zones, Diaozhen Town, Zhangqiu, Shandong	

Signed:

陈倬为 Chen Zhuowei
Authorized Signatory, Lab Director

Issued: 2020.3.25

Testbericht

Test Results

7.3 Visual inspection — **Pass**

The visual inspection shall include the marking and information supplied by the manufacturer.

7.4 Package — **Pass[1]**

Particle filtering half masks shall be offered for sale packaged in such a way that they are protected against mechanical damage and contamination before use.

Note1: In accordance with the requirement.

7.5 Material — **Pass[2]**

Materials used shall be suitable to withstand handling and wear over the period for which the particle filtering half mask is designed to be used.

Any material from the filter media released by the air flow through the filter shall not constitute a hazard or nuisance for the wearer.

After undergoing the conditioning described in 8.3.1 none of the particle filtering half masks shall have suffered mechanical failure of the facepiece or straps.

When conditioned in accordance with 8.3.1 and 8.3.2 the particle filtering half mask shall not collapse.

Note2: No mechanical failure after undergoing the conditioning described in 8.3.1. No collapse when conditioned in accordance with 8.3.1 and 8.3.2.

7.6 Cleaning and disinfecting — **N/A[3]**

If the particle filtering half mask is designed to be re-usable, the materials used shall withstand the cleaning and disinfecting agents and procedures to be specified by the manufacturer.

Note3: Single shift use only.

7.7 Practical performance — **Pass[4]**

The particle filtering half mask shall undergo practical performance tests under realistic conditions.

Note4: No imperfections.

7.8 Finish of parts — **Pass[5]**

Parts of the device likely to come into contact with the wearer shall have no sharp edges or burrs.

Note5: No sharp edges or burrs.

7.9.1 Total inward leakage — **Pass[6]**

For particle filtering half masks fitted in accordance with the manufacturer's information, at least 46 out of the 50 individual exercise results (i.e. 10 subjects x 5 exercises) for total inward leakage shall be not greater than:
25% for FFP1, 11% for FFP2, 5% for FFP3

and, in addition, at least 8 out of the 10 individual wearer arithmetic means for the total inward leakage shall be not greater than
22% for FFP1, 8% for FFP2, 2% for FFP3

Note6: FFP2 respirator. Test results are shown in Annex A Table 7.9.1-A&B..

7.9.2 Penetration of filter material — **Pass[7]**

The penetration of the filter of the particle filtering half mask shall meet the requirements of Table 1.

	Sodium chloride test 95 l/min	Paraffin oil test 95 l/min
FFP1	≤20%	≤20%
FFP2	≤6%	≤6%

Testbericht

FFP3	≤1%	≤1%

Note7: FFP2 respirator. Test results are shown in Annex A Table 7.9.2.

7.10 Compatibility with skin **Pass[8]**

Materials that may come into contact with the wearer's skin shall not be known to be likely to cause irritation or any other adverse effect to health.

Note8: No irritation or any other adverse effect to health.

7.11 Flammability **Pass[9]**

When tested, the particle filtering half mask shall not burn or not to continue to burn for more than 5 s after removal from the flame.

Note9: Test results are shown in Annex A Table 7.11.

7.12 Carbon dioxide content of the inhalation air **Pass[10]**

The carbon dioxide content of the inhalation air (dead space) shall not exceed an average of 1,0 % (by volume)

Note10: Test results are shown in Annex A Table 7.12.

7.13 Head harness **Pass[11]**

The head harness shall be designed so that the particle filtering half mask can be donned and removed easily. The head harness shall be adjustable or self-adjusting and shall be sufficiently robust to hold the particle filtering half mask firmly in position and be capable of maintaining total inward leakage requirements for the device.

Note11: Head harness can be donned and removed easily, adjustable or self-adjusting and have sufficiently robust to hold the particle filtering half mask firmly.

7.14 Field of vision **Pass[12]**

The field of vision is acceptable if determined so in practical performance tests.

Note12: Pass the practical performance tests.

7.15 Exhalation valve **N/A[13]**

A particle filtering half mask may have one or more exhalation valve(s), which shall function correctly in all orientations.

If an exhalation valve is provided it shall be protected against or be resistant to dirt and mechanical damage and may be shrouded or may include any other device that may be necessary for the particle filtering half mask to comply with 7.9.

Exhalation valve(s), if fitted, shall continue to operate correctly after a continuous exhalation flow of 300 l/min over a period of 30 s.

When the exhalation valve housing is attached to the faceblank, it shall withstand axially a tensile force of 10 N applied for 10 s.

Note13: No exhalation valve.

7.16 Breathing resistance **Pass[14]**

Classification	Maximum permitted resistance (mbar)		
	Inhalation		Exhalation
	30 l/min	95 l/min	160 l/min
FFP1	0.6	2.1	3.0
FFP2	0.7	2.4	3.0
FFP3	1.0	3.0	3.0

Note14: FFP2 respirator. Test results are shown in Annex A Table 7.16.

Testbericht

7.17 Clogging **N/A[15]**

7.17.2 Breathing resistance

Valved particle filtering half masks:
After clogging the inhalation resistances shall not exceed:
FFP1: 4 mbar, FFP2: 5 mbar, FFP3: 7 mbar at 95L/min continuous flow
The exhalation resistance shall not exceed 3 mbar at 160 L/min continuous flow

Valveless particle filtering half masks
After clogging the inhalation and exhalation resistances shall not exceed:
FFP1: 3 mbar, FFP2: 4 mbar, FFP3: 5 mbar at 95L/min continuous flow

7.17.3 Penetration of filter material

	Sodium chloride test 95 l/min	Paraffin oil test 95 l/min
FFP1	≤20%	≤20%
FFP2	≤6%	≤6%
FFP3	≤1%	≤1%

Note15: Single shift use only.

7.18 Demountable parts **N/A[16]**

All demountable parts (if fitted) shall be readily connected and secured, where possible by hand
Note16: No demountable parts.

9 Marking **Not tested**

9.1 Packaging

The following information shall be clearly and durably marked on the smallest commercially available packaging or legible through it if the packaging is transparent.

9.1.1 The name, trademark or other means of identification of the manufacturer or supplier.
9.1.2 Type-identifying marking.
9.1.3 Classification
The appropriate class (FFP1, FFP2 or FFP3) followed by a single space and then: "NR" if the particle filtering half mask is limited to single shift use only. Example: FFP3 NR, or "R" if the particle filtering half mask is re-usable. Example: FFP2 R D.
9.1.4 The number and year of publication of this European Standard.
9.1.5 At least the year of end of shelf life. The end of shelf life may be informed by a pictogram as shown in Figure 12a, where yyyy/mm indicates the year and month.
9.1.6 The sentence 'see information supplied by the manufacturer', at least in the official language(s) of the country of destination, or by using the pictogram as shown in Figure 12b.
9.1.7 The manufacturer's recommended conditions of storage (at least the temperature and humidity) or equivalent pictogram, as shown in Figures 12c and 12d.
9.1.8 The packaging of those particle filtering half masks passing the dolomite clogging test shall be additionally marked with the letter "D". This letter shall follow the classification marking preceded by a single space.

9.2 Particle filtering half mask

Particle filtering half masks complying with this European Standard shall be clearly and durably marked with the following:

9.2.1 The name, trademark or other means of identification of the manufacturer or supplier.
9.2.2 Type-identifying marking.

Testbericht

9.2.3 The number and year of publication of this European Standard.

9.2.4 Classification

The appropriate class (FFP1, FFP2 or FFP3) followed by a single space and then: "NR" if the particle filtering half mask is limited to single shift use only. Example: FFP3 NR, or "R" if the particle filtering half mask is re-usable. Example: FFP2 R D.

9.2.5 If appropriate the letter D (dolomite) in accordance with clogging performance. This letter shall follow the classification marking preceded by a single space

9.2.6 Sub-assemblies and components with considerable bearing on safety shall be marked so that they can be identified.

End of Test Results

Testbericht

Annex A: Summarization of Test Data

Table 7.9.1-A Inward leakage test data

Test specification: EN 149-2001 Clause 8.5

Subject	Sample No.	Condition	Walk(%)	Head Side/side(%)	Head up/down(%)	Talk(%)	Walk(%)	Mean(%)
Yi	1	A.R.	6.12	6.14	6.27	6.23	6.18	6.2
Gong	2	A.R.	6.24	6.35	6.36	6.42	6.31	6.3
Yu	3	A.R.	5.63	5.81	5.84	5.89	5.73	5.8
Zhi	4	A.R.	5.73	5.84	5.62	5.65	5.65	5.7
Fang	5	A.R.	6.10	6.22	6.24	6.25	6.17	6.2
Hu	6	T.C.	6.26	6.36	6.37	6.32	6.25	6.3
Xu	7	T.C.	6.29	6.39	6.48	6.42	6.37	6.4
Deng	8	T.C.	6.17	6.27	6.32	6.31	6.25	6.3
Zhang	9	T.C.	6.24	6.34	6.31	6.47	6.46	6.4
Liu	10	T.C.	6.31	6.45	6.56	6.42	6.31	6.4
50 out of the 50 individual exercise results ≤ 11 % 10 of the 10 individual arithmetic means ≤ 8 %					Pass			

Table 7.9.1-B Facial dimension

Subject	Face length	Face Width	Face Depth	Mouth Width
Yi	120	130	109	59
Gong	122	140	115	65
Yu	119	160	139	55
Hu	112	122	119	63
Xu	110	130	118	60
Deng	115	119	110	59
Zhang	112	123	113	55
Liu	103	130	100	50
Zhi	118	139	130	63
Fang	115	129	120	50

Testbericht

Table -7.9.2 Penetration of filter material

Test specification: EN 149-2001 Clause 8.11

Aerosol	Condition	Sample No.	Penetration (%)	Assessment
Sodium chloride test	As received	11	1.83	Pass
		12	1.98	
		13	2.04	
	Simulated wearing treatment	14	1.87	
		15	1.97	
		16	2.10	
	Mechanical strength+ Temperature conditioned	17	1.97	
		18	2.05	
		19	2.13	
Paraffin oil test	As received	20	3.83	
		21	3.94	
		22	4.11	
	Simulated wearing treatment	23	3.96	
		24	4.07	
		25	4.13	
	Mechanical strength+ Temperature conditioned	26	4.13	
		27	4.07	
		28	4.09	
Flow conditioning: Single filter: 95.0 L/min				

Table 7.11 Flammability

Test specification: EN 149-2001 Clause 8.6

Condition	Sample No.	Result	Assessment
As received	29	Burn for 2 s	Pass
	30	Burn for 2 s	
Temperature conditioned	31	Burn for 3 s	
	32	Burn for 3 s	

Testbericht

Table 7.12 Carbon dioxide content of the inhalation air

Test specification: EN 149-2001 Clause 8.7

Condition	Sample No.	Result		Assessment
As received	33	0.41%	Mean value 0.4%	Pass
	34	0.42%		
	35	0.41%		

Table 7.16 Breathing resistance (mbar)

Test specification: EN 149-2001 Clause 8.9

			36					37					38				
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
As received	Inhalation	30 l/min	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.5	0.5	0.5
		95 l/min	1.6	1.5	1.6	1.6	1.5	1.6	1.6	1.5	1.6	1.6	1.5	1.6	1.5	1.6	1.6
	Exhalation	160 l/min	1.4	1.4	1.5	1.5	1.4	1.5	1.5	1.4	1.4	1.5	1.4	1.5	1.4	1.5	1.4
			39					40					41				
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
Simulated wearing treatment	Inhalation	30 l/min	0.4	0.5	0.5	0.4	0.5	0.5	0.4	0.4	0.5	0.4	0.5	0.4	0.5	0.5	0.4
		95 l/min	1.6	1.5	1.6	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.6	1.6	1.6
	Exhalation	160 l/min	1.4	1.4	1.4	1.4	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.4	1.4
			42					43					44				
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
Temperature conditioned	Inhalation	30 l/min	0.4	0.5	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.4
		95 l/min	1.6	1.6	1.6	1.5	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	Exhalation	160 l/min	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5
			45					46					47				
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
Flow conditioned	Inhalation	30 l/min	0.4	0.5	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.4	0.4	0.5
		95 l/min	1.6	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5
	Exhalation	160 l/min	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.5	1.5	1.4	1.4	1.4
Assessment	Pass																

A: facing directly ahead; B: facing vertically upwards; C: facing vertically downwards; D: lying on the left side; E: lying on the right side

End of Annex A

Testbericht

ANNEX B PHOTOS OF SAMPLES

End of Annex B

Testbericht

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TESTING
CNAS L1499

The Testing Center is accredited for compliance with ISO/IEC 17025.
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TEST REPORT
Particulate respirator-half facepiece
EN 149: 2001 +A1: 2009 Respiratory protective devices — Filtering half masks to protect against particles — Requirements, testing, marking

Product:	**Biomass Graphene Particulate Respirator**
Report No:	**2020 (D) - 0004**
Client:	**CCQS UK LTD**
Contact:	**Hu Xiaoming**
Model (s):	**SNN70369B**
Date(s) of tests:	**2020.03.11-2020.03.24**

DESCRIPTION OF SAMPLES

General Information	**Classification**	**Main Components**
	FFP2 NR	Grey folding mask
Manufacturer	Shandong Shengquan New Materials Co., Ltd	
Manufacturer Address	Industry Development Zones, Diaozhen Town, Zhangqiu, Shandong	

Signed:

陈倬为 Chen Zhuowei
Authorized Signatory, Lab Director

Issued: 2020.3.25

Testbericht

Test Results

7.3 Visual inspection **Pass**

The visual inspection shall include the marking and information supplied by the manufacturer.

7.4 Package **Pass[1]**

Particle filtering half masks shall be offered for sale packaged in such a way that they are protected against mechanical damage and contamination before use.

Note1: In accordance with the requirement.

7.5 Material **Pass[2]**

Materials used shall be suitable to withstand handling and wear over the period for which the particle filtering half mask is designed to be used.

Any material from the filter media released by the air flow through the filter shall not constitute a hazard or nuisance for the wearer.

After undergoing the conditioning described in 8.3.1 none of the particle filtering half masks shall have suffered mechanical failure of the facepiece or straps.

When conditioned in accordance with 8.3.1 and 8.3.2 the particle filtering half mask shall not collapse.

Note2: No mechanical failure after undergoing the conditioning described in 8.3.1. No collapse when conditioned in accordance with 8.3.1 and 8.3.2.

7.6 Cleaning and disinfecting **N/A[3]**

If the particle filtering half mask is designed to be re-usable, the materials used shall withstand the cleaning and disinfecting agents and procedures to be specified by the manufacturer.

Note3: Single shift use only.

7.7 Practical performance **Pass[4]**

The particle filtering half mask shall undergo practical performance tests under realistic conditions.

Note4: No imperfections.

7.8 Finish of parts **Pass[5]**

Parts of the device likely to come into contact with the wearer shall have no sharp edges or burrs.

Note5: No sharp edges or burrs.

7.9.1 Total inward leakage **Pass[6]**

For particle filtering half masks fitted in accordance with the manufacturer's information, at least 46 out of the 50 individual exercise results (i.e. 10 subjects x 5 exercises) for total inward leakage shall be not greater than:
25% for FFP1, 11% for FFP2, 5% for FFP3

and, in addition, at least 8 out of the 10 individual wearer arithmetic means for the total inward leakage shall be not greater than
22% for FFP1, 8% for FFP2, 2% for FFP3

Note6: FFP2 respirator. Test results are shown in Annex A Table 7.9.1-A&B.

7.9.2 Penetration of filter material **Pass[7]**

The penetration of the filter of the particle filtering half mask shall meet the requirements of Table 1.

	Sodium chloride test 95 l/min	Paraffin oil test 95 l/min
FFP1	≤20%	≤20%
FFP2	≤6%	≤6%

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FFP3	≤1%	≤1%

Note7: FFP2 respirator. Test results are shown in Annex A Table 7.9.2.

7.10 Compatibility with skin **Pass[8]**

Materials that may come into contact with the wearer's skin shall not be known to be likely to cause irritation or any other adverse effect to health.

Note8: No irritation or any other adverse effect to health.

7.11 Flammability **Pass[9]**

When tested, the particle filtering half mask shall not burn or not to continue to burn for more than 5 s after removal from the flame.

Note9: Test results are shown in Annex A Table 7.11.

7.12 Carbon dioxide content of the inhalation air **Pass[10]**

The carbon dioxide content of the inhalation air (dead space) shall not exceed an average of 1,0 % (by volume)

Note10: Test results are shown in Annex A Table 7.12.

7.13 Head harness **Pass[11]**

The head harness shall be designed so that the particle filtering half mask can be donned and removed easily. The head harness shall be adjustable or self-adjusting and shall be sufficiently robust to hold the particle filtering half mask firmly in position and be capable of maintaining total inward leakage requirements for the device.

Note11: Head harness can be donned and removed easily, adjustable or self-adjusting and have sufficiently robust to hold the particle filtering half mask firmly.

7.14 Field of vision **Pass[12]**

The field of vision is acceptable if determined so in practical performance tests.

Note12: Pass the practical performance tests.

7.15 Exhalation valve **N/A[13]**

A particle filtering half mask may have one or more exhalation valve(s), which shall function correctly in all orientations.

If an exhalation valve is provided it shall be protected against or be resistant to dirt and mechanical damage and may be shrouded or may include any other device that may be necessary for the particle filtering half mask to comply with 7.9.

Exhalation valve(s), if fitted, shall continue to operate correctly after a continuous exhalation flow of 300 l/min over a period of 30 s.

When the exhalation valve housing is attached to the faceblank, it shall withstand axially a tensile force of 10 N applied for 10 s.

Note13: No exhalation valve.

7.16 Breathing resistance **Pass[14]**

Classification	Maximum permitted resistance (mbar)		
	Inhalation		Exhalation
	30 l/min	95 l/min	160 l/min
FFP1	0.6	2.1	3.0
FFP2	0.7	2.4	3.0
FFP3	1.0	3.0	3.0

Note14: FFP2 respirator. Test results are shown in Annex A Table 7.16.

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7.17 Clogging **N/A[15]**

7.17.2 Breathing resistance

Valved particle filtering half masks:
After clogging the inhalation resistances shall not exceed:
FFP1: 4 mbar, FFP2: 5 mbar, FFP3: 7 mbar at 95L/min continuous flow
The exhalation resistance shall not exceed 3 mbar at 160 L/min continuous flow

Valveless particle filtering half masks
After clogging the inhalation and exhalation resistances shall not exceed:
FFP1: 3 mbar, FFP2: 4 mbar, FFP3: 5 mbar at 95L/min continuous flow

7.17.3 Penetration of filter material

	Sodium chloride test 95 l/min	Paraffin oil test 95 l/min
FFP1	≤20%	≤20%
FFP2	≤6%	≤6%
FFP3	≤1%	≤1%

Note15: Single shift use only.

7.18 Demountable parts **N/A[16]**

All demountable parts (if fitted) shall be readily connected and secured, where possible by hand
Note16: No demountable parts.

9 Marking **Not tested**

9.1 Packaging

The following information shall be clearly and durably marked on the smallest commercially available packaging or legible through it if the packaging is transparent.

9.1.1 The name, trademark or other means of identification of the manufacturer or supplier.
9.1.2 Type-identifying marking.
9.1.3 Classification
The appropriate class (FFP1, FFP2 or FFP3) followed by a single space and then: "NR" if the particle filtering half mask is limited to single shift use only. Example: FFP3 NR, or "R" if the particle filtering half mask is re-usable. Example: FFP2 R D.
9.1.4 The number and year of publication of this European Standard.
9.1.5 At least the year of end of shelf life. The end of shelf life may be informed by a pictogram as shown in Figure 12a, where yyyy/mm indicates the year and month.
9.1.6 The sentence 'see information supplied by the manufacturer', at least in the official language(s) of the country of destination, or by using the pictogram as shown in Figure 12b.
9.1.7 The manufacturer's recommended conditions of storage (at least the temperature and humidity) or equivalent pictogram, as shown in Figures 12c and 12d.
9.1.8 The packaging of those particle filtering half masks passing the dolomite clogging test shall be additionally marked with the letter "D". This letter shall follow the classification marking preceded by a single space.

9.2 Particle filtering half mask

Particle filtering half masks complying with this European Standard shall be clearly and durably marked with the following:

9.2.1 The name, trademark or other means of identification of the manufacturer or supplier.
9.2.2 Type-identifying marking.

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9.2.3 The number and year of publication of this European Standard.

9.2.4 Classification

The appropriate class (FFP1, FFP2 or FFP3) followed by a single space and then: "NR" if the particle filtering half mask is limited to single shift use only. Example: FFP3 NR, or "R" if the particle filtering half mask is re-usable. Example: FFP2 R D.

9.2.5 If appropriate the letter D (dolomite) in accordance with clogging performance. This letter shall follow the classification marking preceded by a single space

9.2.6 Sub-assemblies and components with considerable bearing on safety shall be marked so that they can be identified.

End of Test Results

Testbericht

Annex A: Summarization of Test Data

Table 7.9.1-A Inward leakage test data

Test specification: EN 149-2001 Clause 8.5

Subject	Sample No.	Condition	Walk(%)	Head Side/side(%)	Head up/down(%)	Talk(%)	Walk(%)	Mean(%)
Yi	1	A.R.	5.74	5.85	5.83	5.83	5.74	5.8
Gong	2	A.R.	5.67	5.72	5.89	5.82	5.71	5.8
Yu	3	A.R.	4.43	4.56	4.52	4.66	4.55	4.5
Zhi	4	A.R.	4.61	4.78	4.86	4.85	4.72	4.8
Fang	5	A.R.	4.81	4.93	5.05	5.17	5.06	5.0
Hu	6	T.C.	5.34	5.49	5.51	5.59	5.43	5.5
Xu	7	T.C.	5.33	5.57	5.54	5.48	5.49	5.5
Deng	8	T.C.	5.48	5.65	5.57	5.63	5.47	5.6
Zhang	9	T.C.	5.42	5.52	5.69	5.54	5.54	5.5
Liu	10	T.C.	5.56	5.61	5.78	5.76	5.61	5.7
50 out of the 50 individual exercise results ≤ 11 % 10 of the 10 individual arithmetic means ≤ 8 %					Pass			

Table 7.9.1-B Facial dimension

Subject	Face length	Face Width	Face Depth	Mouth Width
Yi	120	130	109	59
Gong	122	140	115	65
Yu	119	160	139	55
Hu	112	122	119	63
Xu	110	130	118	60
Deng	115	119	110	59
Zhang	112	123	113	55
Liu	103	130	100	50
Zhi	118	139	130	63
Fang	115	129	120	50

Testbericht

Table -7.9.2 Penetration of filter material

Test specification: EN 149-2001 Clause 8.11

Aerosol	Condition	Sample No.	Penetration (%)	Assessment
Sodium chloride test	As received	11	1.51	Pass
		12	1.65	
		13	1.52	
	Simulated wearing treatment	14	1.56	
		15	1.63	
		16	1.68	
	Mechanical strength+ Temperature conditioned	17	1.59	
		18	1.57	
		19	1.61	
Paraffin oil test	As received	20	4.84	
		21	4.91	
		22	5.15	
	Simulated wearing treatment	23	4.92	
		24	5.36	
		25	5.29	
	Mechanical strength+ Temperature conditioned	26	5.27	
		27	5.34	
		28	5.31	
Flow conditioning: Single filter: 95.0 L/min				

Table 7.11 Flammability

Test specification: EN 149-2001 Clause 8.6

Condition	Sample No.	Result	Assessment
As received	29	Burn for 2 s	Pass
	30	Burn for 2 s	
Temperature conditioned	31	Burn for 2 s	
	32	Burn for 3 s	

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Table 7.12 Carbon dioxide content of the inhalation air

Test specification: EN 149-2001 Clause 8.7

Condition	Sample No.	Result		Assessment
As received	33	0.41%	Mean value 0.4%	Pass
	34	0.41%		
	35	0.42%		

Table 7.16 Breathing resistance (mbar)

Test specification: EN 149-2001 Clause 8.9

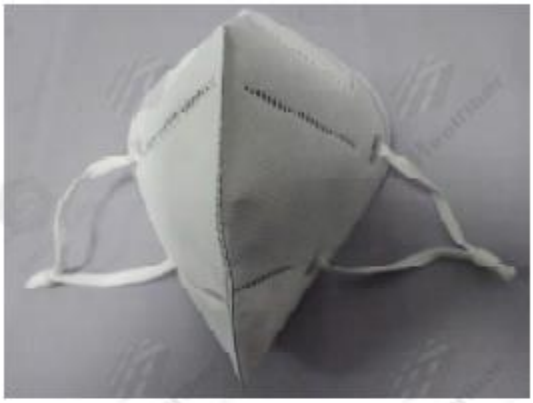
As received	Flow rate		36					37					38							
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E			
	Inhalation	30 l/min	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.4			
		95 l/min	1.5	1.6	1.6	1.5	1.6	1.6	1.5	1.5	1.6	1.5	1.6	1.6	1.5	1.5	1.6			
	Exhalation	160 l/min	1.4	1.4	1.4	1.5	1.5	1.5	1.4	1.4	1.5	1.4	1.5	1.4	1.5	1.4	1.5			
Simulated wearing treatment	Flow rate		39					40					41							
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E			
	Inhalation	30 l/min	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.4	0.5	0.4	0.5	0.5	0.4	0.4	0.5			
		95 l/min	1.5	1.5	1.5	1.6	1.5	1.5	1.6	1.6	1.6	1.5	1.5	1.6	1.5	1.5	1.6			
	Exhalation	160 l/min	1.4	1.4	1.4	1.5	1.4	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.4			
Temperature conditioned	Flow rate		42					43					44							
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E			
	Inhalation	30 l/min	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5			
		95 l/min	1.5	1.5	1.6	1.6	1.5	1.6	1.5	1.6	1.5	1.6	1.6	1.5	1.5	1.6	1.6			
	Exhalation	160 l/min	1.4	1.4	1.4	1.5	1.4	1.4	1.5	1.4	1.5	1.5	1.4	1.4	1.4	1.5	1.5			
Flow conditioned	Flow rate		45					46					47							
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E			
	Inhalation	30 l/min	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.5	0.4	0.5	0.4	0.4	0.5	0.5	0.4			
		95 l/min	1.5	1.5	1.6	1.6	1.6	1.5	1.5	1.6	1.6	1.5	1.5	1.6	1.6	1.5	1.5			
	Exhalation	160 l/min	1.4	1.4	1.5	1.4	1.4	1.5	1.4	1.4	1.4	1.5	1.4	1.4	1.4	1.5	1.4			
Assessment	Pass																			

A: facing directly ahead; B: facing vertically upwards; C: facing vertically downwards; D: lying on the left side; E: lying on the right side

End of Annex A

Testbericht

ANNEX B PHOTOS OF SAMPLES



End of Annex B

Testbericht

National Quality Supervision and Testing Center for Personal Protective Equipment (Beijing)
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CNAS is a signatory to the ILAC mutual recognition arrangement for the mutual recognition of the equivalence of testing, calibration and inspection reports.

TEST REPORT
Particulate respirator-half facepiece
EN 149: 2001 +A1: 2009 Respiratory protective devices — Filtering half masks to protect against particles — Requirements, testing, marking

Product:	**Biomass Graphene Particulate Respirator**
Report No:	**2020 (D) - 0005**
Client:	**CCQS UK LTD**
Contact:	**Hu Xiaoming**
Model (s):	**SNN70370B**
Date(s) of tests:	**2020.03.11-2020.03.24**

DESCRIPTION OF SAMPLES

General Information	**Classification**	**Main Components**
	FFP2 NR	Grey willow leaf mask
Manufacturer	Shandong Shengquan New Materials Co., Ltd	
Manufacturer Address	Industry Development Zones, Diaozhen Town, Zhangqiu, Shandong	

Signed: 陈倬为

陈倬为 Chen Zhuowei
Authorized Signatory, Lab Director

Issued: 2020.3.25

Testbericht

Test Results

7.3 Visual inspection **Pass**

The visual inspection shall include the marking and information supplied by the manufacturer.

7.4 Package **Pass[1]**

Particle filtering half masks shall be offered for sale packaged in such a way that they are protected against mechanical damage and contamination before use.

Note1: In accordance with the requirement.

7.5 Material **Pass[2]**

Materials used shall be suitable to withstand handling and wear over the period for which the particle filtering half mask is designed to be used.

Any material from the filter media released by the air flow through the filter shall not constitute a hazard or nuisance for the wearer.

After undergoing the conditioning described in 8.3.1 none of the particle filtering half masks shall have suffered mechanical failure of the facepiece or straps.

When conditioned in accordance with 8.3.1 and 8.3.2 the particle filtering half mask shall not collapse.

Note2: No mechanical failure after undergoing the conditioning described in 8.3.1. No collapse when conditioned in accordance with 8.3.1 and 8.3.2.

7.6 Cleaning and disinfecting **N/A[3]**

If the particle filtering half mask is designed to be re-usable, the materials used shall withstand the cleaning and disinfecting agents and procedures to be specified by the manufacturer.

Note3: Single shift use only.

7.7 Practical performance **Pass[4]**

The particle filtering half mask shall undergo practical performance tests under realistic conditions.

Note4: No imperfections.

7.8 Finish of parts **Pass[5]**

Parts of the device likely to come into contact with the wearer shall have no sharp edges or burrs.

Note5: No sharp edges or burrs.

7.9.1 Total inward leakage **Pass[6]**

For particle filtering half masks fitted in accordance with the manufacturer's information, at least 46 out of the 50 individual exercise results (i.e. 10 subjects x 5 exercises) for total inward leakage shall be not greater than:
25% for FFP1, 11% for FFP2, 5% for FFP3

and, in addition, at least 8 out of the 10 individual wearer arithmetic means for the total inward leakage shall be not greater than
22% for FFP1, 8% for FFP2, 2% for FFP3

Note6: FFP2 respirator. Test results are shown in Annex A Table 7.9.1-A&B.

7.9.2 Penetration of filter material **Pass[7]**

The penetration of the filter of the particle filtering half mask shall meet the requirements of Table 1.

	Sodium chloride test 95 l/min	Paraffin oil test 95 l/min
FFP1	≤20%	≤20%
FFP2	≤6%	≤6%

Testbericht

FFP3	≤1%	≤1%

Note7: FFP2 respirator. Test results are shown in Annex A Table 7.9.2.

7.10 Compatibility with skin **Pass[8]**

Materials that may come into contact with the wearer's skin shall not be known to be likely to cause irritation or any other adverse effect to health.

Note8: No irritation or any other adverse effect to health.

7.11 Flammability **Pass[9]**

When tested, the particle filtering half mask shall not burn or not to continue to burn for more than 5 s after removal from the flame.

Note9: Test results are shown in Annex A Table 7.11.

7.12 Carbon dioxide content of the inhalation air **Pass[10]**

The carbon dioxide content of the inhalation air (dead space) shall not exceed an average of 1,0 % (by volume)

Note10: Test results are shown in Annex A Table 7.12.

7.13 Head harness **Pass[11]**

The head harness shall be designed so that the particle filtering half mask can be donned and removed easily. The head harness shall be adjustable or self-adjusting and shall be sufficiently robust to hold the particle filtering half mask firmly in position and be capable of maintaining total inward leakage requirements for the device.

Note11: Head harness can be donned and removed easily, adjustable or self-adjusting and have sufficiently robust to hold the particle filtering half mask firmly.

7.14 Field of vision **Pass[12]**

The field of vision is acceptable if determined so in practical performance tests.

Note12: Pass the practical performance tests.

7.15 Exhalation valve **N/A[13]**

A particle filtering half mask may have one or more exhalation valve(s), which shall function correctly in all orientations.

If an exhalation valve is provided it shall be protected against or be resistant to dirt and mechanical damage and may be shrouded or may include any other device that may be necessary for the particle filtering half mask to comply with 7.9.

Exhalation valve(s), if fitted, shall continue to operate correctly after a continuous exhalation flow of 300 l/min over a period of 30 s.

When the exhalation valve housing is attached to the faceblank, it shall withstand axially a tensile force of 10 N applied for 10 s.

Note13: No exhalation valve.

7.16 Breathing resistance **Pass[14]**

Classification	Maximum permitted resistance (mbar)		
	Inhalation		Exhalation
	30 l/min	95 l/min	160 l/min
FFP1	0.6	2.1	3.0
FFP2	0.7	2.4	3.0
FFP3	1.0	3.0	3.0

Note14: FFP2 respirator. Test results are shown in Annex A Table 7.16.

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7.17 Clogging **N/A[15]**

7.17.2 Breathing resistance

Valved particle filtering half masks:
After clogging the inhalation resistances shall not exceed:
FFP1: 4 mbar, FFP2: 5 mbar, FFP3: 7 mbar at 95L/min continuous flow
The exhalation resistance shall not exceed 3 mbar at 160 L/min continuous flow

Valveless particle filtering half masks
After clogging the inhalation and exhalation resistances shall not exceed:
FFP1: 3 mbar, FFP2: 4 mbar, FFP3: 5 mbar at 95L/min continuous flow

7.17.3 Penetration of filter material

	Sodium chloride test 95 l/min	Paraffin oil test 95 l/min
FFP1	≤20%	≤20%
FFP2	≤6%	≤6%
FFP3	≤1%	≤1%

Note15: Single shift use only.

7.18 Demountable parts **N/A[16]**

All demountable parts (if fitted) shall be readily connected and secured, where possible by hand
Note16: No demountable parts.

9 Marking **Not tested**

9.1 Packaging

The following information shall be clearly and durably marked on the smallest commercially available packaging or legible through it if the packaging is transparent.

9.1.1 The name, trademark or other means of identification of the manufacturer or supplier.
9.1.2 Type-identifying marking.
9.1.3 Classification
The appropriate class (FFP1, FFP2 or FFP3) followed by a single space and then: "NR" if the particle filtering half mask is limited to single shift use only. Example: FFP3 NR, or "R" if the particle filtering half mask is re-usable. Example: FFP2 R D.
9.1.4 The number and year of publication of this European Standard.
9.1.5 At least the year of end of shelf life. The end of shelf life may be informed by a pictogram as shown in Figure 12a, where yyyy/mm indicates the year and month.
9.1.6 The sentence 'see information supplied by the manufacturer', at least in the official language(s) of the country of destination, or by using the pictogram as shown in Figure 12b.
9.1.7 The manufacturer's recommended conditions of storage (at least the temperature and humidity) or equivalent pictogram, as shown in Figures 12c and 12d.
9.1.8 The packaging of those particle filtering half masks passing the dolomite clogging test shall be additionally marked with the letter "D". This letter shall follow the classification marking preceded by a single space.

9.2 Particle filtering half mask

Particle filtering half masks complying with this European Standard shall be clearly and durably marked with the following:

9.2.1 The name, trademark or other means of identification of the manufacturer or supplier.
9.2.2 Type-identifying marking.

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9.2.3 The number and year of publication of this European Standard.

9.2.4 Classification

The appropriate class (FFP1, FFP2 or FFP3) followed by a single space and then: "NR" if the particle filtering half mask is limited to single shift use only. Example: FFP3 NR, or "R" if the particle filtering half mask is re-usable. Example: FFP2 R D.

9.2.5 If appropriate the letter D (dolomite) in accordance with clogging performance. This letter shall follow the classification marking preceded by a single space

9.2.6 Sub-assemblies and components with considerable bearing on safety shall be marked so that they can be identified.

End of Test Results

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Annex A: Summarization of Test Data

Table 7.9.1-A Inward leakage test data

Test specification: EN 149-2001 Clause 8.5

Subject	Sample No.	Condition	Walk(%)	Head Side/side(%)	Head up/down(%)	Talk(%)	Walk(%)	Mean(%)
Yi	1	A.R.	6.61	6.77	6.78	6.84	6.73	6.7
Gong	2	A.R.	6.84	6.94	6.93	6.91	6.87	6.9
Yu	3	A.R.	5.53	5.71	5.82	5.85	5.79	5.7
Zhi	4	A.R.	5.48	5.65	5.66	5.76	5.66	5.6
Fang	5	A.R.	5.72	5.82	5.85	5.82	5.72	5.8
Hu	6	T.C.	6.77	6.86	6.91	6.98	6.95	6.9
Xu	7	T.C.	6.89	6.88	6.99	6.97	6.81	6.9
Deng	8	T.C.	6.76	6.83	6.87	6.88	6.74	6.8
Zhang	9	T.C.	6.82	6.94	6.93	6.92	6.87	6.9
Liu	10	T.C.	6.45	6.51	6.54	6.61	6.87	6.5
50 out of the 50 individual exercise results ≤ 11 % 10 of the 10 individual arithmetic means ≤ 8 %					Pass			

Table 7.9.1-B Facial dimension

Subject	Face length	Face Width	Face Depth	Mouth Width
Yi	120	130	109	59
Gong	122	140	115	65
Yu	119	160	139	55
Hu	112	122	119	63
Xu	110	130	118	60
Deng	115	119	110	59
Zhang	112	123	113	55
Liu	103	130	100	50
Zhi	118	139	130	63
Fang	115	129	120	50

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Table -7.9.2 Penetration of filter material

Test specification: EN 149-2001 Clause 8.11

Aerosol	Condition	Sample No.	Penetration (%)	Assessment
Sodium chloride test	As received	11	2.81	Pass
		12	2.94	
		13	2.87	
	Simulated wearing treatment	14	2.89	
		15	3.16	
		16	3.02	
	Mechanical strength+ Temperature conditioned	17	2.75	
		18	3.14	
		19	3.13	
Paraffin oil test	As received	20	4.77	
		21	4.84	
		22	4.81	
	Simulated wearing treatment	23	5.25	
		24	4.92	
		25	4.86	
	Mechanical strength+ Temperature conditioned	26	4.99	
		27	5.37	
		28	5.31	
Flow conditioning: Single filter: 95.0 L/min				

Table 7.11 Flammability

Test specification: EN 149-2001 Clause 8.6

Condition	Sample No.	Result	Assessment
As received	29	Burn for 2 s	Pass
	30	Burn for 2 s	
Temperature conditioned	31	Burn for 3 s	
	32	Burn for 2 s	

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Table 7.12 Carbon dioxide content of the inhalation air

Test specification: EN 149-2001 Clause 8.7

Condition	Sample No.	Result		Assessment
As received	33	0.42%	Mean value 0.4%	Pass
	34	0.43%		
	35	0.42%		

Table 7.16 Breathing resistance (mbar)

Test specification: EN 149-2001 Clause 8.9

As received	Flow rate		36					37					38							
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E			
	Inhalation	30 l/min	0.4	0.5	0.5	0.4	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5			
		95 l/min	1.5	1.6	1.6	1.5	1.5	1.6	1.6	1.5	1.5	1.6	1.6	1.5	1.5	1.5	1.6			
	Exhalation	160 l/min	1.4	1.5	1.4	1.4	1.5	1.5	1.4	1.4	1.5	1.4	1.5	1.4	1.4	1.4	1.4			
Simulated wearing treatment	Flow rate		39					40					41							
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E			
	Inhalation	30 l/min	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.4			
		95 l/min	1.5	1.6	1.6	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5			
	Exhalation	160 l/min	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.4			
Temperature conditioned	Flow rate		42					43					44							
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E			
	Inhalation	30 l/min	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5			
		95 l/min	1.5	1.6	1.6	1.5	1.5	1.6	1.5	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6			
	Exhalation	160 l/min	1.4	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4			
Flow conditioned	Flow rate		45					46					47							
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E			
	Inhalation	30 l/min	0.5	0.5	0.4	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.4	0.5	0.5	0.5	0.5			
		95 l/min	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.6			
	Exhalation	160 l/min	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.4	1.4			
Assessment	Pass																			

A: facing directly ahead; B: facing vertically upwards; C: facing vertically downwards; D: lying on the left side; E: lying on the right side

End of Annex A

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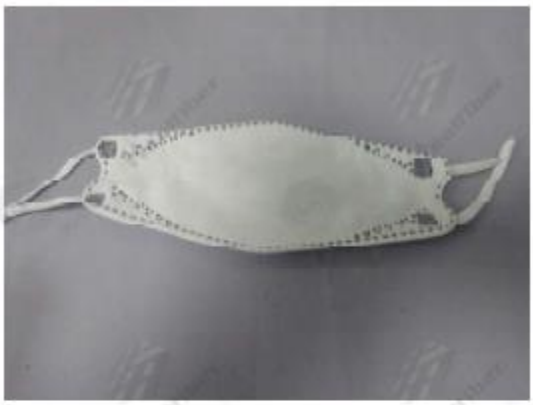
ANNEX B PHOTOS OF SAMPLES



End of Annex B