

Hardline Laboratory

Report No. : HLB0306/2020

Page : 1 of 6

Date : DEC. 11, 2020

SHUO TING PRECISION IND., CO., LTD. (Second Factory)

40743 No. 83, Sec. 1, Changan Rd., Xitun Dist., Taichung City 407, Taiwan

The following merchandise was submitted and identified by the applicant as:

Product Description: Medical Face Mask

We have tested the submitted sample(s) as requested and the following results were obtained:

Test Requested:

1. ASTM F2101:2019
2. ASTM F2299:2017
3. EN 14683:2019 Annex C
4. ASTM F1862/F1862M-17
5. 16 CFR Part 1610

Test Method & Result: ---See following sheet(s)---

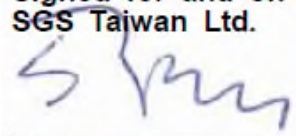
Date of Receipt: NOV. 16, 2020

Testing Period: NOV. 16, 2020 ~ DEC. 11, 2020

Note:

1. The EN 14683:2019 Annex C, ASTM F1862/F1862M-17 and 16 CFR Part 1610 tests were performed by O.S.H. CO., LTD. Respirator Test Center.
2. The ASTM F2101:2019 and ASTM F2299:2017 tests were performed by SGS Hong Kong Ltd.

Signed for and on behalf of
SGS Taiwan Ltd.


Sturm Su
Asst. Manager



Test Method & Result:

1. ASTM F2101:2019

Test Item : Bacterial Filtration Efficiency

Test Side : Side without strips (Inside)

Pre-Conditioning : Minimum of 4 hours at (21±5) °C and (85±5) % R.H.

Dimensions of test specimen : 176 mm x 97 mm

BFE Test Area : 49 cm²

BFE Flow Rate : 28.3 l/min

Test Bacteria : *Staphylococcus aureus* ATCC 6538

Mean Particle Size : 2.8 µm

Positive Control Average : 2.2 x 10³ CFU

Negative Monitor Count : < 1 CFU

Sample Model: T32020310793SN

Test Specimen	Percent BFE (%)
1	99.6
2	99.6
3	99.5
4	99.6
5	99.7

Note : Plate count total for each stage can be provided upon request.

2. ASTM F2299:2017:

Test Item : Particulate Filtration Efficiency

Test Side : Side with strips (Outside)

Pre-Conditioning : Minimum of 4 hours at (21±3) °C and (30-50±5) % R.H.

Test Condition : (21±3) °C and (50±5) % R.H.

Test Area : 41.61 cm²

Face Velocity : 18.18 cm/s

Particle Size : 0.1 µm

Average Filtration Efficiency : 98.78%

Standard Deviation : 0.15

Sample Model: T32020310793SN

Test Specimen	Pressure Drop (inH ₂ O)	Test Article Counts	Average Control Counts	Filtration Efficiency (%)
1	0.465	1662	146485	98.87
2	0.476	1647	126852	98.70
3	0.380	1194	106428	98.88
4	0.467	1641	113893	98.56
5	0.495	1290	117959	98.91

Note : The procedure incorporated a non-neutralized challenge. The non-neutralized aerosol is also specified in the FDA guidance document on surgical face masks.

3. EN 14683:2019 Annex C:

Test Methods	Test Item	Test Results (mm H ₂ O/cm ²)	Test Results (Pa/cm ²)
1. Testing Sample Number: 5 2. Test Flow Rate : 8.05 Liter/min 3. Pre-Conditioning: Minimum of 4 hours at (21±5) °C and (85±5) % relative humidity. 4. Sample Model: AEP-1091119001	Differential pressure	01	44.88
		02	43.51
		03	44.69
		04	40.38
		05	46.65
		Avg.	44.02

4. ASTM F1862/F1862M-17:

Test Methods	Test Item	Test Article Number	Synthetic Blood Penetration
1. Testing Sample Number : 32 2. Test Side : Outside 3. Pre-Conditioning : Minimum of 4 hours at (21±5) °C and (85±5) % relative humidity (RH) 4. Test Conditions : 26.2 °C and 40.4% RH 5. Sample Model: SBP-1091119001	Synthetic Blood Penetration Resistance	80 mmHg (10.7 kPa) (As per client requested)	01-06 · 09 · 11-32 None Seen
			07-08 · 10 Yes

5. 16 CFR Part 1610:

Test Methods	Test Item	Test Results	
1. 16 CFR Part 1610 Step 1 : Testing in the original state. Step 2 : Refurbishing and testing after refurbishing, was not performed. 2. This 16 CFR Part 1610 standard specifies that 10 replicates are to be tested it, during preliminary testing, only 1 test article exhibits flame spread and it is less than 3.5 seconds or the test articles exhibit an average flame spread less than 3.5 seconds. Five replicates are to be tested if no flame spread is observed upon preliminary testing, if only 1 test article exhibits flame spread and it is equal to or greater than 3.5 seconds, or if the average flame spread is equal to or greater than 3.5 seconds. In accordance with the standard, 5 replicates were tested for this study. 3. Testing Sample Number : 5 4. Sample Model: TFT-1091119001	Flammability of Textiles (s)	01	DNI
		02	DNI
		03	DNI
		04	DNI
		05	DNI

Note :

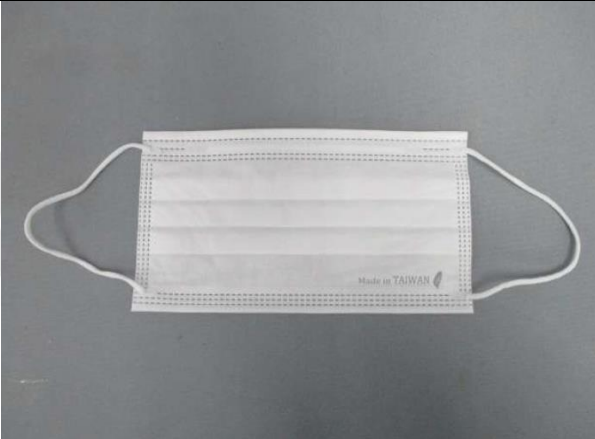
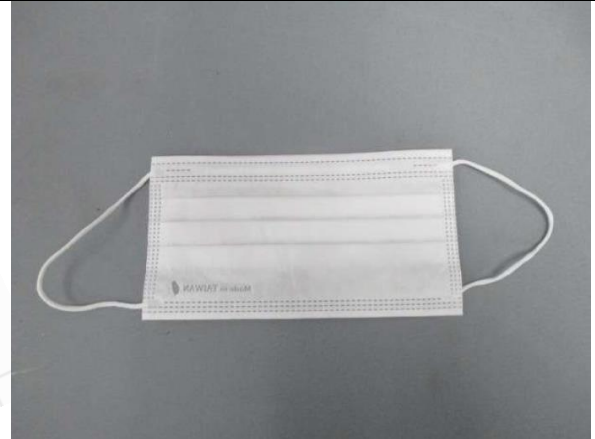



1. This test report is the test result issued by the testing institution as requested by the consignor.
2. DNI = Test Article did not ignite
3. Test Criteria for Specimen Classification (See 16 CFR Part 1610.7):

Class	Plain Surface Textile Fabric
1	Burn time \geq 3.5 seconds
2	Not applicable to plain surface textile fabrics
3	Burn time <3.5 seconds

Note :

1. The test report merely reflects the test results of the consigned matters of the client and is not a certification.
2. The content of this report is invalid if it is not presented as the entire report.

– Picture(s) –

	
<p>Photo A: Appearance of the sample - T32020310793SN</p>	<p>Photo B: Appearance of the sample - T32020310793SN</p>
	
<p>Photo C: Appearance of the sample - AEP-1091119001</p>	<p>Photo D: Appearance of the sample - SBP-1091119001</p>
	<p>---</p>
<p>Photo E: Appearance of the sample - TFT-1091119001</p>	<p>---</p>

---End of Report---

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.tw/Terms-and-Conditions> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. 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 instruction, if any. The Company's sole responsibility 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.