



# CMA Testing and Certification Laboratories

廠商會檢定中心

## TEST REPORT

Report No : AZ0020580(4)

Date: 08 Jun 2020

Application No : LZ008706(0)

Applicant : HERALD DATANETICS LIMITED  
UNIT 1028, 10F, ONE ISLAND SOUTH  
2 HEUNG YIP ROAD,  
WONG CHUK HANG,  
HONG KONG

Factory : 珠海新利磁头公司  
ZHUHAI HERALD DATANETICS LIMITED  
BUILDING #2, NO.1 PINGXI ROAD 6,  
NANPING SCIENCE AND TECHNOLOGY INDUSTRIAL PARK,  
ZHUHAI, GUANGDONG

Sample Description : One (1) submitted mask sample(s) stated to be:  
Item Name : Single-use medical face mask (adult use)  
Brand Name : 新利康 ZHDL  
Model No. : HD0969

Date Received : 22 Apr 2020.

Test Period : 22 Apr 2020 to 04 Jun 2020.

Test Requested : Test Item

Result

Test in accordance with ASTM F2100-19 Standard Specification for Performance of Materials Used in Medical Face Masks – Level I

- Bacterial Filtration Efficiency (BFE)
- Differential Pressure Test (mmH<sub>2</sub>O/cm<sup>2</sup>)
- Particle Filtration Efficiency (0.1 μm PSL)
- Synthetic Blood Penetration Resistance
- Flame spread

Passed  
Passed  
Passed  
Passed  
Passed

Test Details : Refer to the pages for details.

For and on behalf of  
CMA Industrial Development Foundation Limited

Authorized Signature : \_\_\_\_\_

Tin Chun Shing  
Assistant Manager

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Test Details :

ASTM F2100-19 Standard Specification for Performance of Materials Used in Medical Face Masks

No.	Test Item	Test Method	Applicant's Requirement	Test Result	
1	Bacterial Filtration Efficiency (BFE) Staphylococcus aureus ATCC 6538	ASTM F2100-2019, 9.1 ASTM F2101-2019 (See Note 1 and Remark 2)	≥ 95%	<u>Trial</u> 1 2 3 4 5	<u>%</u> 99.64 99.70 99.70 99.52 99.52
2	Differential Pressure Test (mmH <sub>2</sub> O/cm <sup>2</sup> )	ASTM F2100-2019, 9.2 EN 14683 : 2019 Annex C (See Note 2 and Remark 3)	< 5.0 mmH <sub>2</sub> O/cm <sup>2</sup>	<u>Trial</u> 1 2 3 4 5	<u>mmH<sub>2</sub>O/cm<sup>2</sup></u> 2.7 2.7 2.7 2.7 2.7
3	Particle Filtration Efficiency (0.1µm PSL)	ASTM F2100-2019, 9.3 ASTM F2299-2003(2017) Flow rate : 28.1 (Liter/min) (See Remark 4)	≥ 95%	<u>Trial</u> 1 2 3 4 5 Average :	<u>%</u> 96.02 95.99 95.72 95.93 95.86 95.90



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No.	Test Item	Test Method	Applicant's Requirement	Test Result	
4	Synthetic Blood Penetration Resistance	ASTM F2100-2019, 9.4 ASTM F1862-2017 (32 specimens) Pressure: 80 mmHg (See Remark 5 and 6)	29 or more of the 32 tested specimens show "None Seen"	<u>Trial</u>	<u>Result</u>
				1	None Seen
				2	None Seen
				3	None Seen
				4	None Seen
				5	None Seen
				6	None Seen
				7	None Seen
				8	None Seen
				9	None Seen
				10	None Seen
				11	None Seen
				12	None Seen
				13	None Seen
				14	None Seen
				15	None Seen
				16	None Seen
				17	None Seen
				18	None Seen
				19	None Seen
				20	None Seen
				21	None Seen
				22	None Seen
				23	None Seen
				24	None Seen
				25	None Seen
				26	None Seen
				27	None Seen
				28	None Seen
				29	None Seen
				30	None Seen
				31	None Seen
32	None Seen				
5	Flame spread	ASTM F2100-2019, 9.5 US CPSC 16 CFR Part 1610 (See Remark 7)	Class 1	Class 1  (See Note 3)	



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Test Details :

Note : (1) Control average : 1657 CFU  
Mean particle size : 3.0 µm

(2) Differential Pressure takes 5 masks for testing

(3) Before drycleaning and washing

<u>Burning Time (seconds)</u>	<u>Code</u>
Nil	DNI

Remark : (1) Notation :

% denotes Percentage  
CFU denotes Colony Forming Unit  
PFU denotes Plaques Forming Unit  
µm denotes Micrometer  
cm<sup>2</sup> denotes Square Centimeter  
Liter/min denotes Liter per Minute  
mmH<sub>2</sub>O/cm<sup>2</sup> denotes Water pressure level in Millimeter per square Centimeter  
1 mmH<sub>2</sub>O = 9.8Pa  
mm Hg denotes Mercury pressure level in Millimeter  
DNI denotes Did Not Ignite

(2) Bacterial filtration efficiency requirement stated in ASTM F2100-2019 :  
≥ 95% for Level 1  
≥ 98% for Level 2  
≥ 98% for Level 3

(3) Differential Pressure requirement stated in ASTM F2100-2019 :  
< 5.0 mmH<sub>2</sub>O/cm<sup>2</sup> for Level 1  
< 6.0 mmH<sub>2</sub>O/cm<sup>2</sup> for Level 2  
< 6.0 mmH<sub>2</sub>O/cm<sup>2</sup> for Level 3

(4) Sub-micron particulate filtration efficiency at 0.1 micron requirement stated in ASTM F2100-2019 :  
≥ 95% for Level 1  
≥ 98% for Level 2  
≥ 98% for Level 3

(5) Resistance to penetration by synthetic blood, minimum pressure in mm Hg requirement stated in ASTM F2100-2019 :  
≥ 80 for Level 1  
≥ 120 for Level 2  
≥ 160 for Level 3

(6) Resistance to penetration by synthetic blood, an acceptable quality limit of 4.0 % is met for a single sampling plan when 29 or more of the 32 tested specimens show pass results.

(7) Flame spread requirement stated in ASTM F2100-2019 :  
Class 1 for Level 1, 2 and 3





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### Appendix



\*\*\*\*\* End of Report \*\*\*\*\*