

☎: 0751- 2341960, 2343972
2390160, 2390211
Fax: 0751-2341148
E-Mail: director@drde.drdo.in



भारत सरकार, रक्षा मंत्रालय
Govt. of India, Ministry of Defence
रक्षा अनुसंधान एवं विकास स्थापना (डी.आर.डी.ई.)
Defence R&D Establishment (DRDE)
झांसी मार्ग, ग्वालियर - 474002 (म.प्र.)
Jhansi Road, Gwalior- 474 002 (M.P.)

No. DRDE/MASK/2020

By email

Date: 05 August 2020

To
M/s. MediMax Safety and Lifesciences Products LLP
4th Floor, Medi Max India Pvt. Ltd., Ashram Road, Ahmedabad-380006, Gujarat, India
e-mail: akj@medimaxindia.com

Sub: BER-Test report of N-95 mask with exhalation valve (GSM of total 5 layers: 160 GSM).

Ref: Your letter No. Nil dated 20 July 2020.

With reference to the above, kindly find enclosed herewith the test report (BER) of the mask samples submitted by you for testing at DRDE, Gwalior.

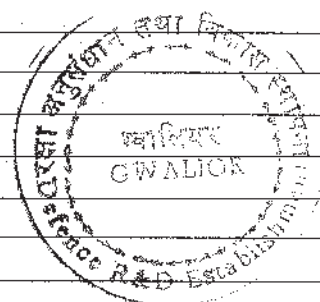
Dr. M. Boopathi
Scientist F 05/08/2020
For Director

Encl: As above (One page)



Test Report No DRDE/MASK/1701 BER
Date : 05 August 2020
Defence Research and Development Establishment (DRDE),
Govt. of India, Ministry of Defence
Jhansi Road, Gwalior-474002
Phone : 0751-2341550, Fax : 0751-2341148
Email : director@drde.drdo.in

Manufacturer / Developer	M/s. MediMax Safety and Lifesciences Products LLP, 4th Floor, Medi Max India Pvt. Ltd., Ashram Road, Ahmedabad-380006, Gujarat, India
Letter No. & date	Nil & 20 July 2020
Manufacturer's code if any	GSM of total 5 layers: 160 GSM
Category of Masks submitted	N95 with exhalation valve
DRDE sample code	PD-1701 BER
Date of receipt of sample	29 July 2020
Period of testing	29 July 2020 – 05 August 2020.
Remarks (if any)	Nil



Test Results

1. Breathing (Exhalation) Resistance with exhalation valve.

Test Method	Test Conditions	Results		Remarks
		Specified	Observed	
IS 9473:2002	As received	FFP2: 3.0 mbar (max)	1.7 mbar	Meets the requirement as specified.
	Conditioned for 24 hrs at $+70\pm3^{\circ}\text{C}$	FFP3: 3.0 mbar (max)	1.5 mbar	
	Conditioned for 24 hrs at $-30\pm3^{\circ}\text{C}$		1.5 mbar	

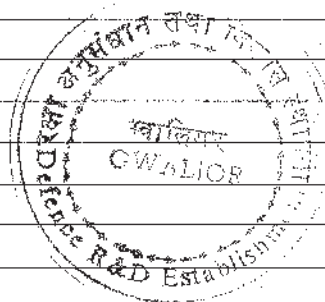
Note:

- The test results shall not be treated as an endorsement/Certification of the product. The DRDE/DRDO Logo or "Approved by DRDE/DRDO" cannot be used on product or any promotional document or otherwise.
- The test results are valid for the samples tested and the documented test conditions.
- The test report shall not to be published in any form without the written approval of the Director, DRDE in case of Commercial Testing Samples.
- Samples are not drawn by the DRDE, Gwalior. The results relate to the sample submitted by the client.
- Test report is meant for guidance and not be used for litigation.
- Remnant Sample storage up to 60 days only.



Test Report No DRDE/MASK/1698 PFE
Date : 06 August 2020
Defence Research and Development Establishment (DRDE),
Govt. of India, Ministry of Defence
Jhansi Road, Gwalior-474002
Phone : 0751-2341550, Fax : 0751-2341148
Email : director@drde.drdo.in

Manufacturer / Developer	M/s. MediMax Safety and Lifesciences Products LLP, 4th Floor, Medi Max House, Ashram Road, Ahmedabad-380006, Gujarat, India
Letter No. & date	Nil & 20 July 2020
Manufacturer's code if any	GSM of total 5 layers: 160 GSM
Category of Masks submitted	N95 without exhalation valve
DRDE sample code	PD-1698 PFE
Date of receipt of sample	29 July 2020
Period of testing	29 July 2020 – 06 August 2020.
Remarks (if any)	Nil



Test Results

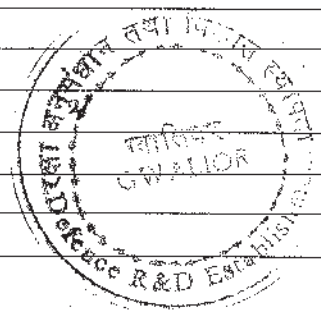
1. Particulates Filtration Efficiency (PFE) for mask without exhalation valve.

Test Method	Test Conditions	Results		Remarks
		Specified	Observed	
NaCl aerosol with laser based measurement	As received	≥ 95 %	99.72 %	Meets the requirement as specified.
	Conditioned for 24 hrs at +70±3 °C		99.69 %	
	Conditioned for 24 hrs at -30±3 °C		99.70 %	

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	Test Report No DRDE/MASK/1697 FLM Date : 05 August 2020 Defence Research and Development Establishment (DRDE), Govt. of India, Ministry of Defence Jhansi Road, Gwalior-474002 Phone : 0751-2341550, Fax : 0751-2341148 Email : director@drde.drdo.in
Manufacturer / Developer	M/s. MediMax Safety and Lifesciences Products LLP, 4th Floor, Medi Max India Pvt. Ltd., Ashram Road, Ahmedabad-380006, Gujarat, India
Letter No. & date	Nil & 20 July 2020
Manufacturer's code if any	GSM of total 5 layers: 160 GSM
Category of Masks submitted	N95 without exhalation valve
DRDE sample code	PD-1697 FLM
Date of receipt of sample	29 July 2020
Period of testing	29 July 2020 – 05 August 2020.
Remarks (if any)	Nil



Test Results

1. Flammability (FLM) without exhalation valve.

Test Method	Test Conditions	Results		Remarks
		Specified	Observed	
IS 9473:2002	As received	Sample should not burn	Did not burn	Meets the requirement as specified.
	Conditioned for 24 hrs at +70±3° C		Did not burn	
	Conditioned for 24 hrs at -30±3° C		Did not burn	

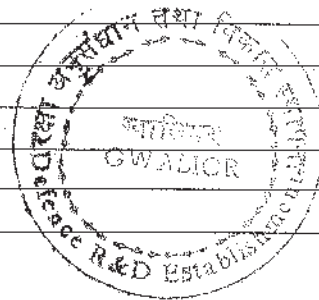
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Test Report No DRDE/MASK/1702 EVL
Date : 05 August 2020
Defence Research and Development Establishment (DRDE),
Govt. of India, Ministry of Defence
Jhansi Road, Gwalior-474002
Phone : 0751-2341550, Fax : 0751-2341148
Email : director@drde.drdo.in

Manufacturer / Developer	M/s. MediMax Safety and Lifesciences Products LLP, 4th Floor, Medi Max India Pvt. Ltd., Ashram Road, Ahmedabad-380006, Gujarat, India
Letter No. & date	Nil & 20 July 2020
Manufacturer's code if any	GSM of total 5 layers: 160 GSM
Category of Masks submitted	N95 with exhalation valve
DRDE sample code	PD-1702 EVL
Date of receipt of sample	29 July 2020
Period of testing	29 July 2020 – 05 August 2020.
Remarks (if any)	Nil



Test Results

1. Exhalation Valve Leakage (EVL) for mask with exhalation valve.

Test Method	Test Conditions	Results		Remarks
		Specified	Observed	
IS 9473:1980	As received	30 ml (max) in 60 seconds	28 ml in 60 seconds.	Meets the requirement as specified.

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Test Report No DRDE/MASK/1700 BIR
Date : 05 August 2020
Defence Research and Development Establishment (DRDE),
Govt. of India, Ministry of Defence
Jhansi Road, Gwalior-474002
Phone : 0751-2341550, Fax : 0751-2341148
Email : director@drde.drdo.in

Manufacturer / Developer	M/s. MediMax Safety and Lifesciences Products LLP, 4th Floor, Medi Max India Pvt. Ltd., Ashram Road, Ahmedabad-380006, Gujarat, India
Letter No. & date	Nil & 20 July 2020
Manufacturer's code if any	GSM of total 5 layers: 160 GSM
Category of Masks submitted	N95 without exhalation valve
DRDE sample code	PD-1700 BIR
Date of receipt of sample	29 July 2020
Period of testing	29 July 2020 – 05 August 2020.
Remarks (if any)	Nil




Test Results

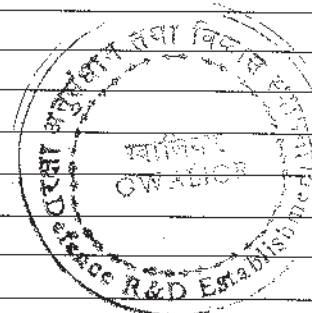
1. Breathing (Inhalation) Resistance (BIR) without exhalation valve.

Test Method	Test Conditions	Results		Remarks
		Specified	Observed	
IS 9473:2002	As received	FFP2: 2.4 mbar (max)	1.78 mbar	Meets the requirement as specified.
	Conditioned for 24 hrs at $+70\pm3^{\circ}$ C.	FFP3: 3.0 mbar (max)	1.75 mbar	
	Conditioned for 24 hrs at $-30\pm3^{\circ}$ C.		1.85 mbar	

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	Test Report No DRDE/MASK/1699 SPR Date : 05 August 2020 Defence Research and Development Establishment (DRDE), Govt. of India, Ministry of Defence Jhansi Road, Gwalior-474002 Phone : 0751-2341550, Fax : 0751-2341148 Email : director@drde.drdo.in
Manufacturer / Developer	M/s. MediMax Safety and Lifesciences Products LLP, 4th Floor, Medi Max India Pvt. Ltd., Ashram Road, Ahmedabad-380006, Gujarat, India
Letter No. & date	Nil & 20 July 2020
Manufacturer's code if any	GSM of total 5 layers: 160 GSM
Category of Masks submitted	N95 without exhalation valve
DRDE sample code	PD-1699 SPR
Date of receipt of sample	29 July 2020
Period of testing	29 July 2020 – 05 August 2020.
Remarks (if any)	Nil



Test Results

1. Splash Resistance (SPR) without exhalation valve.

Test Method	Test Conditions (Pressure)	Specified	Results		Remarks
			Target area of specimen	Observed	
ASTM F 1862/F1862M- 17	80 mmHg	No penetration	(a) Left Side (b) Right Side (c) Middle	(a) No Penetration (b) No Penetration (c) No Penetration	Meets the requirement as specified.
	120 mmHg		(a) Left Side (b) Right Side (c) Middle	(a) No Penetration (b) No Penetration (c) No Penetration	Meets the requirement as specified.
	160 mmHg		(a) Left Side (b) Right Side (c) Middle	(a) No Penetration (b) No Penetration (c) No Penetration	Meets the requirement as specified.

Note:

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