

APEX TESTING AND RESEARCH LABORATORY

9/50, Kirti Nagar, Industrial Area, New Delhi-110015
E-mail : info.apex2015@gmail.com,
apextesting.researchlab2015@gmail.com
Website : www.atrl.in, Tel. : 011-47081611, +91-8376945025
ISO 9001:2015 | ISO 14001:2015
ISO 45001:2018 Certified | Govt. Approved Lab

TEST REPORT

Issued To : M/s. Devsena Industries Private Limited
: 17, DLF Industrial Area, Basement
: Moti Nagar, New Delhi-110015
Nature of the Sample : N95/FFP2 Mask
Customer Ref. No : N.S
Brand Name : DS Devsena
Sample Drawn By : Party
Batch No. : N.S
Mfg. Date : N.S

Report /Sample No. : AS1720200625009
Date Of Receipt : 25.06.2020
Date of Issue : 29.06.2020
Test Started On : 25.06.2020
Test Completed on : 29.06.2020
Sample Quantity : 20 pcs
Sample Pkg. : N.S
Best Before Date : N.S
Model No : N.S

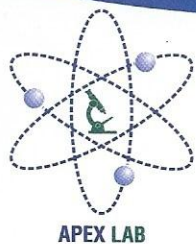
| Sr. No | Test Parameters | Unit | Test Result | Specification As per Party | Test Standard/ Test Method |
|--------|---------------------|------|---|--|-------------------------------|
| 1 | Description | - | Well fitted, non collapsible with nose pin and respiratory valve which provide good breathability | Should be well fitted, non collapsible and with good breathability | - |
| 2 | Layers | ply | 6 | 6 | Visually |
| 3 | Check for integrity | - | Complies | All Layers Stitched together no tear and gaps | Visually |
| 4 | Weight | g | 8.23 | - | By measurement |
| 5 | Layer-I | GSM | 51.85 | - | By measurement |
| 6 | Layer -II | GSM | 26.45 | - | By measurement |
| 7 | Layer- III | GSM | 59.25 | - | By Measurement |
| 8 | Layer- IV | GSM | 26.45 | - | By Measurement |
| 9 | Layer- V | GSM | 25.39 | - | By Measurement |
| 10 | Layer- VI | GSM | 25.39 | - | By Measurement |
| 11 | Absorbance test | % | 4.73 | - | By weighing |
| 12 | Water Resistance | g | Complies | ≤4.5 | AATCC-42 |

| Sr. No | Test Parameters | Unit | Test Result | Specification as per ASTM2100:2011, ASTM F1862 | Test Method |
|--------|----------------------------|-------|----------------|--|--------------|
| 1 | Splash resistance pressure | mm Hg | Complies at 80 | ≥80 mm Hg | IS16289:2014 |

| Sr. No | Test Parameters | Unit | Test Result | Specification as per EN14683 | Test Method |
|--------|-----------------|--------------------|----------------------------|------------------------------|--------------|
| 1 | Breathability | Pa/cm ² | Complies at less than 29.4 | <29.4 Pa/cm ² | IS16289:2014 |

GSM- Gram per square meter

Authorized Signatory
(New Delhi)



APEX TESTING AND RESEARCH LABORATORY

9/50, Kirti Nagar, Industrial Area, New Delhi-110015
E-mail : info.apex2015@gmail.com,
apextesting.researchlab2015@gmail.com
Website : www.atrl.in, Tel. : 011-47081611, +91-8376945025
ISO 9001:2015 | ISO 14001:2015
ISO 45001:2018 Certified | Govt. Approved Lab

Issued To : M/s. Devsena Industries Private Limited
: 17, DLF Industrial Area, Basement
: Moti Nagar, New Delhi-110015
Nature of the Sample : N95/FFP2 Mask
Customer Ref. No : N.S
Brand Name : DS Devsena
Sample Drawn By : Party
Batch No. : N.S
Mfg. Date : N.S

Report /Sample No. : AS1720200625009
Date Of Receipt : 25.06.2020
Date of Issue : 29.06.2020
Test Started On : 25.06.2020
Test Completed on : 29.06.2020
Sample Quantity : 20 pcs
Sample Pkg. : N.S
Best Before Date : N.S
Model No : N.S

| Sr. No | Test Parameters | Unit | Test Result | Specification as per NIOSH-42C FR84 | Test Method |
|--------|---------------------------------|------|-------------|-------------------------------------|---------------|
| 1. | Bacterial Filtration Efficiency | % | 97.19 | ≥95 | IS:16288:2014 |

Summary: The BFE test is performed to determine the filtration efficiency of test article compared to the bacterial counts. A suspension of Staphylococcus aureus NCIM2127 was aerosolized onto the test article at a constant flow rate. The challenged delivery is maintained at $3.5-4.4 \times 10^4$ colony forming units with mean particle size of $3.0 \mu\text{m} \pm 0.3 \mu\text{m}$. The procedure shows reproducible bacterial challenge to be delivered to the test materials.

Remarks: This sample conforms as per NIOSH-42C FR84

Note- The above report is concerned only to the samples submitted by the customer to Apex Testing and Research Laboratory. These results may not be indicative of the results of bulk lot. It is the duty of the supplier/Customer to maintain the traceability between the sample submitted for testing and the bulk lot supplied.

This report is generated to let the customer know about the quality of their product and to help them improve their product's quality.





APEX TESTING AND RESEARCH LABORATORY

9/50, Kirti Nagar, Industrial Area, New Delhi-110015
E-mail : info.apex2015@gmail.com,
apextesting.researchlab2015@gmail.com
Website : www.atrl.in, Tel. : 011-47081611, +91-8376945025
ISO 9001:2015 | ISO 14001:2015
ISO 45001:2018 Certified | Govt. Approved Lab

Qualitative Test: Relies on the wearer's ability to taste or smell a test agent
(Reference: IS: 9473:2002, EN149 & NIOSH Guidelines)

Report No: AS1720200625009

Date: 27.06.2020

Sample Name: N95/FFP2 Mask

Combined results of five participants:

Name of participants:

- A. Ashish Kant Jain
- B. Geetanjali
- C. Varun Sharma
- D. Neha Bhardwaj
- E. Kishanjeet

| Duration of Test: 10 minutes | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|--|-------------------------|---|---|---|---|-------------------------|---|---|---|---|---------------------------------|---|---|---|---|---------------|---|---|---|---|---------------|---|---|---|---|
| Test Agent: Sodium chloride aerosol | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S. No | Activities to perform by participant for 60 seconds after injecting aerosol | Able to inhale properly | | | | | Able to exhale properly | | | | | Feel irritation in nose/ Sneeze | | | | | Smell aerosol | | | | | Taste aerosol | | | | |
| | Participants Name Code | A | B | C | D | E | A | B | C | D | E | A | B | C | D | E | A | B | C | D | E | A | B | C | D | E |
| 1. | Normal breathing | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | N | N | Y | N | N | N | N | N | N | N | N | N | N | N |
| 2. | Deep breathing | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | N | N | N | N | N | N | Y | N | N | N | N | N | N | N |
| 3. | Stand fixed in a place and move head side to side, between the extreme positions of each side | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | N | N | N | N | N | N | N | N | N | Y | N | N | N | N |
| 4. | Move head up and down | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | N | Y | N | N | N | N | N | N | N | N | N | N | N | Y |
| 5. | Recite counting 1 to 100 and backwards slowly and loudly so that it could be heard by test conductor | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | N | N | N | N | N | N | N | N | N | N | Y | N | N |
| 6. | Bend and touch your feet 10 times and then jog at your place | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | N | N | N | N | N | N | N | N | N | N | N | N | Y | N |
| 7. | Breathe normally | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | N | N | N | N | N | Y | N | N | N | N | N | N | N | N |

Points we consider while selecting the participants for test.

- I. Participants did not smoke, eat, or drink (except water) at least 20 minutes prior to test.
- II. Participants were clean-shaved i.e had not have facial hair.
- III. Participants were medically fit and had no respiratory problem.

Conclusion: For qualitative test 5 participants were chosen and they were asked to perform some activities for 60 seconds each. After studying their collective response, we can conclude that the sample doesn't allow the aerosol to pass through it in the amount that could hinder the inhalation and exhalation process of participant.

Remarks: The results of qualitative testing show that the sample provides good breathability and protection against aerosol particles.

