



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
Report /Sample No. : AS1720200517001
Date Of Receipt : 17.05.2020
Date of Issue : 18.05.2020
Nature of the Sample : KN95/FFP2 (GB2626-2006) 5 layer with meltblown
Test Started On : 17.05.2020
Customer Ref. No : N.S
Test Completed on : 18.05.2020
Brand Name : N.S
Sample Quantity : 25 pcs
Sample Drawn By : Party
Sample Pkg. : N.S
Batch No. : N.S
Best Before Date : N.S
Mfg. Date : N.S
Any Other Information : N.S

| Sr. No | Test Parameters | Unit | Test Result | Specification As per Party | Test Standard/ Test Method |
|--------|----------------------------|-------|--|--|-------------------------------------|
| 1 | Description | - | Well fitted, non collapsible and with respiratory valve & provide good breathability | Should be well fitted, non collapsible and with good breathability | - |
| 2 | Layers | ply | 5 | 5 | Visually |
| 3 | Check for integrity | - | Complies | All Layers Stitched together no tear and | Visually |
| 4 | Weight | g | 9.40 | - | By measurement |
| 5 | Layer-I | GSM | 47.02 | - | By measurement |
| 6 | Layer -II | GSM | 46.18 | - | By measurement |
| 7 | Layer- III | GSM | 45.39 | - | By Measurement |
| 8 | Layer- IV | GSM | 26.31 | - | By Measurement |
| 9 | Layer- V | GSM | 26.31 | - | By Measurement |
| 10 | Absorbance test | % | 16.70 | - | By weighing |
| 11 | Breathability | - | Complies | To comply | By Applying Pressure |
| 12 | Splash resistance pressure | mm Hg | Complies | To comply | By applying pressure & IS16289:2014 |

GSM- Gram per square meter





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Test Completed on : 18.05.2020
Sample Quantity : 25 pcs
Sample Pkg. : N.S
Best Before Date : N.S
Any Other Information : N.S

| Sr. No | Test Parameters | Unit | Test Result | Specification as per GB-2626-2006 | Test Method |
|--------|---------------------------------|------|-------------|-----------------------------------|---------------|
| 1. | Bacterial Filtration Efficiency | % | 99.3 | ≥95 | IS:16288:2014 |

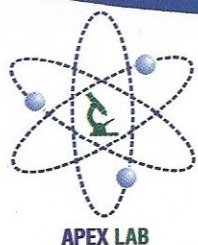
Summary: The BFE test is performed to determine the filtration efficiency of test article compared to the bacterial counts. A suspension of Staphylococcus aureus NCIM2127 was aerosolized onto the test article at a constant flow rate. The challenged delivery is maintained at $3.4-4.5 \times 10^4$ colony 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 GB-2626-2006

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





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Qualitative Test: Relies on the wearer's ability to taste or smell a test agent

Report No: AS1720200517001

Date: 17.05.2020

Sample Name: KN95/FFP2 (GB2626-2006) 5 layer with meltblown

Combined results of five participants:

Name of participants:

- A. Dr. Ashish Kant Jain
- B. Geetanjali
- C. Neha Bhardwaj
- D. Vikram Yadav
- E. Varun Sharma

| 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 | N | 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 | N | 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 | N | N | N | N | N |
| 4. | Move head up and down | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| 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 | N | N | N | N | N | N | N | N | N | N | N | N | 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 | N | N |
| 7. | Breathe normally | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | N | N | N | N | N | N | 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.

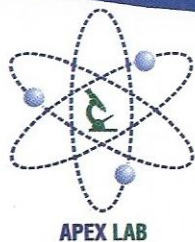
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****End of Report****

Authorized Signatory



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TEST REPORT

Issued To : M/s. Devsena Industries Private Limited
: 17, DLF Industrial Area, Basement
: Moti Nagar, New Delhi-110015
Nature of the Sample : 3 Ply Surgical Mask with Nosepin (SMS)
Customer Ref. No : N.S
Brand Name : N.S
Sample Drawn By : Party
Batch No. : N.S
Mfg. Date : N.S

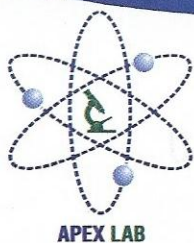
Report /Sample No. : AS1720200517002
Date Of Receipt : 17.05.2020
Date of Issue : 18.05.2020
Test Started On : 17.05.2020
Test Completed on : 18.05.2020
Sample Quantity : 25 pcs
Sample Pkg. : N.S
Best Before Date : N.S
Any Other Information : N.S

| Sr. No | Test Parameters | Test Method | Unit | Test Result | ASTM-F2100:2011 & EN:14683:2014 ASTM Level 2 Mask |
|--------|---|------------------------------------|------|--|---|
| 1. | Descriptions | ASTM F2100: 2011/ IS:16289:2014 | - | Medical mask, good breathability internal and external faces is clearly indentified | Medical mask, good breathability internal and external faces should be clearly indentified |
| 2. | Submicron Particle Filtration @ 0.1 micron | IS:16289:2014 Annexure E | % | 98.2 | ≥98 |
| 3. | Flame Spread | 16 CFR Part 1610 | - | Class 1 | Class 1 |



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Issued To : M/s. Devsena Industries Private Limited
: 17, DLF Industrial Area, Basement
: Moti Nagar, New Delhi-110015
Nature of the Sample : 3 Ply Surgical Mask with Nosepin (SMS)
Customer Ref. No : N.S
Brand Name : N.S
Sample Drawn By : Party
Batch No. : N.S
Mfg. Date : N.S

Report /Sample No. : AS1720200517002
Date Of Receipt : 17.05.2020
Date of Issue : 18.05.2020
Test Started On : 17.05.2020
Test Completed on : 18.05.2020
Sample Quantity : 25 pcs
Sample Pkg. : N.S
Best Before Date : N.S
Any Other Information : N.S

| Sr. No | Test Parameters | Test Method | Unit | Test Result | ASTM-F2100:2011 & EN:14683:2014 ASTM Level 2 Mask |
|--------|---------------------------------|---------------|------|-------------|---|
| 1. | Bacterial Filtration Efficiency | IS:16288:2014 | % | 98.6 | ≥98 |

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 $3.4-4.5 \times 10^4$ 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. This method complies with ASTM F2100-11 & EN: 14683:2014.

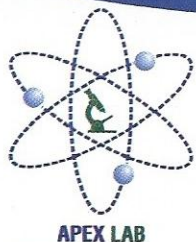
Remarks: This sample conforms as per ASTM-F2100-11 & EN-14683:2014.



****End of Report****

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Mfg. Date : N.S

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Sample Quantity : 25 pcs
Sample Pkg. : N.S
Best Before Date : N.S
Any Other Information : N.S

| Sr. No | Test Parameters | Unit | Test Result | Specification EN 14683, ASTM F1862, As per Party |
|--------|----------------------------|------------------------|-------------|--|
| 1 | Type | ply | 3 | 2 or 3 |
| 2 | Check for integrity | - | Complies | All Layers Stitched together no tear and no gaps |
| 3 | Outer layer | GSM | 20.42 | PP spunbond, 20±5% |
| 4 | Filter layer | GSM | 25.07 | Meltblown, 25±5% |
| 5 | Inner layer | GSM | 17.73 | PP spunbond, 20±5% |
| 6 | Width | mm | 174 | 175 ±5% |
| 7 | Height | mm | 94 | 95 ±5% |
| 8 | Weight | g | 2.59 | 3g ±5% |
| 9 | Absorbance test | % | 13.13 | - |
| 10 | Residue on exportation | mg | 2.69 | NMT 5 |
| 11 | Test Acidity or alkalinity | - | Complies | NMT/ml of 0.001M HCl/NaOH |
| 12 | Reducing (oxidizable) test | - | Complies | NMT 2ml of 0.002M KMnO ₄ |
| 13 | Breathing resistance | Pascal/cm ² | Complies | NMT 49 |
| 14 | Splash resistance pressure | mm Hg | Complies | NLT 120 |

Remarks: This sample conforms as per EN-14683, ASTM F1862 w.r.t above test parameter.

NLT- Not less than, NMT- Not more than, M- Molarity, GSM- Gram per square meter

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(Chemical)

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