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**Applicant:** O+PLUS FRANCE  
**Contact Person:** [REDACTED]  
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**Sample ID:** COLOUR:MULTI COLOUR MASK

|   | TEST   | METHOD               | SPECIMEN          | RESULT      |
|---|--|----------------------|-------------------|-------------|
| * | Respiratory protective devices -<br>Filtering half masks to protect<br>against particles - Requirements,<br>testing, marking | EN 149:2001 +A1:2009 | FFP3 MASK AP-1602 | <b>PASS</b> |



Seal



Customer Representative  
Merve Nur KIRVELİ



Laboratory Manager  
Merve ÖZLÜ

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### Environment

The requirements and standards apply to equipment intended for use in

|   |   |
|---|---|
| X | Residential (domestic) environment          |
| X | Commercial and light-industrial environment |
| X | Industrial environment                      |
| X | Medical environment                         |



**EN 149:2001 +A1:2009 Inspection Test Report**

This European Standard specifies minimum requirements for filtering half masks as respiratory protective devices to protect against particles except for escape purposes.

**TEST RESULTS****SAMPLE : FFP3 MASK AP-1602**

| EN 149 | Standards                    | Test  | Results | General Evaluation |
|--------|------------------------------|---|---------|--------------------|
| 7.2    | Rated values and tolerances  | 21 °C ( ± 1 °C )<br>All test performed,<br>temperature limits are the<br>same.  |         |                    |
| 7.4    | Packaging                    | After visual inspection, it is<br>packaged to be protected from<br>mechanical damage and<br>contamination before use.   |         |                    |
| 7.5    | Material                     | Three particle filter half masks<br>were tested. As a result of visual<br>inspection,<br>a) 24 hours in a dry atmosphere<br>(70 ± 3) ° C,<br>b) 24 hours at (-30 ± 3) ° C<br>There was no mechanical<br>damage to the protective part or<br>ties.<br>No distortion in the mask.<br>The mask does not pose any<br>danger to the user.<br>and it does not bother. | PASS    |                    |
| 7.6    | Cleaning and<br>disinfecting | The mask is resistant to cleaning<br>and disinfection agents and<br>processes specified by the<br>manufacturer.<br>General Performance<br>a) Comfort of the head strap,<br>b) Safety of the connections,<br>c) Field of view,<br>d) Other comments of the user<br>reported on request.  |         |                    |



|   |                                |   |             |      |      |     |      |
|---|--------------------------------|---|-------------|------|------|-----|------|
|   |                                | <p>Walking Experiment</p> <p>There is no discomfort and damage at the end of a 10 min walk test with a speed of 6 km / h.</p> <p>After cleaning and disinfection, the same results were obtained with the values in 7.9.2.</p>        |             |      |      |     |      |
| 7.7   | Practical performance          | Comfort of the head strap   | Appropriate |      |      |     | PASS |
|   |                                | Safety of the connections   | Appropriate |      |      |     |      |
|   |                                | Field of view   | Appropriate |      |      |     |      |
| <7.9.1  | Leakage                        | The particle filtering half mask can be used by the wearer to protect with high probability against the potential hazard to be expected.  | Appropriate |      |      |     | PASS |
|   |                                | For particle filtering half masks fitted in accordance with the manufacturer's information, at least 46 out of the 50 individual exercise results (i.e. 10 subjects x 5 exercises) for total inward leakage shall be not greater than | Appropriate |      |      |     |      |
|   |                                | 25 % for FFP1<br>11 % for FFP2<br>5 % for FFP3  | Walk        | Head | Talk | 4.8 |      |
|   |                                |   | 4.5         | 4.9  | 5.1  |     |      |
|   |                                | at least 8 out of the 10 individual wearer arithmetic means for the total inward leakage shall be not greater than  | Appropriate |      |      |     |      |
| 22 % for FFP1<br>8 % for FFP2<br>2 % for FFP3 | 4.8                            |   |             |      |      |     |      |
| 7.9.2   | Penetration of filter material | Sodium chloride test, 95 l/min  | 0.9 %       |      |      |     | PASS |
|   |                                | Paraffin oil test 95 l/min  | 0.7 %       |      |      |     |      |
| 7.10  | Compatibility with skin        | Materials that may come into contact with the wearer's skin shall not be known to be likely to cause irritation or any other adverse effect to health.  | Appropriate |      |      |     | PASS |
| 7.11  | Flammability                   | < 5 sc  | < 5 sc      |      |      |     | PASS |

|       |   |   |                      |            |            |      |
|-------|---|---|----------------------|------------|------------|------|
| 7.12  | Carbon dioxide content of the inhalation hair | The carbon dioxide content (dead volume) of the inhaled air should not exceed an average of 1.0% (by volume)                                  | % 0,1 <              |            |            | PASS |
| 7.16  | Breathing resistance                          | Respiratory resistances are applied to half-masks with and without valve particle filter. These resistors must provide the values in Table 2. | Inhalation           | Inhalation | Exhalation | PASS |
|       |   |   | 30 L/min             | 95 L/min   | 160 L/min  |      |
|       |   |   | 0.8 mbar             | 2.4 mbar   | 3.0 mbar   |      |
| 7.17  | Clogging                                      | Half masks with particle filter without valve<br>Respiration and exhalation resistances at 95 L / min continuous flow after clogging,         | 3.2 mbar             |            |            | PASS |
| 8.3.2 | Temperature Conditioning                      | 24 hours in dry atmosphere (70 ± 3) ° C<br>24 hours at (-30 ± 3) ° C  | No performance loss. |            |            | PASS |
| 8.4.3 | Simulated wearing treatment                   | Walking test  | Appropriate          |            |            | PASS |
|       |   | Creep test  | Appropriate          |            |            |      |
|       |   | Basket experiment   | Appropriate          |            |            |      |



**ANNEX**

**TABLE 1**

| Specimen No   | Subject | Walk (%)   | Head Side (%) | Head Up and Down (%) | Talk (%)   | Walk (%)   | Avg (%)  | Result      |  |
|---|---------|------------|---------------|----------------------|------------|------------|----------|-------------|--|
| Taken directly to the test process  |         |            |               |                      |            |            |          |             |  |
| #1  | S.Ö     | 4.5        | 4.9           | 4.9                  | 5.1        | 4.5        | 4.7      | <b>PASS</b> |  |
| #2  | D.A     | 4.5        | 4.9           | 4.9                  | 5.1        | 4.5        | 4.7      |             |  |
| #3  | M.Ö     | 4.5        | 4.8           | 4.9                  | 5.0        | 4.5        | 4.7      |             |  |
| #4  | N.K     | 4.4        | 4.9           | 4.9                  | 5.1        | 4.5        | 4.7      |             |  |
| #5  | A.E     | 4.5        | 4.9           | 4.8                  | 5.1        | 4.6        | 4.7      |             |  |
| *5 of the samples were directly tested, the other 5 samples were tested after conditioning.<br>Temperature conditioning ;<br>Expose the particle filtering half masks to the following thermal cycle:<br>-for 24 h to a dry atmosphere of (70 ± 3) °C<br>-for 24 h to a temperature of (-30 ± 3) °C (see 8.3.2) |         |            |               |                      |            |            |          |             |  |
| #6  | A.A     | 4.5        | 4.9           | 4.9                  | 5.1        | 4.5        | 4.7      |             |  |
| #7  | H.K     | 4.5        | 4.9           | 4.8                  | 5.1        | 4.5        | 4.7      |             |  |
| #8  | M.K     | 4.4        | 4.9           | 4.9                  | 5.1        | 4.6        | 4.7      |             |  |
| #9  | H.S     | 4.5        | 4.9           | 4.9                  | 5.0        | 4.5        | 4.7      |             |  |
| #10   | C.K     | 4.5        | 4.8           | 4.9                  | 5.1        | 4.5        | 4.7      |             |  |
| <b>Avg</b>  |         | <b>4.4</b> | <b>4.8</b>    | <b>4.8</b>           | <b>5.1</b> | <b>4.5</b> | <b>-</b> |             |  |

**Facial Dimension 7.9.1**

| Subject | Face Length | Face Width | Face Depth | Mouth Width |
|---------|-------------|------------|------------|-------------|
| S.Ö     | 119         | 128        | 110        | 56          |
| D.A     | 120         | 126        | 112        | 59          |
| M.K     | 120         | 130        | 106        | 53          |
| N.L     | 119         | 128        | 105        | 60          |
| A.E     | 118         | 129        | 110        | 55          |
| A.A     | 115         | 125        | 113        | 58          |
| H.K     | 103         | 123        | 111        | 63          |
| M.P     | 110         | 128        | 106        | 54          |
| H.S     | 116         | 130        | 109        | 62          |
| C.K     | 118         | 140        | 105        | 60          |

**TABLE 2**

| Aerosol                        | Specimen No | Conditioning | Penetration (%) | Avg (%) | Result |
|--------------------------------|-------------|--------------|-----------------|---------|--------|
| Sodium chloride test, 95 l/min | #11         | A.R.         | 0.9             | 0.9     | PASS   |
|                                | #12         | A.R.         | 0.9             |         |        |
|                                | #13         | A.R.         | 0.9             |         |        |
| Sodium chloride test, 95 l/min | #14         | M.S + A.T.   | 0.9             | 0.9     | PASS   |
|                                | #15         | M.S + A.T.   | 0.9             |         |        |
|                                | #16         | M.S + A.T.   | 0.9             |         |        |
| Sodium chloride test, 95 l/min | #17         | S.W.T.       | 0.9             | 0.9     | PASS   |
|                                | #18         | S.W.T.       | 0.9             |         |        |
|                                | #19         | S.W.T.       | 0.9             |         |        |
| Paraffin oil test 95 l/min     | #20         | A.R.         | 0.7             | 0.7     | PASS   |
|                                | #21         | A.R.         | 0.7             |         |        |
|                                | #22         | A.R.         | 0.7             |         |        |
| Paraffin oil test 95 l/min     | #23         | M.S + A.T.   | 0.7             | 0.7     | PASS   |
|                                | #24         | M.S + A.T.   | 0.7             |         |        |
|                                | #25         | M.S + A.T.   | 0.7             |         |        |
| Paraffin oil test 95 l/min     | #26         | S.W.T.       | 0.7             | 0.7     | PASS   |
|                                | #27         | S.W.T.       | 0.7             |         |        |
|                                | #28         | S.W.T.       | 0.7             |         |        |

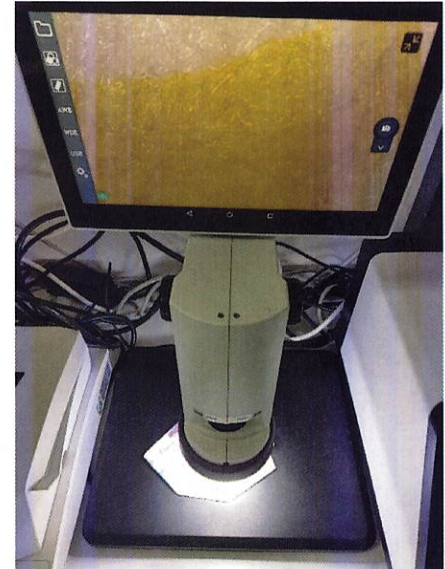
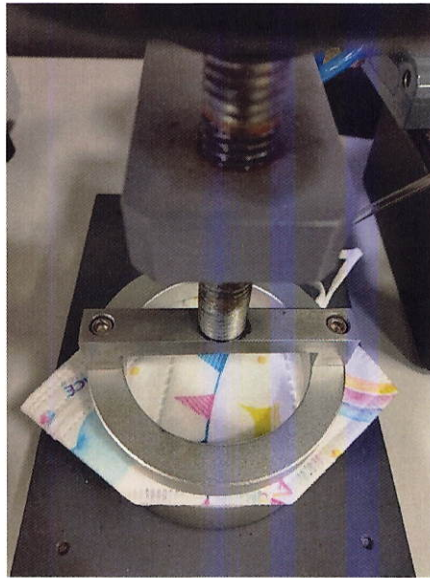
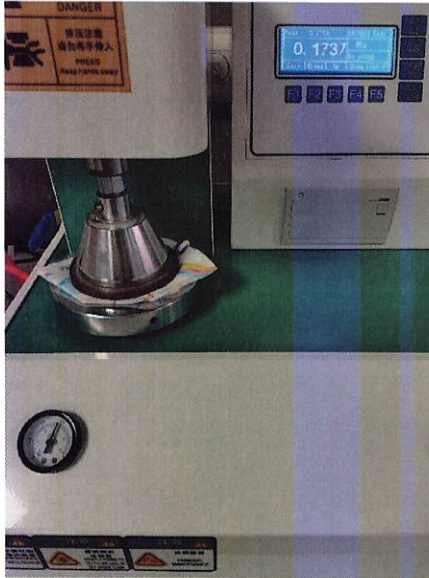
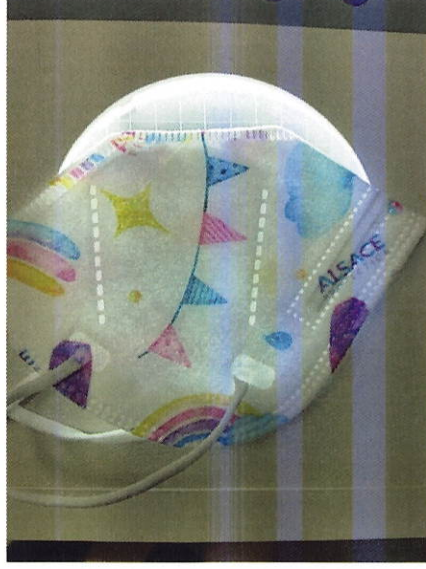
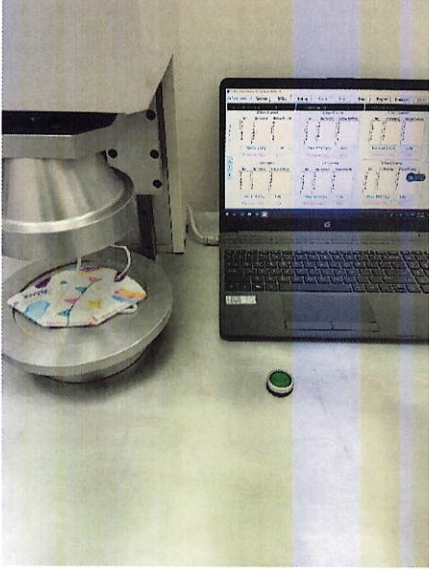
\*SWT = Simulated wearing treatment  
AT = After temperature  
AR = As received

**TABLE 3**

| Specimen | Conditioning | Flow Rate           |                     |                      | Result |
|----------|--------------|---------------------|---------------------|----------------------|--------|
|          |              | Inhalation 30 L/min | Inhalation 95 L/min | Exhalation 160 L/min |        |
| #29      | A.R.         | 0.8                 | 2.4                 | 3.0                  | PASS   |
| #30      | A.R.         | 0.8                 | 2.3                 | 3.0                  | PASS   |
| #31      | A.R.         | 0.7                 | 2.4                 | 2.9                  | PASS   |
| #32      | A.T.         | 0.8                 | 2.4                 | 3.0                  | PASS   |
| #33      | A.T.         | 0.7                 | 2.3                 | 3.0                  | PASS   |
| #34      | A.T.         | 0.8                 | 2.4                 | 3.0                  | PASS   |
| #35      | S.W.T.       | 0.8                 | 2.4                 | 2.9                  | PASS   |
| #36      | S.W.T.       | 0.7                 | 2.4                 | 3.0                  | PASS   |
| #37      | S.W.T.       | 0.8                 | 2.3                 | 2.9                  | PASS   |
| Avg      |              | 0.8                 | 2.4                 | 3.0                  | PASS   |



**MASK IMAGES UNDER TEST**



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