

GÉPTESZT Kft.
Notified Body No. 2233
registered in the European Union

Address: Jablonka St. 79., Budapest, 1037, HUNGARY
e-mail: nb2233@gepteszt.hu
web: www.gepteszt.hu
Phone: +3612503531



PERSONAL PROTECTIVE EQUIPMENT EU TYPE-EXAMINATION TEST REPORT

**EN 149:2001+A1:2009
Particle filtering half mask**

The examination and testing of Personal Protective Equipment were carried out in accordance with
MSZ EN ISO/IEC 17025:2018 standard
by GÉPTESZT Kft. Notified Body, identified under number 2233 in the EU

Customer:	Feuchter Bekleidungsmanagement AG Address: Bachweg 8, 94160 Ringelai, GERMANY
Model:	FFP2-Basic-Maske 2111
Classification:	FFP2 NR D
Exhalation valve:	NO
Inhalation valve:	NO
Uses:	non reusable (NR)
Project number:	GT831
Test report number:	VD35-0015-2411-GT0831-C01
Project worksheet number:	VD34-0012-2410-GT0831-C01
Date of the test:	2024.10.15.-11.12.
Samples received date:	2024.10.01.
Sample numbers:	831-1 - 831-49
Attachment:	no

Issued: **Budapest, 04/11/2024**

GÉPTESZT KFT.
EVE Vizsgáló Laboratórium
NB 2233
1037 Budapest, Jablonka u. 79.
Labor: 1032 Budapest, Gyenes u.12.

Dániel Budai
Director of Laboratory



Relevant standards, directives and requirements:

EN 149:2001+A1:2009 Filtering half masks to protect against particles

Description of the samples:

The foldable masks are sold in white colour and consists of 4 layers:

1. Outer cover Layer – Non Woven
2. Hot Air Cotton Layer
3. Filter Layer – Meltblown (Compound with Inner Cover Layer – Close Skin)
4. Inner Cover Layer - Close Skin (Compound with Filter Layer – Meltblown)

The nose clip is made of plastic (polyethylene) with double core metal (iron) wire nose clip. The earloop is elastic and made of nylon spandex fabric.





Short description of EU-type tests:

Requirement	Test method	Description	Result
7.4	8.2	Packaging	Passed
7.5	8.2	Material	Passed
7.6	8.11	Cleaning and disinfecting	NA
7.7	8.4	Practical performance	Passed
7.8	8.2	Finish of parts	Passed
7.9.1	8.5	Total inward leakage	Passed
7.9.2	8.11	Penetration of filter material: NaCl	Passed
7.9.2	8.11	Penetration of filter material: paraffin oil	Passed
7.10	8.4 and 8.5	Compatibility with skin	Passed
7.11	8.6	Flammability	Passed
7.12	8.7	Carbon dioxide content of the inhalation air	Passed
7.13	8.4 and 8.5	Head harness	Passed
7.14	8.4	Field of vision	Passed
7.15	8.2, 8.3.4, 8.8	Exhalation valve(s)	NA
7.16	8.9	Breathing resistance	Passed
7.17	8.10	Clogging	Passed
7.18	8.2	Demountable parts	NA
9	-	Marking	Passed
10	-	Information to be supplied by the manufacturer	Passed

Analysis and details of EU-type test results:

7.4 Packaging

- 25 pieces per box separated in 5 pieces per bag (cardboard, PP, PE)

The packaging gives enough protection against mechanical damage or contamination.

PASSED



7.5 Material

- conditioning S.W.: Sample nr: 831-16 to 831-18
None of the particle filtering half masks have suffered mechanical failure of the facepiece or straps.
- conditioning T.C.: Sample nr.: 831-28 to 831-30

PASSED

7.6 Cleaning and disinfecting (only for reusable masks)

Because the mask is non-reusable, this test was not carried out.

NA

7.7 Practical performance

The particle filtering half masks are tested by practical performance tests under realistic conditions.

1. Walking test for 10 min
2. Work simulation tests:
 - walking on the level with headroom of $(1,3 \pm 0,2)$ m for 5 min;
 - crawling on the level with headroom of $(0,70 \pm 0,05)$ m for 5 min;
 - filling a small basket 20x in 10 min;

Subjects	Samples	Conditioning	Result
KD	831-1	A.R.	PASSED
OJ	831-2	A.R.	PASSED

There were not any imperfections related to the wearer's acceptance.

PASSED

7.8 Finish of parts

Parts of the device are likely to come into contact with the wearer have no sharp edges or burrs.

PASSED

7.9.1 Total inward leakage

With sodium chloride aerosol. The masks were in good condition.

Number of subjects were replaced, because of not fitting/facial dimensions:0.....

Subjects facial dimensions				
Subject	Face length, mm	Face width, mm	Face depth, mm	Mouth width, mm
NA	115	100	125	50
KD	160	120	110	53
VB	100	110	80	75
MM	113	138	123	63
MD	117	120	108	60
LA	123	140	105	60
TLa	115	130	110	53
IDZS	118	136	118	45
BD	120	130	135	55
RE	115	138	112	48



Subject	Sample	Cond.	Total inward leakage, %					Mean, %
			Walk	Head left/right	Head up/down	Talk	Walk	
NA	831-3	A.R.	2,49	3,34	2,85	6,09	4,06	3,77
KD	831-4	A.R.	3,92	4,47	6,33	4,55	2,50	4,35
VB	831-5	A.R.	1,99	2,17	2,30	2,74	2,36	2,31
MM	831-6	A.R.	2,63	2,91	1,72	2,99	3,68	2,79
MD	831-7	A.R.	3,29	2,84	2,82	4,61	3,20	3,35
LA	831-8	T.C.	2,09	3,05	2,95	2,55	2,55	2,64
TLa	831-9	T.C.	3,19	3,13	3,23	2,46	2,98	3,00
IDZS	831-10	T.C.	3,03	2,73	2,63	2,82	2,98	2,84
BD	831-11	T.C.	1,43	2,75	1,51	2,24	2,12	2,01
RE	831-12	T.C.	3,59	3,55	2,86	1,84	3,32	3,03

50 out of the 50 individual exercise results for total inward leakage were not greater than 11 % and
10 out of the 10 individual wearer arithmetic means for the total inward leakage were not greater than 8%.

PASSED

7.9.2 Penetration of filter material: NaCl

NaCl aerosol: concentration: 4-12 mg/m³, flow: 95 l/min

Sample	Conditioning	Penetration, %	Exposure, %
831-13	A.R.	0,097	NA
831-14	A.R.	0,059	NA
831-15	A.R.	0,062	NA
831-16	S.W.	0,192	NA
831-17	S.W.	0,063	NA
831-18	S.W.	0,072	NA
831-19	M.S→T.C.	NA	0,066
831-20	M.S→T.C.	NA	0,079
831-21	M.S→T.C.	NA	0,071
Maximum permitted:		6 %	

The penetration of the filter material did not exceed the maximum permitted 6 % in case of any masks.

PASSED

7.9.2 Penetration of filter material: paraffin oil

Paraffin aerosol: concentration: 15-25 mg/m³, flow: 95 l/min

Sample	Conditioning	Penetration, %	Exposure, %
831-22	A.R.	0,18	NA
831-23	A.R.	0,27	NA
831-24	A.R.	0,16	NA
831-25	S.W.	0,18	NA
831-26	S.W.	0,25	NA
831-27	S.W.	0,26	NA
831-28	M.S→T.C.	NA	0,45
831-29	M.S→T.C.	NA	0,31
831-30	M.S→T.C.	NA	0,42
Maximum permitted:		6 %	

The penetration of the filter material did not exceed the maximum permitted 6 % in case of any masks.

PASSED



7.10 Compatibility with skin

Materials that may come into contact with the wearer's skin are not known to be likely to cause irritation or any other adverse effect to health.

During the Practical performance test there were no problems.

During the Total inward leakage test there were no problems.

PASSED

7.11 Flammability

Sample	Conditioning
831-33	T.C.
831-34	T.C.
831-31	A.R.
831-32	A.R.

The materials used do not present a danger for the wearer and are not of highly flammable nature. The samples did not burn.

PASSED

7.12 Carbon dioxide content of the inhalation air

Air supplied from breathing machine: 25 cycles/min and 2,0 l/stroke, carbon dioxide content of exhaled air 5 V/V%, air flow 0,5 m/s.

Ambient carbon dioxide level: 0,091 % (less than 0,1 %.)

Sample	CO ₂ V/V%
831-35	0,29
831-36	0,27
831-37	0,28
Average	0,31

The carbon dioxide content of the inhalation air (dead space) did not exceed an average of 1,0 V/V %.

PASSED

7.13 Head harness

There were no adverse comments regarding security following limited practical performance and total inward leakage testing.

The product satisfied the total inward leakage requirements. See part 7.9.1. for results.

PASSED

7.14 Field of vision

Sample
831-1
831-2

During the practical performance test the field of vision was not affected adversely by wearing mask.

PASSED

7.15 Exhalation valve(s)

NA



7.16 Breathing resistance

Sample	Conditioning	Inhalation resistance, mbar		Exhalation resistance, mbar 160 l/min				
		30 l/min	95 l/min	ahead	vert. upwards	vert downwards	left	right
831-41	A.R.	0,33	0,89	1,56	1,57	1,58	1,57	1,57
831-42	A.R.	0,32	0,87	1,57	1,58	1,56	1,57	1,55
831-43	A.R.	0,30	0,87	1,54	1,55	1,53	1,52	1,52
831-44	T.C.	0,25	0,89	1,68	1,66	1,69	1,68	1,68
831-45	T.C.	0,19	0,70	1,37	1,36	1,35	1,34	1,37
831-46	T.C.	0,23	0,77	1,66	1,67	1,67	1,68	1,67
831-47	S.W.	0,26	0,89	1,78	1,77	1,76	1,79	1,79
831-48	S.W.	0,26	0,86	1,64	1,65	1,66	1,65	1,65
831-49	S.W.	0,27	0,87	1,65	1,66	1,65	1,66	1,66
Maximum permitted		0,7	2,4	3,0				

None of the measured values exceeded the maximum values.

PASSED

7.17 Clogging

Clogging treatment with DRB 4/15 dolomite dust

Continuous flow through the dust chamber: 60 m³/h

		Conditioning	A.R.	T.C.	T.C
		Sample	831-38	831-39	831-40
		Requirement	Measured		
Temperature of the air, °C		23 ± 2 °C	21		
Relative humidity of the air, %		45 ± 15 %	43	41	40
Concentration, mg/m ³		400±100 mg/m ³	415	458	392
Exposure time, min		833 mgh/m ³	25	109	128
Inhalation resistance, mbar at 95 l/min continuous flow		4 mbar	3,05	3,04	2,05
Exhalation resistance at 95 l/min continuous flow	ahead	4 mbar	3,84	3,91	2,81
	vert. upwards		3,82	3,93	2,80
	vert. downwards		3,80	3,91	2,83
	left		3,83	3,90	2,84
	right		3,82	3,94	2,82
Paraffin aerosol concentration at 95 l/min flow		15-25 mg/m ³			
Paraffin penetration, %		max. 6 %	0,45	-	-
Paraffin exposure, %		max. 6 %	-	1,04	-
NaCl exposure, %		max. 6 %	-	-	0,06

None of the measured values exceeded the maximum values

PASSED

7.18 Demountable parts

The device does not contain demountable parts.

NA



9. Marking

The marking information is complete and clearly and durably marked on the packaging.

The marking information is complete and clearly and durably marked on the particle filtering half mask.

PASSED

10. Information to be supplied by the manufacturer

Information to be supplied by the manufacturer accompany every smallest commercial available package and contain all information necessary for trained and qualified persons.

PASSED

Result of EU-type test:

The above described **FFP2-Basic-Maske particle filtering half masks** at the time of the test **conformed** to the test requirements of EN 149:2001+A1:2009 class FFP2 NR D at the close date of test report.

E N D O F T H E T E S T R E P O R T