



AB 038

Notified Body No.1437 in the area of EU directives: 89/686/EEC, 2006/42/EC and 2000/14/EC

DEPARTMENT OF PERSONAL PROTECTIVE EQUIPMENT

LABORATORY OF RESPIRATORY PROTECTIVE EQUIPMENT

TEST REPORT

Contract **to perform** testing No.: 506/PB/2017/NO

Subject of the contract: TMKV1 FFP1 NR with valve and TMKV1 FFP1 NR without valve

Ordering Party:
Sales Representation:

Apex Teknik Tekstil Sağlık Ürünleri San. Tic. LTD. ŞTİ.

Hacı Sabancı Organize Sanayi Bölgesi Ordu Cad. No:23 Sarıçam / Adana

Date of **compilation of the** test report: 27.10.2017

Main performer: Katarzyna Bociek 

Authorized by:
KIEROWNIK
Pracowni Sprzetu Ochrony Układu Oddechowego

dr inż. Anieszka Brodzka

Approved by:


E. Kiliński

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The report from the tests includes the results of tests carried out within the scope of the accreditation as well as unaccredited tests. The results of tests that are beyond the scope of accreditation are marked with ""

Test object:

Fourty nine filtering half masks TMKV1 FFP1 NR with valve and fourteen filtering half masks TMKV1 FFP1 NR without valve were tested.

The filtering half masks were delivered by Apex Teknik Tekstil Sağlık Ürünleri San. Tic. LTD. ŞTİ.
Hacı Sabancı Organize Sanayi Bölgesi Ordu Cad. No:23 Sarıçam / Adana

Samples registry number: NO1/28/2017

Samples receiving date: 16.08.2017

Date of completing the tests: 24.10.2017

Scope of tests:

Accredited tests:

- penetration of sodium chloride: test method in accordance with EN 13274-7:2008 (TMKV1 FFP1 NR with valve) requirements in accordance with EN 149:2001+ A1:2009
- penetration of paraffin oil mist: test method in accordance with EN 13274-7:2008 (TMKV1 FFP1 NR with valve) requirements in accordance with EN 149:2001+ A1:2009
- breathing resistance: test method in accordance with EN 13274-3:2001 (TMKV1 FFP1 NR with valve and TMKV1 FFP1 NR without valve) requirements in accordance with EN 149:2001+ A1:2009
- flammability: test method in accordance with EN 13274-4:2001 (TMKV1 FFP1 NR with valve) requirements in accordance with EN 149:2001+ A1:2009
- exhalation valve pull: test method and requirements in accordance with EN 149:2001+ A1:2009 (TMKV1 FFP1 NR with valve)
- exhalation valve how: test method and requirements in accordance with EN 149:2001+ A1:2009 (TMKV1 FFP1 NR with valve)
- practical performance test: test method in accordance with EN 13274-2:2001 (TMKV1 FFP1 NR with valve and TMKV1 FFP1 NR without valve) requirements in accordance with EN 149:2001+ A1:2009
- total inward leakage: test method in accordance with EN 13274-1:2001 (TMKV1 FFP1 NR with valve) requirements in accordance with EN 149:2001+ A1:2009
- carbon dioxide content: test method in accordance with EN 13274-6:2001 (TMKV1 FFP1 NR without valve) requirements in accordance with EN 149:2001+ A1:2009
- temperature conditioning: test method in accordance with EN 13274-5:2001 (TMKV1 FFP1 NR with valve and TMKV1 FFP1 NR without valve) requirements in accordance with EN 149:2001+ A1:2009
- mechanical strength: test method and requirements in accordance with EN 149:2001+ A1:2009 (TMKV1 FFP1 NR with valve)

Non-accredited tests:

- simulated weaning treatment: test method and requirements in accordance with EN 149:2001+ A1:2009 (TMKV1 FFP1 NR with valve and TMKV1 FFP1 NR without valve)

Before tests according to requirements of the standard, filtering half masks were submitted to: mechanical strength test (according to 8.3.3 of EN 149:2001 + A1:2009), temperature conditioning (according to 8.3.2 of EN 149:2001 + A1:2009), simulated weaning treatment (according to 8.3.1 of EN 149:2001 + A1:2009), how conditioning (according to 8.3.4 of EN 149:2001 + A1:2009).

Note

This test report consists of twenty nine (29) pages.

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TEST RESULTS OF PENETRATION FOR SODIUM CHLORIDE

according to EN 13274-7:2008

Test object: filtering half masks TMKV1 FFP1 NR with valve

No. of sample	Penetration of NaCl in accordance with EN 13274-7:2008 [%] Flow rate 1,6 dm ³ s ⁻¹	Requirements in accordance with EN 149:2001+ A1:2009	Estimation of conformity / nonconformity with the standard
44 (M. S., T.C.)	2,80		Filtering half masks fulfill requirements of the standard EN 149:2001+ A1:2009 given in 7.9.2 in range of the first and the second protection class (FFP1, FFP2).
49 (M. S., T.C.)	1,68		
40 (M.S., T.C.)	1,59		
42 (A. R.)	2,84	FFP1 \leq 20%	
64 (A. R.)	1,45	FFP2 < 6%, "	
65 (A.R.)	2,60	FFP3 1%	
68 (S.W.)	1,48		
70 (S.W.)	2,53		
74 (S.W.)	1,44		

Given results relate to tested samples only

M.S. — sample after the test for mechanical strength

T.C. — sample after temperature conditioning

A.R. - sample as received

S.W — sample after the simulated wearing treatment

TEST RESULTS OF PENETRATION FOR PARAFFIN OIL MIST according to EN 13274-7:2008

Test object: filtering half masks TMKV1 FFP1 NR with valve

No. of sample	Penetration of paraffin oil mist in accordance with EN 13274-7:2008 Flow rate 1,6 dm ³ s ⁻¹	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
41 (M. S., T.C.)	4,44		
59 (M. S., T.C.)	4,56		
77 (M. S., T.C.)	5,07		
81 (A.R.)	3,00	FFP1 28%	Filtering half masks fulfill requirements of the standard EN 149:2001+ A1:2009 given in 7.9.2 in range of the first and second protection class (FFP1, FFP2).
82 (A. R.)	3,00	FFP2 < 6%	
84 (A.R.)	2,90	FFP3 < 1%	
69 (S.W.)	3,10	"	
73 (S.W.)	3,60		
76 (S. W.)	3,10		

Given results relate to tested samples only.

M.S. — sample after the test for mechanical strength
T.C. — sample after temperature conditioning
A.R. - sample as received
S.W. — sample after the simulated wearing treatment

TEST RESULTS OF INHALATION RESISTANCE according to EN 13274-3:2001

Test object: **filtering** half masks TMKV1 FFP1 NR with valve

No. of sample	Inhalation resistance [Pa]				Estimation of conformity / nonconformity with the standard
	Flow rate 0,5 dm ³ s ⁻¹	Requirements in accordance with EN 149:2001 + A1:2009	Flow rate 1,6 dm ³ s ⁻¹	Requirements in accordance with EN 149:2001 + A1:2009	
48 (A.R.)	40		141		Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 given in 7.16 in range of the first, the second and the third protection class (FFP1, FFP2, FFP3).
54 (A.R.)	47		147		
80 (A.R.)	39		144		
30 (T.C.)	43	FFP1 \leq 60 Pa	135	FFP1 < 210 Pa	
31 (T.C.)	41	FFP2 < 70 Pa	133	FFP2 24a Pa	
43 (T.C.)	44	FFP3 < 100 Pa	137	FFP3 300 Pa	
66 (S.W.)	44		144	"	
72 (S.W.)	44		141		
78 (S.W.)	42		143		
63 (F.C.)	44		155		
35 (F.C.)	42		133		
55 (F.C.)	41		139		

Given results relate to tested samples only

A.R. — sample as received

T.C. — sample after temperature conditioning

S.W. — sample after the simulated wearing treatment

F.C. — sample after flow conditioning

TEST RESULTS OF EXHALATION RESISTANCE according to EN 13274-3:2001

Test object: filtering half masks TMKV1 FFP1 NR with valve

No. of sample	The dummy head positions	Exhalation resistance [Pa]		
		Flow rate 2,7 dm s ⁻¹	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
48 (A.R.)	Facing directly ahead	122	FFP1 < 300 Pa FFP2 • 300 «, FFP3 < 300 Pa “	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 given in 7.16 in range of the first, the second and the third protection class (FFP1, FFP2, FFP3).
	Facing vertically upwards	122		
	Facing vertically downwards	121		
	Lying on the right side	120		
	Lying on the left side	121		
54 (A R)	Facing directly ahead	133		
	Facing vertically upwards	130		
	Facing vertically downwards	131		
	Lying on the right side	129		
	Lying on the left side	132		

iv en results relate to tested samples only

“ — sample as received

TEST RESULTS OF EXHALATION RESISTANCE according to EN 13274-3:2001

Test object: filtering half masks TMKV1 FFP1 NR with valve

No. of sample	The dummy head positions	Exhalation resistance [Pa]		
		Flow rate 2,7 dm³s⁻¹	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
80 (A.R)	Facing directly ahead	108	FFP1 300 PA FFP2 30/ PA FFP3 < 300 Pa	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 given in 7.16 in range of the first, the second and the third protection class (FFP1, FFP2, FFP3).
	Facing vertically upwards	107		
	Facing vertically downwards	111		
	Lying on the right side	108		
	Lying on the left side	110		
30 (T C)	Facing directly ahead	118		
	Facing vertically upwards	114		
	Facing vertically downwards	117		
	Lying on the right side	114		
	Lying on the left side	117		

*n=14 results relate to tested samples only.
 F — sample as received
 T — sample after temperature conditioning

TEST RESULTS OF EXHALATION RESISTANCE according to EN 13274-3:2001

Test object: [filtering half masks TMKV1 FFP1 NR with valve](#)

No. of sample	The dummy head positions	Exhalation resistance [Pa]		
		Flow rate 2,7 dm ³ s ⁻¹	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
31 (T C .)	Facing directly ahead	123	FFP1 300 PA FFP2 300 FFP3 < 300 Pa	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 given in 7.16 in range of the first, the second and the third protection class (FFP1, FFP2 and FFP3).
	Facing vertically upwards	121		
	Facing vertically downwards	123		
	Lying on the right side	122		
	Lying on the left side	124		
43 (T Ū)	Facing directly ahead	131		
	Facing vertically upwards	128		
	Facing vertically downwards	129		
	Lying on the right side	126		
	Lying on the left side	132		

wes results relate to tested samples only.
 °. — sample after temperature conditioning

TEST RESULTS OF EXHALATION RESISTANCE according to EN 13274-3:2001

Test object: filtering half masks TMKV1 FFP1 NR with valve

No. of sample	The dummy head positions	Exhalation resistance [Pa]		
		Flow rate 2,7 dm s ⁻³	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
66 (S.W.)	Facing directly ahead	135	FFP1 300 PA FFP2 300 PA FFP3 < 300 Pa	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 given in 7.16 in range of the first, the second and the third protection class (FFP1, FFP2, FFP3).
	Facing vertically upwards	130		
	Facing vertically downwards	131		
	Lying on the right side	127		
	Lying on the left side	135		
72 (S W)	Facing directly ahead	134		
	Facing vertically upwards	128		
	Facing vertically downwards	133		
	Lying on the right side	132		
	Lying on the left side	137		

(*) values relate to tested samples only.

(+) values are sample after the simulated wearing treatment

TEST RESULTS OF EXHALATION RESISTANCE according to EN 13274-3:2001

Test object: filtering half masks TMKV1 FFP1 NR with valve

No. of sample	The dummy head positions	Exhalation resistance [Pa]		
		Flow rate 2,7 dm ³ s ⁻¹	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
78 (S W)	Facing directly ahead	119	FFP1 \leq 300 FFP2 < 300 Pa FFP3 < 300 Pa	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 given in 7.16 in range of the first, the second and the third protection class (FFP1, FFP2, FFP3).
	Facing vertically upwards	119		
	Facing vertically downwards	121		
	Lying on the right side	118		
	Lying on the left side	123		
*3 (F Ü)	Facing directly ahead	133		
	Facing vertically upwards	128		
	Facing vertically downwards	131		
	Lying on the right side	129		
	Lying on the left side	129		

Values in blue relate to tested samples only.

"/ — sample after the simulated wearing treatment
sample after flow conditioning

TEST RESULTS OF EXHALATION RESISTANCE according to EN 13274-3:2001

Test object: filtering half masks TMKV1 FFP1 NR with valve

No. of sample	The dummy head positions	Exhalation resistance [Pa]		
		Flow rate 2,7 dm s ⁻¹	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
3S (F.C)	Facing directly ahead	121	FFP1 300 PA FFP2 < 300 Pa FFP3 < 300 PA	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 given in 7.16 in range of the first, the second and the third protection class (FFP1, FFP2, FFP3).
	Facing vertically upwards	117		
	Facing vertically downwards	116		
	Lying on the right side	115		
	Lying on the left side	122		
55 (F.C.)	Facing directly ahead	123		
	Facing vertically upwards	117		
	Facing vertically downwards	119		
	Lying on the right side	115		
	Lying on the left side	124		

*Given results relate to tested samples only
 ** — sample after flow conditioning

TEST RESULTS OF STRENGTH OF ATTACHMENT OF EXHALATION
VALVES (pull test)
according to EN 149:2001 + A1:2009

Test object: filtering half masks TMKV1 FFP1 NR with valve

No. of sample	Test result	Requirements in accordance with EN 149:2001+ A1:2009	Estimation of conformity / nonconformity with the standard
61 (A.R.)	withstands	The exhalation valve shall withstand axially a tensile force of 10 N applied for 10 s	Filtering half masks fulfill requirements EN 149:2001+ A1:2009 given in 7.15 for strength of attachment of exhalation valves (pull test).
36 (T.C.)	withstands		
45 (M.S.)	withstands		

Given results relate to tested samples only.

A.R,- sample as received

T C. — sample after *temperature* conditioning

M.S. — sample after the test for mechanical strenght

TEST RESULTS OF EXHALATION VALVES
(flow test)
according to EN 149:2001 + A1:2009

Test object: filtering half masks TMKV1 FFP1 NR with valve

No. of sample	Test result	Requirements in accordance with EN 149:2001+ A1:2009	Estimation of conformity / nonconformity with the standard
63 (A.R.)	Valve operates correctly	The exhalation valve shall continue to operate correctly after a continuous exhalation flow of 300 l/min over a period of 30 s	Filtering half masks fulfill requirements EN 149:2001+ A1:2009 given in 7.15 for exhalation valves (flow test).
35 (T.C.)	Valve operates correctly		
55 (T.C.)	Valve operates correctly		

Given results relate to tested samples only.

A.R.- sample as received

T.C. — sample after temperature conditioning

TEST RESULTS OF FLAMMABILITY according to EN 13274-4:2001

Test object: filtering half masks TMKV1 FFP1 NR with valve

No. of sample	Visual inspection	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
32 (T.C.)	Filtering half mask did not burn	Filtering half mask shall not burn or not continue to burn for more than 5 s after removal from the flame.	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 given in T.11.
47 (T.C.)	Filtering half mask did not burn		
28 (A.R.)	Filtering half mask did not burn		
60 (A.R.)	Filtering half mask did not burn		

Given results relate to tested samples only.

A.R. — sample as received

T.C — sample after temperature conditioning

TEST RESULTS OF PRACTICAL PERFORMANCE TEST according to EN 13274-2:2001

Test object: filtering half masks TMKV1 FFP1 NR with valve
No. of sample: 50 (A.R.), 83 (A.R.)

Assessed elements	Positive assessment	Negative assessment	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
1	2	3		
1. The face piece fitting	4	0	Filtering half masks should not have imperfections related to wearer's acceptance	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 given in 7.7.
2. Head harness comfort	4	0		
3. Security of fastenings	4	0		
4. Speech clearness	4	0		
5. Field of vision	4	0		
6. Materials compatibility with skin	4	0		

Given results relate to tested samples only.

A.R. — sample as received

TEST RESULTS OF TOTAL INWARD LEAKAGE according to EN 149:2001 + A1:2009

Test object: filtering half masks TMKV1 FFP1 NR with valve

Test subject	No. of sample	Conditioning	Walk	Head left/right	Head up/down	Speech	Walk	Average
1	57	A.R.	0,59	1,21	1,68	3,50	1,38	1,67
2	52	A.R.	0,36	0,47	0,40	1,00	0,29	0,50
3	53	A.R.	0,65	0,70	0,85	1,40	0,66	0,85
4	62	A.R.	0,31	0,74	0,53	1,05	0,37	0,60
5	58	A.R.	0,81	0,62	0,82	1,74	0,67	0,93
6	51	T.C.	1,72	2,04	0,77	2,27	1,30	1,62
7	37	T.C.	0,32	0,32	0,67	1,81	0,37	0,70
8	39	T.C.	0,45	1,09	0,91	7,04	0,48	2,00
9	34	T.C.	0,36	0,78	0,68	0,92	0,28	0,60
10	33	T.C.	0,84	1,20	0,89	2,01	0,82	1,15
Average			0,64	0,92	0,82	2,27	0,66	1,06
Minimum			0,31	0,32	0,40	0,92	0,28	0,50
Maximum			1,72	2,04	1,68	7,04	1,38	2,00

Given results relate to tested samples only.

A.R.- sample as received

T.C. — sample after temperature conditioning

Requirements in accordance with EN 149:2001+ A1:2009	Estimation of conformity / nonconformity with the standard
<p>at least 46 out of the 50 individual results shall be not greater than 25% for FFP1 11% for FFP2 5% for FFP3 and at least 8 out of the 10 individual wearer means shall be not greater than 22% for FFP1 8% for FFP2 2% for FFP3</p>	<p>Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 given in 7.9.1. in range of the first, the second and the third protection class (FFP1, FFP2, FFP3).</p>

TEST RESULTS
of
TEMPERATURE CONDITIONING
according to EN 13274-5:2001

Test object: filtering half masks TMKV1 FFP1 NR with valve

No. of sample	Visual inspection	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
44 (M. S.)	No changes	After temperature conditioning in accordance with 8.3.2 filtering half mask shall show no appreciable deformation	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 for temperature conditioning.
41 (M.S.)	No changes		
40 (M. S.)	No changes		
59 (M. S.)	No changes		
49 (M.S.)	No changes		
77 (M.S.)	No changes		
55 (A.R.)	No changes		
38 (A.R.)	No changes		
30 (A.R.)	No changes		
36 (A.R.)	No changes		
34 (A.R.)	No changes		
33 (A.R.)	No changes		
37 (A.R.)	No changes		
32 (A.R.)	No changes		
43 (A.R.)	No changes		
39 (A.R.)	No changes		
35 (A. R.)	No changes		
47 (A.R.)	No changes		
51 (A R.)	No changes		
31 (A.R.)	No changes		

Given results relate to tested samples only

M S — sample after the test for mechanical strength
A R — sample as received

TEST RESULTS

MECHANICAL STRENGTH according to EN 149:2001 + A1:2009

Test object: filtering half masks TMKV1 FFP1 NR with valve

No. of sample	Visual inspection	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
77 (A.R.)	No changes	After mechanical strength in accordance with 8.3.3 filtering half mask shall show no appreciable deformation	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 for mechanical strength.
40 (A.R.)	No changes		
49 (A.R.)	No changes		
41 (A.R.)	No changes		
44 (A.R.)	No changes		
59 (A.R.)	No changes		
45 (A. R.)	No changes		

Given results relate to tested samples only.

A.R. — sample as received

TEST RESULTS

SIMULATED WEARING TREATMENT *) according to EN 149:2001 + A1:2009

Test object: filtering half masks TMKV1 FFP1 NR with valve

No. of sample	Visual inspection	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
78 (A.R.)	No changes	After simulated wearing treatment in accordance with 8.3.1 filtering half mask shall show no appreciable deformation	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 for simulated wearing treatment.
76 (A.R.)	No changes		
66 (A.R.)	No changes		
72 (A.R.)	No changes		
74 (A.R.)	No changes		
68 (A.R.)	No changes		
73 (A.R.)	No changes		
70 (A.R.)	No changes		
69 (A.R.)	No changes		

Given results relate to tested samples only

A R — sample as received

TEST RESULTS OF INHALATION RESISTANCE according to EN 13274-3:2001

Test object: filtering half masks TMKV1 FFP1 NR without valve

No. of sample ber	Inhalation resistance (Pa]				Estimation of conformity / nonconformity with the standard
	Flow rate 0,5 dm s ⁻¹	Requirements in accordance with EN 149:2001 + A1:2009	Flow rate 1,6 dm ³ s ⁻¹	Requirements in accordance with EN 149:2001 + A1:2009	
08 (A.R.)	43		140		Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 given in 7.16 in range of the first, the second and the third protection class (FFP1, FFP2, FFP3).
09 (A.R.)	44		145		
15 (A.R.)	44		137		
01 (T.C)	40	FFP1 < 60 Pa	128	FFP1 < 210 Pa	
04 (T.C)	43	FFP2 < 70 Pa	128	FFP2 240 Pa	
05 (T.C)	40	FFP3 < 100 Pa	126	FFP.3 300 Pa	
03 (S.W.)	43		146	"	
07 (S.W.)	41		137		
11 (S.W.)	43		143		

Given results relate to tested samples only.

A.R. — sample as received

T.C. — sample after temperature conditioning

S.W. — sample after the simulated wearing treatment

TEST RESULTS OF EXHALATION RESISTANCE according to EN 13274-3:2001

Test object: filtering half masks TMKV1 FFP1 NR without valve

No. of sample	The dummy head positions	Exhalation resistance [Pa]		
		Flow rate 2,7 dm ³ s ⁻¹	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
08 (A R)	Facing directly ahead	202	FFP1 < 300 Pa FFP2 • 300 FFP3 < 300 Pa	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 given in 7.16 in range of the first, the second and the third protection class (FFP1, FFP2, FFP3).
	Facing vertically upwards	201		
	Facing vertically downwards	198		
	Lying on the right side	200		
	Lying on the left side	195		
09 (A R)	Facing directly ahead	197		
	Facing vertically upwards	197		
	Facing vertically downwards	200		
	Lying on the right side	198		
	Lying on the left side	200		

howen results relate to tested samples only.
A R — sample as received

TEST RESULTS OF EXHALATION RESISTANCE according to EN 13274-3:2001

Test object: filtering half masks TMKV1 FFP1 NR without valve

No. of sample	The dummy head positions	Exhalation resistance [Pa]		
		Flow rate 2,7 dm ³ s	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
15 (A R)	Facing directly ahead	206	FFP1 ≤ 300 PA FFP2 ≤ 300 PA FFP3 < 300 Pa	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 given in 7.16 in range of the first, the second and the third protection class (FFP1, FFP2, FFP3).
	Facing vertically upwards	207		
	Facing vertically downwards	205		
	Lying on the right side	201		
	Lying on the left side	203		
01 (T L°)	Facing directly ahead	176		
	Facing vertically upwards	173		
	Facing vertically downwards	170		
	Lying on the right side	172		
	Lying on the left side	167		

hrv en resrlts relate to tested samples only
 ü.R. — sample as received
 T C — sample after temperature conditioning

TEST RESULTS OF EXHALATION RESISTANCE according to EN 13274-3:2001

Test object: filtering half masks TMKV1 FFP1 NR without valve

No. of sample	The dummy head positions	Exhalation resistance [Pa]		
		Flow rate 2,7 dm ³ s ⁻¹	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
04 (T C)	Facing directly ahead	193	FFP1 • 300 Pa FFP2 • 300 Pa FFP3 < 300 Pa	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 given in 7.16 in range of the first, the second and the third protection class (FFP1, FFP2, FFP3).
	Facing vertically upwards	191		
	Facing vertically downwards	194		
	Lying on the right side	189		
	Lying on the left side	192		
05 (T C)	Facing directly ahead	192		
	Facing vertically upwards	188		
	Facing vertically downwards	193		
	Lying on the right side	189		
	Lying on the left side	189		

Given results relate to tested samples only
T C — sample after temperature conditioning

TEST RESULTS OF EXHALATION RESISTANCE according to EN 13274-3:2001

Test object: filtering half masks TMKV1 **FFP1** NR without valve

No. of sample	The dummy head positions	Exhalation resistance [Pa]		
		Flow rate 2,7 dm s ⁻³	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
03 (S W)	Facing directly ahead	199	FFP1 < 300 Pa FFP2 • *0< Pa FFP3 < 300 Pa	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 given in 7.16 in range of the first, the second and the third protection class (FFP1, FFP2, FFP3).
	Facing vertically upwards	198		
	Facing vertically downwards	201		
	Lying on the right side	199		
	Lying on the left side	202		
07 (S W)	Facing directly ahead	211		
	Facing vertically upwards	208		
	Facing vertically downwards	205		
	Lying on the right side	206		
	Lying on the left side	210		

iven results relate to tested samples only
? W — sample after the simulated wearing treatment

TEST RESULTS OF EXHALATION RESISTANCE according to EN 13274-3:2001

Test object: filtering half masks TMKV1 FFP1 NR without valve

No. of sample	The dummy head positions	Exhalation resistance [Pa]		
		Flow rate 2,7 dm³/s	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
S W	Facing directly ahead	209	FFP1 $\leq 300 \text{ Pa}$ FFP2 $< 300 \text{ Pa}$ FFP3 $\leq 300 \text{ Pa}$	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 given in 7.16 in range of the first, the second and the third protection class (FFP1, FFP2, FFP3).
	Facing vertically upwards	208		
	Facing vertically downwards	211		
	Lying on the right side	202		
	Lying on the left side	208		

Given results relate to tested samples only
S W — samples after the simulated wearing treatment

TEST RESULTS OF CO₂ CONTENT OF THE INHALATION AIR according to EN 13274-6:2001

Test object: filtering half masks **TMKV1** FFP1 NR without valve

Test subject number	CO ₂ content of the inhalation air [%] by volume	An average CO content of the inhalation air [%] by volume	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
17 (A.R.)	0,79	0,82	COM content of the inhalation air shall not exceed an average of 1,0% by volume	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 given in 7.12
18 (A.R.)	0,82			
19 (A.R.)	0,84			

Given results relate to tested samples only.

A.R. — sample as received

TEST RESULTS OF PRACTICAL PERFORMANCE TEST
according to EN 13274-2:2001

Test object: filtering half masks TMKV1 FFP1 NR without valve
No. of sample: 26 (A R.), 28 (A.R.)

Assessed elements	Positive assessment	Negative assessment	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
1. The face piece fitting	4	0	Filtering half masks should not have imperfections related to wearer's acceptance	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 given in 7.7
2. Head harness comfort	4	0		
3. Security of fastenings	4			
4. Speech clearness	4	0		
5. Field of vision	4	0		
6. Materials compatibility with skin	4	0		

Given results relate to tested samples only

TEST RESULTS
of
TEMPERATURE CONDITIONING
according to EN 13274-5:2001

Test object: filtering half masks TMKV1 FFP1 NR without valve

No. of sample	Visual inspection	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
01 (A.R.)	No changes	After temperature conditioning in accordance with 8.3.2 filtering half mask shall show no appreciable deformation	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 for temperature conditioning.
05 (A.R.)	No changes		
04 (A.R.)	No changes		

Given results relate to tested samples only.

A.R. — sample as received

TEST RESULTS
of
SIMULATED WEARING TREATMENT *
according to EN 149:2001 + A1:2009

Test object: filtering half masks TMKV1 FFP1 NR without valve

No. of sample	Visual inspection	Requirements in accordance with EN 149:2001 + A1:2009	Estimation of conformity / nonconformity with the standard
03 (A.R.)	No changes	After simulated wearing treatment in accordance with 8.3.1 filtering half mask shall show no appreciable deformation	Filtering half masks fulfill requirements of the standard EN 149:2001 + A1:2009 for simulated wearing treatment.
07 (A.R.)	No changes		
11 (A.R.)	No changes		

Given results relate to tested samples only.

A.R. — sample as received

END OF THE TEST REPORT