MNA LABORATUVARLARI
Notify Body No: 2841

TÜRKAK
Product
TS EN ISO/IEC 17065
AB-0128-U

CONFORMITY TO TYPE BASED ON INTERNAL PRODUCTION CONTROL PLUS SUPERVISED PRODUCT CHECKS AT RANDOM INTERVALS (MODULE C2)

MODÜL C2 - ÜRETİMİN DÂHİLÎ KONTROLÜ VE ÜRÜNÜN RASTGELE ARALIKLARLA DENETİMLİ MUAYENESİNE DAYALI TİPE UYGUNLUK

Belge No / *Certificate No* : 45100897

Belgelendirme Tarihi - Bir Sonraki Belge Tarihi / *Certification Date / Certificate Validity Date* : 23.10.2025-23.10.2026

Belge Geçerlilik Tarihi / *Document Validity Period* : 1 yıl / *1 year*

Firma Unvanı ve Adresi / *Company Name and Address* : GRAFOPLAS DEL NOROESTE, S.A.
LG. A MARİSQUEİRA, S/N (POL. IND. ALMEİRAS)
15180 CULLEREDO (A CORUÑA) – ESPAÑA

Marka / Model / *Brand / Model* : MFR001G, MFVR002G

Direktifi / *Directive* : 2016/425 REGULATION

Modülü/Kategori / *Module / Category* : C2 MODÜLÜ/ KATEGORİ III
MODULE C2 / CATEGORY III

Teknik Değerlendirme Rapor No/ *Technical Evaluation Report No* : MNA 45100897

Ürün Tipi / *Product Type:*

- EN 149:2001+ A1:2009 Solunumla ilgili koruyucu cihazlar - Parçacıklara karşı koruma amaçlı filtreli yarım maskeler/ *Respiratory protective devices - Filtering half masks to protect against particles*

Ürünün Malzeme Bilgisi / *Product Material Information*: MFR001G, MFVR002G model ürünleri kumaş, elastik kayış, burun klipsi, soluk verme valfi, filtre katmanı kullanılarak imal edilmiştir. / *MFR001G, MFVR002G products are manufactured using fabric, elastic strap, nose clip, exhalation valve, filter layer.*

Karar Verici / Approver

Digitally signed by VOLKAN AKIN
Date: 2025.10.23 08:19:20 +03'00'

Şirket Müdürü / General Manager

Digitally signed by OKAN AKEL
Date: 2025.10.23 08:26:12 +03'00'

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Notified Body Number: 2841

CONFORMITY TO TYPE BASED ON INTERNAL PRODUCTION CONTROL PLUS SUPERVISED PRODUCT CHECK AT RANDOM INTERVALS (MODULE C2, ANNEX VII) (45100897)

Report No : 45100897

Report Date : 23.10.2025

Application No : 45100897

1. **COMPANY INFORMATION:**
   GRAFOPLAS DEL NOROESTE, S.A.
   LG. A MARİSQUEİRA, S/N (POL. IND. ALMEİRAS) 15180 CULLEREDO (A CORUÑA) – ESPAÑA
   Tel: +34 981 677 677
   Fax: +34 981 677 020
   E-mail: admin@grafoplas.com

2. **PPE INFORMATION:**
   Disposable and non-sterile half mask made of particulate protection filter material.

3. **PPE TYPE IDENTIFICATION**
   EN 149:2001+A1:2009 Respiratory protective devices – Filtering half masks to protect against particles - Requirements, testing, marking

4. **PPE PICTURES**



MFR001G, MFVR002G

5. **PPE DIMENSIONS:**
   MFR001G, MFVR002G model has been found to be produced using standard sizes.

6. **PPE PRODUCT MATERIAL INFORMATION:**
   The mask is made of elastic strap, exhalation valve, nonwoven fabric on the outer and inner layers and filter material on the middle layer.

7. **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS**
   - A visual inspection was made according to EN 149:2001 +A1:2009 for ergonomics.
   - Protection levels and degrees are defined by the manufacturer.
   - Suitable construction materials were determined by visual inspection according to EN 149:2001 +A1:2009.

8. ANALYSIS EVALUATION AND MARKING:

EN 149:2001 +A1:2009

TESTS	PARAMETER	PERFORMANCE LEVELS			RESULTS	PERFORMANCE LEVELS	EVALUATION
		FFP1	FFP 2	FFP3			
Part 7.3 Visual inspection	Shall also the marking and the information supplied by the manufacturer				Appropriate	-	PASS
Banned Azo Dyes	< 30 mg/kg				Not applicable	-	Not applicable
Part 7.4 Packaging	Particle filtering half mask shall be offered for sale packaged in such a way that they are protected against mechanical damage and contamination before use.				Appropriate	-	PASS
Part 7.5 Material	When conditioned in accordance 8.3.1 & 8.3.2 the particle filter half mask shall not collapse.				Appropriate	-	PASS
Part 7.6 Cleaning and disinfecting	After cleaning and disinfecting the re-usable particle filtering half mask shall satisfy the penetration requirement of the relevant class.				Not applicable	-	Not applicable
Part 7.7 Practical performance	No negative comments should be made by the test subject regarding any of the criteria evaluated.				Appropriate	-	PASS
Part 7.8 Finish of parts	Parts of the device likely to come into contact with the wearer shall have no sharp edge or burrs.				Appropriate	-	PASS

TESTS	PARAMETER	PERFORMANCE LEVELS			RESULTS	PERFORMANCE LEVELS	EVALUATION
		FFP1	FFP2	FFP3			
Part 7.9.1 Total inward leakage	At least 46 out of the 50 individual exercise result	≤25	≤11	≤5	See the table below	FFP3	PASS
	At least 8 out of the 10 individual wearer arithmetic means	≤22	≤8	≤2	See the table below	FFP3	PASS

Total Inward Leakage (%)						
	Exercise 1	Exercise 2	Exercise 3	Exercise 4	Exercise 5	Average
Subject 1 (As received)	1,1	1,5	1,7	1,4	1,3	1,4
Subject 2 (As received)	0,5	0,8	0,7	0,7	0,5	0,6
Subject 3 (As received)	0,6	0,6	0,3	0,4	0,5	0,5
Subject 4 (As received)	1,5	1,1	1,4	1,2	0,8	1,2
Subject 5 (As received)	1,2	1,5	1,3	1,2	1,1	1,3
Subject 6 (After temperature conditioning)	4,5	3,3	3,9	3,4	3,1	3,6
Subject 7 (After temperature conditioning)	0,4	0,5	0,4	0,6	0,5	0,5
Subject 8 (After temperature conditioning)	1,1	1,1	1,2	1,1	1,2	1,1
Subject 9 (After temperature conditioning)	1,5	1,8	2,0	1,7	1,8	1,8
Subject 10 (After temperature conditioning)	0,8	0,6	0,7	0,8	0,9	0,8

Subject facial dimensions

Subject	Face Length (mm)	Face Width (mm)	Face Depth (mm)	Mouth Width (mm)
1	133	132	132	65
2	125	144	116	67
3	126	135	124	75
4	123	133	134	74
5	117	135	122	73
6	122	142	133	66
7	113	132	114	75
8	135	123	123	65
9	122	135	133	74
10	135	142	125	83

TESTS	PARAMETER	PERFORMANCE LEVELS			RESULTS	PERFORMANCE LEVELS	EVALUATION
		FFP1	FFP2	FFP3			
Part 7.9.2 Penetration of filter material	Sodium chloride, 95 L/min %, max	% 20	% 6	% 1	See the table below	FFP3	PASS
	Paraffin oil, 95 L/min %, max	% 20	% 6	% 1	See the table below	FFP3	PASS

Penetration of filter material	Sodium Chloride (%)	Paraffin Oil (%)
As received	0,2	0,3
As received	0,2	0,4
As received	0,3	0,4
After the simulated wearing treatment	0,3	0,4
After the simulated wearing treatment	0,2	0,3
After the simulated wearing treatment	0,2	0,3
Mechanical strength and temperature conditioning (120 mg)	0,3	0,5
Mechanical strength and temperature conditioning (120 mg)	0,4	0,4
Mechanical strength and temperature conditioning (120 mg)	0,3	0,6
After clogging (with valve)	0,5	0,1
After clogging (with valve)	0,4	0,8
After clogging (with valve)	0,5	0,7

TESTS	PARAMETER	PERFORMANCE LEVELS			RESULTS	PERFORMANCE LEVELS	EVALUATION
		FFP1	FFP2	FFP3			
Part 7.10 Compatibility with skin	Materials shall not be known to be likely to cause irritation or any other adverse effect to health				Appropriate	-	PASS
Part 7.11 Flammibility	Mask shall not burn or not to continue to burn for more than 5 s				Flame not seen	-	PASS
Part 7.12 Carbondioxide content of the inhalation air	Shall not exceed an average of % 1				0,57 0,48 0,53	-	PASS
Part 7.13 Head harness	It can be donned and removed easily				Appropriate	-	PASS
Part 7.14 Field of vision	The field of vision shall acceptable in practical performance test.				Appropriate	-	PASS
Part 7.15	It shall withstand axially a tensile force of 10 N apply for 10 s.				Appropriate	-	PASS

Exhalation valve(s)	If fitted, shall continue to operate correctly after a continuous exhalation flow of 300 L/min over a period of 30 s.			

TESTS	PARAMETER	PERFORMANCE LEVELS			RESULTS	PERFORMANCE LEVELS	EVALUATION
		FFP1	FFP2	FFP3			
Part 7.16 Breathing Resistance	Inhalation 30L/min	0,6 mbar	0,7 mbar	1,0 mbar	See the table below	FFP3	PASS
	Inhalation 95L/min	2,1 mbar	2,4 mbar	3,0 mbar	See the table below	FFP3	PASS
	Exhalation 160L/min	3,0 mbar	3,0 mbar	3,0 mbar	See the table below	FFP3	PASS

Breathing Resistance (mbar)	Inhalation 30L/min	Inhalation 95L/min
As received	0,5	1,8
As received	0,5	1,8
As received	0,5	1,8
After temperature conditioning	0,5	1,8
After temperature conditioning	0,4	1,8
After temperature conditioning	0,4	1,7
After the simulated wearing treatment	0,5	1,8
After the simulated wearing treatment	0,4	1,8
After the simulated wearing treatment	0,4	1,7
After the flow conditioning	0,4	1,7
After the flow conditioning	0,4	1,7
After the flow conditioning	0,4	1,7

Breathing Resistance After Clogging (mbar)- with valve	Inhalation 95 L/min
Clogging Breathing Resistance	3,5
Clogging Breathing Resistance	3,1
Clogging Breathing Resistance	3,0

Breathing Resistance 160L/min (mbar)	Facing directly ahead	Facing vertically upwards	Facing vertically downwards	Lying on the left side	Lying on the right side
As received	2,6	2,5	2,6	2,6	2,5
As received	2,5	2,6	2,6	2,6	2,5
As received	2,6	2,5	2,6	2,6	2,6
After temperature conditioning	2,5	2,6	2,5	2,6	2,5
After temperature conditioning	2,6	2,5	2,5	2,6	2,5
After temperature conditioning	2,5	2,6	2,6	2,6	2,6
After the simulated wearing treatment	2,6	2,5	2,6	2,6	2,5
After the simulated wearing treatment	2,5	2,6	2,5	2,6	2,5
After the simulated wearing treatment	2,5	2,5	2,6	2,5	2,6
After the flow conditioning	2,5	2,6	2,6	2,6	2,6
After the flow conditioning	2,6	2,5	2,6	2,6	2,5
After the flow conditioning	2,5	2,6	2,5	2,6	2,5

Breathing Resistance After Clogging 160 L/min (mbar) Exhalation- with valve	Exhalation- with valve
Clogging Breathing Resistance	2,9
Clogging Breathing Resistance	2,8
Clogging Breathing Resistance	2,7

TESTS	PARAMETER	PERFORMANCE LEVELS			RESULTS	PERFORMANCE LEVELS	EVALUATION
		FFP 1	FFP 2	FFP3			
Part 7.17 Clogging	After clogging the inhalation resistances shall not exceed. (valved)	4 mbar	5 mbar	7 mbar	3,5 3,1 3,0	FFP3	PASS
	The exhalation resistance shall not exceed 3 mbar at 160 L/ min continuous flow. (valved)				2,9 2,8 2,7	FFP3	PASS
	After clogging the inhalation and exhalation resistances shall not exceed. (valveless)	3 mbar	4 mbar	5 mbar	Not applicable	-	Not applicable
Part 7.18 Demountable part	All demountable parts (if fitted) shall be readily connected and secured were possible by hand.				Not applicable	-	Not applicable
Part 9 Marking	The packaging information shall be clearly and durably marked on the smallest commercially available packaging or legible through it if the packaging is transparent.				Appropriate	-	PASS

9. ATTACHMENTS

- Test Reports (M-2024-0698, 2024CO6195)

CONTROLLER : Digitally signed by VOLKAN AKIN
Date: 2025.10.23 08:18:37 +03'00'

MNA LABORATORY
ANALYSIS REPORT

Report Nu. : M-2024-0698	Date : 2024-08-22 17:11:16	Page : 1 / 6	Rev:

Purpose of Analysis	: Special request
Sample Send Org.	: GRAFOPLAS DEL NOROESTE, S.A.
Address	: LG. A MARISQUEIRA, S/N (POL. IND. ALMEIRAS) 15180 CULLEREDO (A CORUÑA)
Sample Acceptance Date	: 2024-06-25 14:02:30
Analysis Date	: 2024-06-25 15:50:37
Sample Quantity	: 120 Pieces
Sample Description	: RADEX MFR001G, MFVR002G
Other informations	:

Tests	Method	Expected performance level	Evaluation
Flammability	**EN 13274-4**		**PASS FFP3**
Penetration Of Filter Material	**EN 149+A1 Part 8.11, EN 13274-7**		**PASS FFP3**
Carbon Dioxide Content Of The Inhalation Air	**EN 149+A1 Part 8.7**		**PASS FFP3**
Total Inward Leakage	**EN 149+A1 Part 8.5**		**PASS FFP3**
Breathing Resistance	**EN 149+A1 Part 8.9**		**PASS FFP3**

Flammability

Device: Flammability tester

Measurement uncertainty:-

Tests	Analysis result	Limit Value	Method	Evaluation	Physical Condition
Flammability	**No flame seen.**	**Shall not burn for more than 5 sec after removal from the flame**	**EN 13274-4**	**PASS FFP3**	**-**

Penetration Of Filter Material

Device:Filter Test System

Measurement uncertainty:±0,080

Tests	Analysis result	Limit Value	Method	Evaluation	Physical Condition
Penetration Of Filter Material	**See the table for result.**	**FFP1≤20 FFP2≤6 FFP3≤1**	**EN 149+A1 Part 8.11, EN 13274-7**	**PASS FFP3**	**-**

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	Sodium Chloride (%)	Paraffin Oil (%)
As received 1	0,2	0,3
As received 2	0,2	0,4
As received 3	0,3	0,4
After the simulated wearing treatment 1	0,3	0,4
After the simulated wearing treatment 2	0,2	0,3
After the simulated wearing treatment 3	0,2	0,3
Mechanical strength and temperature conditioning (120 mg) 1	0,3	0,5
Mechanical strength and temperature conditioning (120 mg) 2	0,4	0,4
Mechanical strength and temperature conditioning (120 mg) 3	0,3	0,6

Carbon Dioxide Content Of The Inhalation Air

Device:Carbon DioxideTester

Measurement uncertainty:±0,072

Tests	Analysis result	Limit Value	Method	Evaluation	Physical Condition
Carbon Dioxide Content Of The Inhalation Air	See the table for result.	Maximum %1	EN 149+A1 Part 8.7	PASS FFP3	-

	CO2 (%)
Sample 1	0,57
Sample 2	0,48
Sample 3	0,53

Total Inward Leakage

Device: Total Inward Leakage Tester

Measurement uncertainty:±0,090

Tests	Analysis result	Limit Value	Method	Evaluation	Physical Condition
Total Inward Leakage	See the table for	See the limits table.	EN 149+A1 Part 8.5	PASS FFP3	-

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	result.				

	At least 46 out of the 50 individual exercise result shall be not greater than	At least 8 out of the 10 individual wearer arithmetic means shall be not greater than
FFP1	**≤25**	**≤22**
FFP2	**≤11**	**≤8**
FFP3	**≤5**	**≤2**

	Exercise 1	Exercise 2	Exercise 3	Exercise 4	Exercise 5	Average
Subject 1 (As received)	**1,1**	**1,5**	**1,7**	**1,4**	**1,3**	**1,4**
Subject 2 (As received)	**0,5**	**0,8**	**0,7**	**0,7**	**0,5**	**0,6**
Subject 3 (As received)	**0,6**	**0,6**	**0,3**	**0,4**	**0,5**	**0,5**
Subject 4 (As received)	**1,5**	**1,1**	**1,4**	**1,2**	**0,8**	**1,2**
Subject 5 (As received)	**1,2**	**1,5**	**1,3**	**1,2**	**1,1**	**1,3**
Subject 6 (After temperature conditioning)	**4,5**	**3,3**	**3,9**	**3,4**	**3,1**	**3,6**
Subject 7 (After temperature conditioning)	**0,4**	**0,5**	**0,4**	**0,6**	**0,5**	**0,5**
Subject 8 (After temperature conditioning)	**1,1**	**1,1**	**1,2**	**1,1**	**1,2**	**1,1**
Subject 9 (After temperature conditioning)	**1,5**	**1,8**	**2,0**	**1,7**	**1,8**	**1,8**
Subject 10 (After temperature conditioning)	**0,8**	**0,6**	**0,7**	**0,8**	**0,9**	**0,8**

Breathing Resistance

Device:Breathing Resistance Tester

Measurement uncertainty: Inhalation 30L/min:±0,160,Inhalation30 L/min:±0,026 Exhalation 160 L/min:0,046

Tests	Analysis result	Limit Value	Method	Evaluation	Physical Condition
Breathing Resistance	**See the table for**	**See the limits table.**	**EN 149+A1 Part 8.9**	**PASS FFP3**	**-**

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	result.				

Classification	30 L/min max basınç (mbar)	95 L/min max basınç (mbar)	160 L/min max basınç (mbar)
FFP1	**0,6**	**2,1**	**3,0**
FFP2	**0,7**	**2,4**	**3,0**
FFP3	**1,0**	**3,0**	**3,0**

Inhalation	30 L/min	95 L/min
As received 1	**0,5**	**1,8**
As received 2	**0,5**	**1,8**
As received 3	**0,5**	**1,8**
After temperature conditioning 1	**0,5**	**1,8**
After temperature conditioning 2	**0,4**	**1,8**
After temperature conditioning 3	**0,4**	**1,7**
After the simulated wearing treatment 1	**0,5**	**1,8**
After the simulated wearing treatment 2	**0,4**	**1,8**
After the simulated wearing treatment 3	**0,4**	**1,7**
After the flow conditioning 1	**0,4**	**1,7**
After the flow conditioning 2	**0,4**	**1,7**
After the flow conditioning 3	**0,4**	**1,7**

Exhalation 160L/min	Facing directly ahead	Facing vertically upwards	Facing vertically downwards	Lying on the left side	Lying on the right side
As received 1	**2,6**	**2,5**	**2,6**	**2,6**	**2,5**
As received 2	**2,5**	**2,6**	**2,6**	**2,6**	**2,5**
As received 3	**2,6**	**2,5**	**2,6**	**2,6**	**2,6**
After temperature conditioning 1	**2,5**	**2,6**	**2,5**	**2,6**	**2,5**
After temperature conditioning 2	**2,6**	**2,5**	**2,5**	**2,6**	**2,5**
After temperature conditioning 3	**2,5**	**2,6**	**2,6**	**2,6**	**2,6**
After the simulated wearing treatment 1	**2,6**	**2,5**	**2,6**	**2,6**	**2,5**
After the simulated wearing treatment 2	**2,5**	**2,6**	**2,5**	**2,6**	**2,5**
After the simulated wearing treatment 3	**2,5**	**2,5**	**2,6**	**2,5**	**2,6**

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After the flow conditioning 1	**2,5**	**2,6**	**2,6**	**2,6**	**2,6**
After the flow conditioning 2	**2,6**	**2,5**	**2,6**	**2,6**	**2,5**
After the flow conditioning 3	**2,5**	**2,6**	**2,5**	**2,6**	**2,5**

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MNA LABORATORY
ANALYSIS REPORT

Report Nu. : M-2024-0698	Date : 2024-08-22 17:11:16	Page : 6 / 6	Rev:

Operating as a test laboratory, MNA Laboratories is accredited by TÜRKAK according to AB-1183-T and TS_EN_ISO/IEC_17025:2017 standards has been done. A multilateral agreement with the European Accreditation Association (EA) on the recognition of the Turkish Accreditation Agency (TÜRKAK) test reports and It has signed a mutual recognition agreement with the International Laboratory Accreditation Association (ILAC).

***The analysis is within the scope of accreditation.**

Note :

1. No part of this analysis report may be used alone or separately and may be partially copied or reproduced without the written permission of the laboratory. It cannot be reproduced, used by third parties or as a means of advertising.
2.Analysis results are valid for the sample sent and analyzed by the company/institution/individual to MNA Laboratories. represent the whole may not.
3. Unsigned and Unsealed reports are invalid.

4.This analysis report cannot be used in judicial-administrative proceedings or for advertising purposes.
5. Results are valid for the sample received.
6. The decision rule is the rule that determines how measurement uncertainty is taken into account when specifying compliance with an established specification. The customer may choose to apply and/or not apply the decision rule (except in cases where legislation/standards are mandatory). If the customer prefers to apply the decision rule; According to the TLM-052 Decision Rule Application instruction published on the www.mnalab.com website, the decision rule selected in agreement is applied and reported by stating the relevant analysis and decision rule method in the "Note" section. If the customer leaves the decision rule application to the laboratory's evaluation, MNA LABORATORIES applies the simple decision rule.
7. Limit Values are determined by taking from analysis methods.
8. The laboratory is not responsible if the information provided by the CUSTOMER affects the validity of the results.
9. Test and / or measurement results, expanded measurement uncertainties (if any) and test methods are given in the following pa ges, which are the supplementary part of this certificate.
10. Water Repellency Determination Hydrostatic Pressure Determination T S ISO 811 (Hydrostatic Pressure Tester E / N: 53) Analysis, Seam Strength EN ISO 13935-2 (Strength Test Device E / N: 50) Analysis and resistance to liquid chemical permeation TS EN 659 -A1 Part 3.18 (Liquid Chemical Transfer Device E / N: 107) Analysis is carried out in the conditioning room and ISO 139 PART 3.2 conditions (23 ± 2 ° C temperature and 50 ± 4% relative humidity) are applied for ambient conditions.
The witness sample not recieved.

Yunus ÖZTÜRK

Sample Acceptance and Reporting Officer

2024-08-22 17:09:42

VOLKAN AKIN

Laboratory Manager

2024-08-22 17:09:23

Erhan Üstünel

Laboratory Responsible

2024-08-22 17:08:54

Küçükbakkalköy Mahallesi Yenidogan Caddesi No: 21 Ataşehir İstanbul
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INFORME DE ENSAYO / *TEST REPORT*

2024CO6195

FECHA DE RECEPCIÓN / *DATE OF RECEPTION*
Date Format: dd/MM/yyyy 28/10/2024

FECHA DE ENSAYOS / *DATE TESTS*
Inicio / *Starting*: 28/10/2024
Finalización / *Ending*: 31/10/2024

SOLICITANTE / *APPLICANT*

GRAFOPLÁS DEL NOROESTE S.A.
LG. A MARISQUEIRA S/N (POL.IND. ALMEIRAS)
ES-15180 CULLEREDO (La Coruña)
España

Att. ESTHER PEREIRA

IDENTIFICACIÓN Y DESCRIPCIÓN DE LAS MUESTRAS/ *IDENTIFICATION AND DESCRIPTION OF SAMPLES*

Referencia AITEX *Reference by AITEX*	**Referencia Cliente** *Reference by customer*	**Descripción AITEX** *AITEX sample description*
2024CO6195-S01	MFVR002G	Mascarilla blanca con válvula *White facemask with valve*

ENSAYOS REALIZADOS / *TESTS CARRIED OUT*

- ACONDICIONAMIENTO TÉRMICO / *THERMAL CONDITIONING.*
- OBSTRUCCIÓN / *CLOGGING TEST.*

Asociación de Investigación de la Industria Textil – C.I.F.: G03182870

Los ensayos marcados con * no están amparados por la acreditación de ENAC.
*Tests marked with * are not included within the scope of the ENAC accreditation.*

RESUMEN DE INFORME / *EXECUTIVE SUMMARY*

	Referencia */ Reference*	**Ensayo/Norma** */ Test/Standard*	**Resultado** *Result*
EN 149:2001+A1:2009	2024CO6195-S01	OBSTRUCCIÓN*/ CLOGGING TEST* **EN 149:2001+A1:2009 (Ptos. 8.9,8.10, 8.11) / EN 13274-7:2008**	NIVEL FFP3 *LEVEL FFP3*

RESUMEN DE REQUISITOS / *REQUIREMENT SUMMARY*

OBSTRUCCIÓN
CLOGGING TEST

Requisitos a satisfacer según EN 149:2001+A1:2009 según punto 7.17
Requirements to be met according to EN 149:2001+A1:2009, point 7.17

La resistencia a la respiración especificada no debe excederse antes de que se haya alcanzado una carga de polvo de 833 mg·h/m^3
The specified breathing resistance must not be exceded before a dust load of 833 mg·h/m^3

Requisitos a satisfacer según EN 149:2001+A1:2009 según punto 7.17.2.1
Requirements to be met according to EN 149:2001+A1:2009, point 7.17.2.1

Con válvula/ *with valved*

Resistencia máxima a la respiración *Maximum resistance to breathing* **(mbar)**		
Clasificación *Classification*	**Inhalación 95l/min** *Inhalation 95l/min*	**Exhalación 160l/min** *Exhalation 160l/min*
FFP1	**4,0**	**3,0**
FFP2	**5,0**	
FFP3	**7,0**	

Sin válvula / *without valved*

Resistencia máxima a la respiración *Maximum resistance to breathing* **(mbar)**		
Clasificación *Classification*	**Inhalación 95l/min** *Inhalation 95l/min*	**Exhalación 95l/min** *Exhalation 95l/min*
FFP1	**3,0**	**3,0**
FFP2	**4,0**	**4,0**
FFP3	**5,0**	**5,0**

Requisitos a satisfacer según EN 149:2001+A1:2009 según punto 7.9
Requirements to be met according to EN 149:2001+A1:2009, point 7.9

Classificación *Classification*	**Penetración máxima del aerosol** *Maximum aerosol penetration* **(%)**
FFP1	20
FFP2	6
FFP3	1

DESCRIPCIÓN DE LA MUESTRA/S
SAMPLE/S DESCRIPTION

Referencia por AITEX ***AITEX Reference***	**Descripción de la muestra** ***Description of the sample***
2024CO6195-S01	Media máscara de partículas con válvula de exhalación que cubre nariz, boca y mentón con arnés de oreja, color blanco. *Particle filtering half mask with exhalation valve covering nose, mouth and chin with ear harness, white colour.*

2024CO6195-S01



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2024CO6195-S01



2024CO6195-S01



///

RESULTADOS/*RESULTS*

ACONDICIONAMIENTO TÉRMICO
THERMAL CONDITIONING

Norma
Standard

EN 149:2001+A1:2009 (punto 8.3.2)
EN 149:2001+A1:2009 (point 8.3.2)

Fecha
Date

Referencia *Reference*	Inicial *Initial*	Final
2024CO6195-S01	28/10/2024	30/10/2024

Descripción del método
Method description

Atmósfera seca < 20%HR, 24 h. a (70 ± 3) ºC y 24h. a (-30 ± 3) ºC.
Dry atmosphere < 20%RH, 24 h. at (70 ± 3) ºC and 24h. at (-30 ± 3) ºC.

_____///

RESULTADOS/*RESULTS*

OBSTRUCCIÓN
CLOGGING TEST

Norma
Standard

EN 149:2001+A1:2009 (punto 8.10)
EN 149:2001+A1:2009 (point 8.10)

Aparato
Apparatus

Equipo generador de aceite de parafina y cloruro sódico y equipo de obstrucción de polvo de dolomita.
Paraffin oil and sodium chloride generator equipment's and dolomite dust clogging equipment.

Condiciones de ensayo
Testing conditioning

Fecha de ensayo *Test date*	Inicial *Initial*	Final
30/10/2024	23,0 ºC / 50 % R.H.	23,3 ºC / 48,3 % R.H.
31/10/2024	22,3 ºC / 50 % R.H.	22,3 ºC / 54,3 % R.H.

Pre-acondicionamiento de muestras
Sample Conditioning

• Muestra 1: En original.
Sample 1: As received.
• Muestra 2 y 3: Acondicionamiento térmico.
Samples 2 and 3: Thermal conditioning.

Incertidumbre del ensayo
Test uncertainty

La incertidumbre expandida para el ensayo de Resistencia a la respiración es ± 1,8% del valor del mesurando, para una probabilidad de cobertura del 95%.
The expanded uncertainty for the Breathing resistance test is ± 1,8% of the value of the measured for a probability of coverage of 95%.
La incertidumbre expandida es para FFP1 ± 14%, para FFP2 ± 18% y para FFP3 ± 23% del valor del mesurando, para una probabilidad de cobertura del 95%.
The expanded uncertainty is for FFP1 ± 14%, for FFP2 ± 18% and for FFP3 ± 23% of the value of the measured for a probability of coverage of 95%.
La incertidumbre expandida del ensayo de penetración de NaCl es ± 15% del valor del mesurando, para una probabilidad de cobertura del 95%.
The expanded uncertainty of NaCl penetration test is ± 15% of the value of the measured for a probability of coverage of 95%.

>>>

Referencia
Reference

2024CO6195-S01

Fecha *Date*	Concentración (mg/m³) *Concentration (mg/m³)*	Tiempo de exposición para 833 mg·h/m³ de polvo de dolomita (min) *Exposure time for 833 mg-h/m³ of dolomite dust (min)*
30/10/2024	440	114
31/10/2024	469	107

Muestra nº. *Sample no.*	Completa el tiempo de exposición para 833 mg·h/m³ de polvo de dolomita. *Complete exposure time for 833 mg-h/m³ of dolomite dust.*	Duración de exposición al polvo de dolomita (min) *Duration of exposure time to dolomite dust (min)*
1	SI *YES*	114
2	SI *YES*	107
3	SI *YES*	107

Resistencia a la respiración durante la exposición al polvo de dolomita
Resistance to breathing during exposure to dolomite dust

Muestra nº. *Sample no.*	Inhalación mbar *Inhalation mbar*		Exhalación mbar *Exhalation mbar*	
	Inicial *Initial*	Final	Inicial *Initial*	Final
1	1,63	3,45	1,36	2,75
2	1,34	3,17	1,08	2,17
3	1,21	2,86	0,96	2,47

Resistencia a la respiración después de la exposición al polvo de dolomita
Breathing resistance after exposure to dolomite dust

Muestra nº. *Sample no.*	Resistencia la inhalación 95L/min mbar *Resistance to breathing 95L/min mbar*
1	3,5
2	3,1
3	3,0

Muestra nº. *Sample no.*	Resistencia a la exhalación 160L/min mbar *Resistance to exhalation 160L/min mbar*
1	2,9
2	2,8
3	2,7

>>>

Penetración después de la exposición al polvo de dolomita
Penetration after exposure to dolomite dust

Ensayo de penetración de aceite de parafina *Paraffin oil penetration test*	
Muestra nº. ***Sample no.***	**Valor medio de penetración %** ***Average value of penetration %***
1	0,10
2	0,80
3	0,71

Ensayo de penetración de cloruro sódico *Sodium chloride penetration test*	
Muestra nº. ***Sample no.***	**Valor medio de penetración %** ***Average value of penetration %***
1	0,50
2	0,35
3	0,53

_____///

Begoña Picó
Responsable Unidad de Gestión Licitaciones Públicas
Head of Public Tenders Division

Date: 31/10/2024 17:57:52
Digitally Signed by:BEGOÑA PICO MONLLOR - NIF:21647435L

CLAUSULAS DE RESPONSABILIDAD

1.- AITEX responde únicamente de los resultados sobre los métodos de análisis empleados, consignados en el informe y referidos exclusivamente a los materiales o muestras que se indican en el mismo y que queden en su poder, limitando a éstos la responsabilidad profesional y jurídica del Centro. Salvo mención expresa, las muestras han sido libremente elegidas y enviadas por el solicitante.
2.- AITEX no se hace responsable en ningún caso del mal uso de los materiales ensayados ni de la interpretación o uso indebido que pueda hacerse de este documento. Los laboratorios de AITEX no realizan muestreos.
3.- La Oferta o Pedido a la que da conformidad el solicitante a través de firma y sello, constituye el Acuerdo Legalmente ejecutable en el que AITEX es responsable de salvaguardar y garantizar, la confidencialidad absoluta, de la gestión de toda la información obtenida o creada durante el desempeño de las actividades contratadas.
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5.- AITEX proporcionará a solicitud del interesado, el procedimiento de tratamiento de quejas. En el caso de que se desee poner una, diríjanla a: calidad@aitex.es.
6.- AITEX no se hace responsable de la información proporcionada por los clientes, que se refleja en el Informe, y pueda afectar a la validez de los resultados. La información suministrada por el cliente, no se encuentra cubierta por el alcance de acreditación de ENAC.
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8.- AITEX podrá incluir en sus informes, análisis, resultados, etc., cualquier otra valoración que juzgue necesaria, aún cuando ésta no hubiere sido expresamente solicitada.
9.- Cuando se solicite Declaración de Conformidad, de no indicarse lo contrario, se aplicará la regla de decisión según ILAC-G8: 2009 con una zona de seguridad de 1U y una Probabilidad de Aceptación Falsa <2,5%.
10.- Las incertidumbres de ensayos, que se explicitan en el Informe de resultados, se han estimado para una k=2 (95% de probabilidad de cobertura). En caso de no informarse, éstas se encuentran a disposición del cliente en AITEX.
11.- Los materiales originales, o muestras sobrantes no sometidas a ensayo, se conservarán en AITEX durante los DOCE MESES posteriores a la emisión del informe, por lo que toda comprobación o reclamación que, en su caso, deseará efectuar el solicitante, se deberá ejercer en el plazo indicado.
12.- Este informe sólo puede enviarse o entregarse en mano al solicitante o a la persona debidamente autorizada por él.
13.- Los resultados de los ensayos y la declaración de cumplimiento con la especificación en este informe se refieren solamente a la muestra de ensayo tal como ha sido analizada/ensayada y no a la muestra/ítem del cual se ha sacado la muestra de ensayo.
14.- El cliente debe prestar atención, en todo momento, las fechas de la realización de los ensayos.
15.- De acuerdo a la Resolución EA (33) 31, los informes de ensayo deben incluir la identificación única de la muestra pudiendo añadirse además cualquier marca o etiquetado del fabricante. No está permitido reemitir informes de ensayo de denominaciones de muestras (referencias) no ensayadas, sólo se pueden volver a reemitir para la corrección de errores o la inclusión de datos omitidos que ya estaban disponibles en el momento del ensayo. El laboratorio no puede asumir la responsabilidad por la que se declara que el producto con el nuevo nombre comercial / marca comercial es estrictamente idéntico al ensayado originalmente; esta responsabilidad es del cliente.
16.- Este informe no podrá ser reproducido parcialmente sin la aprobación por escrito del laboratorio que lo emite.

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7.- AITEX is not responsible for an inadequate state of the sample received that could compromise the validity of the results, expressing such circumstance, in the test reports.
8.- AITEX may include in its reports, analyses, results, etc., any other evaluation which it considers necessary, even when it has not been specifically requested.
9.- When a Declaration of Conformity is requested, if not indicated otherwise, the decision rule according to ILAC-G8: 2009 will be applied with a security zone of 1U and a Probability of False Acceptance <2.5%.
10.- The uncertainties of tests, which are made explicit in the Results Report, have been estimated for a k = 2 (95% probability of coverage). If not informed, they are available to the client in AITEX.
11. - The original materials and rests of samples, not subject to test, will be retained in AITEX during the twelve months following the issuance of the report, so that any check or claim which, in his case, wanted to make the applicant, should be exercised within the period indicated.
12.- This report may only be sent or delivered by hand to the applicant or to a person duly authorised by the same.
13.- The results of the tests and the statement of compliance with the specification in this report refer only to the test sample as it has been analyzed / tested and not the sample / item which has taken the test sample.
14.- The client must attend at all times, to the dates of the realization of the tests.
15.- According to Resolution EA (33) 31, the test reports must include the unique identification of the sample, and any brand or label of the manufacturer may be added. It is not allowed to re-issue test reports of untested sample names (references), they can only be re-issued for error correction or inclusion of omitted data that were already available at the time of the test. The laboratory can not assume responsibility for declaring that the product with the new trade name / trademark is strictly identical to the one originally tested; This responsibility belongs to the client.
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