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HUNAN CHANGYUAN TECHNOLOGY CO.,LTD





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FFP2

CY005产品介绍



MIDUODUO

产品包装盒 PackageBox





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产品展示 PICTURES





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营业执照

(副本)

副本编号: 1 - 1



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统一社会信用代码
91430181MA4L3MQ216

名称 湖南长原环境科技有限公司

注册资本 贰仟万元整

类型 有限责任公司(自然人投资或控股)

成立日期 2016年04月08日

法定代表人 马艳珍

营业期限 长期

经营范围 室内环境及健康空气系统设备研发；一类医疗器械、二类医疗器械、新材料及相关技术的生产；普通劳动防护用品制造；汽车零部件及配件制造（不含汽车发动机制造）；机械零部件加工。（依法须经批准的项目，经相关部门批准后方可开展经营活动）

住所 浏阳市环保科技示范园

登记机关



2020年4月7日

国家企业信用信息公示系统网址: <http://www.gsxt.gov.cn>

市场主体应当于每年1月1日至6月30日通过国家企业信用信息公示系统报送公示年度报告。

国家市场监督管理总局监制



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医疗器械生产许可证

许可证编号：湘食药监械生产许20200200号

企业名称：湖南长原环境科技有限公司

生产地址：浏阳市环保科技示范园

法定代表人：马艳珍

生产范围：II类：14-14 医护人员防护用品

企业负责人：马艳珍

住 所：浏阳市环保科技示范园

发证部门：湖南省药品监督管理局

有效期限：至 2025 年 07 月 29 日 发证日期：2020 年 07 月 30 日



国家药品监督管理局制



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对外贸易经营者备案登记表

备案登记表编号: 03605290

统一社会信用代码: 91430181MA4L3MQ216
进出口企业代码: -----

经营者中文名称	湖南长原环境科技有限公司		
经营者英文名称	Hunan Changyuan Technology Co., Ltd.		
组织机构代码	-----	经营者类型 (由备案登记机关填写)	有限责任公司
住 所	浏阳市环保科技示范园		
经营场所 (中文)	浏阳市环保科技示范园		
经营场所 (英文)	Environmental Science & Technology industrial zone, Liuyang City, Hunan, China		
联系电话	073183100108	联系传真	073183100208
邮政编码	410319	电子邮箱	2214508784@qq.com
工商登记注册日期	2016-04-08	工商登记注册号	-----

依法办理工商登记的企业还须填写以下内容

企业法定代表人姓名	马艳珍	有效证件号	430181197408199427
注册资金	2000万元人民币	(折美元)	

依法办理工商登记的外国(地区)企业或个体工商户(独资经营者)还须填写以下内容

企业法定代表人/ 个体工商户负责人姓名	有效证件号	
企业资产/个人财产	(折美元)	

备注	
----	--

填表前请认真阅读背面的条款,并由企业法定代表人或个体工商户负责人签字、盖章



2019 年 05 月 08 日



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海关进出口货物收发货人备案回执

企业名称	湖南长原环境科技有限公司
统一社会信用代码	91430181MA4L3MQ216
海关编码	432096098L
检验检疫备案号	4362400021
有效期	长期

星沙海关驻浏阳办事处

2019-05-08



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自我声明DOC

Declaration of Conformity

Manufacturer: Hunan Changyuan Technology Co., Ltd.
Address: Liuyang Environmental Science and Technology Demonstration Park,
Zhentou Town, Liuyang City, Hunan Province, P.R. China.
Product Name Filtering Half Mask FFP2 NR
Model No. CY005
Serial No.: 2163-PPE-1021

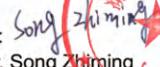
The undersigned hereby declares that the product specified above conforms with the following essential requirements:

Personal Protective Equipment Regulation (EU) 2016/425, under Category III risk per defined in Annex I, complying with the European standards EN 149:2001+A1:2009. It is identical to the PPE which is subject to the EU Type Examination (Module B) under certificate number 2163-PPE-1021 issued by Notified Body:

Universal Certification and Surveillance Service Trade Ltd. Co. (NB#: 2163)
Necip Fazıl Bulvarı Keyap Sitesi E2 Blok No: 44/84 Yukarı Dudullu Ümraniye, Istanbul, Turkey

In addition, it is subject to the annual conformity assessment procedure which is based on internal production control plus supervised product checks at random intervals (Module C2) under surveillance of the Notified Body:

Universal Certification and Surveillance Service Trade Ltd. Co. (NB#: 2163)
Necip Fazıl Bulvarı Keyap Sitesi E2 Blok No: 44/84 Yukarı Dudullu Ümraniye, Istanbul, Turkey

Signature: 
Name: Mr. Song Zhiming
Position: General Manager
Hunan Changyuan Technology Co., Ltd.
Date and Place of issue: 2020.7.30
Liuyang Environmental Science and Technology Demonstration Park, Zhentou Town,
Liuyang City, Hunan Province, P.R. China.



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白名单 Whitelist

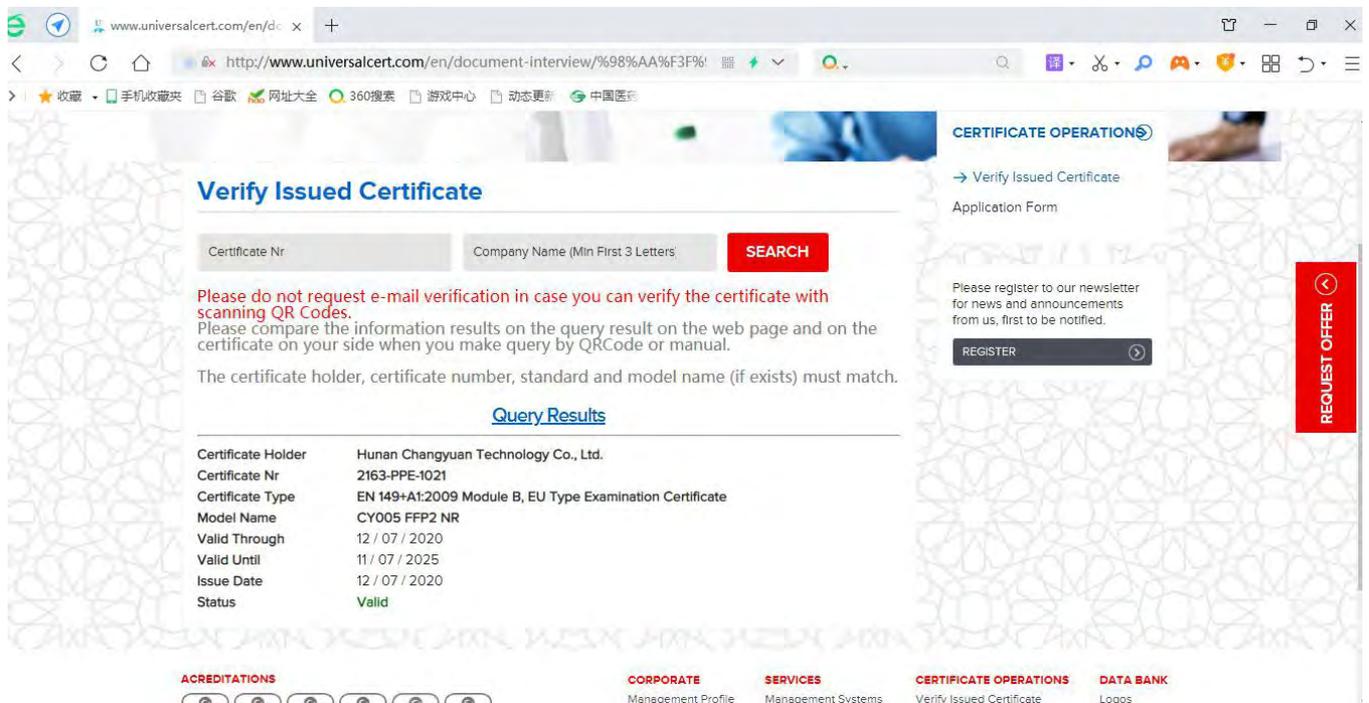
504	广东昱升个人护理用品股份有限公司 Guangdong Winsun Personal Care Products Co.,Ltd.	914406007820115710	欧盟CE
505	广州泰特生物科技有限公司 Guangzhou Taite Biotechnology Co.,Ltd.	91440101MA5D6GND78	欧盟CE
506	河北鹏远光电股份有限公司 Hebei Pengyuan Optoelectronics Co., Ltd.	911303007870441104	欧盟CE
507	河南秉尊实业有限公司 Henan BingZun Industrial Co., Ltd	91410323MA481TQE6R	欧盟CE
508	长沙昌久医疗科技有限公司 Changsha Changjiu Medical Technology Co.,Ltd	91430105MA4M2LA58X	美国EUA
509	湖南长原环境科技有限公司 Hunan Changyuan Technology Co. LTD	91430181MA4L3MQ216	欧盟CE
510	长沙心诺医疗器械有限公司 Changsha Xinnuo Medical Instruments Co.,Ltd (持证公司: Promorange, SRO)	91430181MA4QT70Q8H	欧盟CE
511	江苏天章医用卫生新材料股份有限公司 Jiangsu Tianzhang New Medical & Health Materials Co., Ltd	91320206761015813N	欧盟CE
512	江苏高玛防护器材有限公司 Jiangsu Gaoma Protective Equipment Co., Ltd	91320404323836697F	欧盟CE



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白名单

740	佛山市南海川之尚服饰有限公司 Foshan Nanhai Chuanzhishang Clothing Co., Ltd.	91440605560887113G	美国EUA
741	东莞市丰源泰防护用品有限公司 Dongguan Fengyuantai Protective Article Co.,Ltd.	91441900MA54GAL08L	欧盟CE
742	湖北欧肯环境科技有限公司 Hubei Orkan Environmental Technology Co., Ltd.	91420222MA492RCF6A	欧盟CE
743	湖南长原环境科技有限公司 Hunan Changyuan Technology Co. LTD	91430181MA4L3MQ216	美国EUA
744	湖南源康生物科技有限公司 Hunan Yuankang Biotechnology Co.,Ltd.	91430421MA4L5FRY1F	欧盟CE
745	霍尼韦尔安全防护产品（南通）有限公司 Honeywell Safety Products (Nantong) Co Ltd (持证公司: Honeywell International Inc.)	91320623677016012H	美国NIOSH
746	江苏建成弘业精密机械科技有限公司 Jiangsu JCHY Precision Machinery Co., Ltd.	91320412MA205GG38H	欧盟CE
747	江苏常美医疗器械有限公司 Jiangsu Changmei Medtech Co., Ltd.	91320412072779017U	美国EUA
748	宇彤环保科技（宿迁）有限公司 Yu Tong Eco-Technology(Su Qian) CO.,LTD.	91321302MA1XDP489J	美国EUA



The screenshot displays the 'Verify Issued Certificate' page on the website. The page includes a search form with fields for 'Certificate Nr' and 'Company Name (Min First 3 Letters)', and a 'SEARCH' button. Below the search form, there is a warning: 'Please do not request e-mail verification in case you can verify the certificate with scanning QR Codes. Please compare the information results on the query result on the web page and on the certificate on your side when you make query by QRCode or manual. The certificate holder, certificate number, standard and model name (if exists) must match.'

The 'Query Results' section shows the following information:

Certificate Holder	Hunan Changyuan Technology Co., Ltd.
Certificate Nr	2163-PPE-1021
Certificate Type	EN 149+A1:2009 Module B, EU Type Examination Certificate
Model Name	CY005 FFP2 NR
Valid Through	12 / 07 / 2020
Valid Until	11 / 07 / 2025
Issue Date	12 / 07 / 2020
Status	Valid

The page also features a 'CERTIFICATE OPERATION' sidebar with links to 'Verify Issued Certificate' and 'Application Form', a 'REGISTER' button, and a 'REQUEST OFFER' button. At the bottom, there are navigation menus for 'ACREDITATIONS', 'CORPORATE', 'SERVICES', 'CERTIFICATE OPERATIONS', and 'DATA BANK'.



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Module B.CERTIFICATE

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Verify the validity with the QR code



UNIVERSAL
CERTIFICATION

NB 2163

EU TYPE EXAMINATION CERTIFICATE

Certificate No: 2163-PPE-1021

Respiratory protective devices, filtering half masks to protect against particles manufactured by

Hunan Changyuan Technology Co., Ltd.

Zhentou, Liuyang Environmental Protection Industrial Park, Liuyang, Hunan Province, China
are tested and evaluated according to

**EN 149:2001 + A1:2009 Respiratory Protective Devices -
Filtering Half Masks to Protect Against Particles -
Requirements, Testing, Marking**

Based on the type examination conducted with the evaluation of test reports, technical file according to Personal Protective Equipment Regulation (EU) 2016/425 Annex 5, it is approved that the product meets the requirements of the regulation.

Product Definition

Model: CY005

Filtering half mask

Classification: FFP2 NR

Here by the manufacturer is allowed to use notified body number (2163) and can fix CE mark, as shown below, on the Category III product models given above, with;

- Issuing an appropriate EU Declaration of Conformity according to **Personal Protective Equipment Regulation (EU) 2016/425 Annex 9.**
- Ongoing successful performance in fulfilment of the requirements set out in Personal Protective Equipment Regulation (EU) 2016/425 and harmonised standards, ensured by assessments based on **Annex 7 (Module C2) or Annex 8 (Module D)** of the regulation no later than 1 year from the beginning of serial production

This certificate is initially issued on 12/07/2020 and will be valid for 5 years, if there is no change in the relevant harmonised standard affecting the essential health and safety requirements.



Suat KACMAZ
UNIVERSAL CERTIFICATION
Director

Necip Fazıl Bulvarı Keyap Sitesi E2 Blok No:44/84 Yukarı Dudullu Ümraniye - İSTANBUL - TURKEY T:+90 216 455 80 80

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Module C2.CERTIFICATE

UNIVERSAL



NB 2163

CERTIFICATE OF CONFORMANCE

Certificate No: 2163-PPE-1021/01

Respiratory protective devices, filtering half masks to protect against particles manufactured by

Hunan Changyuan Technology Co., Ltd.

Zhentou, Liuyang Environmental Protection Industrial Park, Liuyang, Hunan Province, China
Continues to fulfil the requirements of

EN 149:2001 + A1:2009 Respiratory Protective Devices - Filtering Half Masks to Protect Against Particles - Requirements, Testing, Marking

Based on the evaluation of test reports and internal quality control audit reports according to EN 149+A1:2009 and Personal Protective Equipment Regulation (EU) 2016/425 Annex VII (Module C2). This certificate implies that the manufactured products show below are in conformance with the approved EU Type Examination model and meets the requirements of the regulation.

Product Definition

Model	Class	EU Type Examination Certificate		
		Serial No	Date	Issuing NB No
CY005	FFP2 NR	2163-PPE-1021	12.07.2020	2163

Here by the manufacturer is allowed to use notified body number (2163) and can fix CE mark, as shown below, on the Category III product models given above, with;

- Issuing an appropriate EU Declaration of Conformity according to **Personal Protective Equipment Regulation (EU) 2016/425 Annex 9.**
- Taking all measures necessary so that the manufacturing process and its monitoring ensure the homogeneity of production and conformity of the manufactured PPE with the type described in the EU type examination certificate.

This certificate is issued on 12/07/2020 and will be valid for one year, until 11/07/2021 if the manufacturer makes no major change in the product designs and manufacturing processes affecting the product performance on the essential health and safety requirement.



Suat KACMAZ
UNIVERSAL CERTIFICATION
Director

Verify the validity with the QR code



Necip Fazıl Bulvarı Keyap Sitesi E2 Blok No:44/84 Yukarı Dudullu Ümraniye - İSTANBUL - TURKEY T:+90 216 455 80 80

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Technical.Report



TECHNICAL ASSESSMENT REPORT

REPORT DATE / NO: 12.07.2020 / 2163-KKD-1021

Manufacturer: Hunan Changyuan Technology Co., Ltd.

Address: Zhentou, Liuyang Environmental Protection Industrial Park, Liuyang, Hunan Province, China

This report is for the, given above, manufacturer prepared according to the test results obtained from Jiangsu Guojian Testing Technology Co., Ltd. accredited by CNAS (China National Accreditation Service), signatory to ILAC MRA, with number L-10118 for the product identified below, dated 19.06.2020 with Serial Id (2020)WSZ FHL NO.6605 based on EN 149: 2001 + A1: 2009 standard and the technical file dated 10 July, 2020 Version 01 provided by the manufacturer. The sampling of the product is conducted under our supervision for testing from the manufacturing site of the client.

The technical file of the manufacturer, and risk evaluation against the essential health safety requirements and the test report evaluated for their relation with Essential Requirements of Personal Protective Equipment Regulation and found to be appropriate.

This report is an annex and an integral part of the EU Type Examination Certificate issued to the manufacturer. The test results and issued certificate belongs only to the tested model. The technical report consists of a total of 6 pages.

Product Description: Particle Filtering Half Mask

Classification: FFP2 NR

Model: CY005



UFR-383 12.12.2018 Rev.01





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ESSENTIAL HEALTH and SAFETY REQUIREMENTS GIVEN IN EUROPEAN UNION REGULATION EU 2016/425 CORRESPONDING RISKS FOR THE PRODUCT

1.1. Design principles

1.1.1. Ergonomics

PPE must be so designed and manufactured that in the foreseeable conditions of use for which it is intended the user can perform the risk related activity normally whilst enjoying appropriate protection of the highest possible level.

1.1.2. Levels and classes of protection

1.1.2.1. Highest level of protection possible

The optimum level of protection to be taken into account in the design is that beyond which the constraints by the wearing of the PPE would prevent its effective use during the period of exposure to the risk or normal performance of the activity.

1.1.2.2. Classes of protection appropriate to different levels of risk

Where differing foreseeable conditions of use are such that several levels of the same risk can be distinguished, appropriate classes of protection must be taken into account in the design of the PPE.

1.2. Innocuousness of PPE

1.2.1. Absence of risks and other inherent nuisance factors

PPE must be so designed and manufactured as to preclude risks and other nuisance factors under foreseeable conditions of use.

1.2.1.1. Suitable constituent materials

The materials of which the PPE is made, including any of their possible decomposition products, must not adversely affect the health or safety of users.

1.2.1.2. Satisfactory surface condition of all PPE parts in contact with the user

Any part of the PPE that is in contact or is liable to come into contact with the user when the PPE is worn must be free of rough surfaces, sharp edges, sharp points and the like which could cause excessive irritation or injuries

1.2.1.3. Maximum permissible user impediment

Any impediment caused by PPE to movements to be made, postures to be adopted and sensory perception must be minimized; nor must PPE cause movements which endanger the user or other persons.

1.3 Comfort and effectiveness

1.3.1. Adaptation of PPE to user morphology

PPE must be designed and manufactured in such a way as to facilitate its correct positioning on the user and to remain in place for the foreseeable period of use, bearing in mind ambient factors, the actions to be carried out and the postures to be adopted. For this purpose, it must be possible to adapt the PPE to fit the morphology of the user by all appropriate means, such as adequate adjustment and attachment systems or the provision of an adequate range of sizes.

1.3.2. Lightness and design strength

PPE must be as light as possible without prejudicing design strength and efficiency.

Apart from the specific additional requirements which they must satisfy in order to provide adequate protection against the risks in question (see 3), PPE must be capable of withstanding the effects of ambient phenomena inherent under the foreseeable conditions of use

1.4. Information supplied by the manufacturer

The notes that must be drawn up by the former and supplied when PPE is placed on the market must contain all relevant information on:

- a) In addition to the name and address of the manufacturer and/or his authorized representative established in the Community
- b) Storage, use, cleaning, maintenance, servicing and disinfection. cleaning, maintenance or disinfectant protection recommended by manufacturers must have no adverse effect on PPE or users when applied in accordance with the relevant instructions;
- c) Performance as recorded during technical tests to check the levels or classes of protection provided by the PPE in question;
- d) Suitable PPE accessories and the characteristics of appropriate spare parts;
- e) The classes of protection appropriate to different levels of risk and the corresponding limits of use;
- f) The obsolescence deadline or period of obsolescence of PPE or certain of its components;
- g) The type of packaging suitable for transport;
- h) The significance of any markings (see 2.12)
- i) Where appropriate the references of the Directives applied in accordance with Article 5(6) (b);
- j) The name, address and identification number of the notified body involved in the design stage of the PPE

These notes, which must be precise and comprehensible, must be provided at least in the official language(s) of the member state of destination

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2. ADDITIONAL REQUIREMENTS COMMON TO SEVERAL CLASSES OR TYPES OF PPE

2.1. PPE incorporating adjustment systems

If PPE incorporates adjustment systems, the latter must be designed and manufactured so that, after adjustment, they do not become undone unintentionally in the foreseeable conditions of use.

2.3. PPE for the face, eyes and respiratory system

Any restriction of the user's face, eyes, field of vision or respiratory system by the PPE shall be minimised.

The screens for those types of PPE must have a degree of optical neutrality that is compatible with the degree of precision and the duration of the activities of the user.

If necessary, such PPE must be treated or provided with means to prevent misting-up.

Models of PPE intended for users requiring sight correction must be compatible with the wearing of spectacles or contact lenses.

2.4. PPE subject to ageing

If it is known that the design performance of new PPE may be significantly affected by ageing, the month and year of manufacture and/or, if possible, the month and year of obsolescence must be indelibly and unambiguously marked on each item of PPE placed on the market and on its packaging.

If the manufacturer is unable to give an undertaking with regard to the useful life of the PPE, his instructions must provide all the information necessary to enable the purchaser or user to establish a reasonable obsolescence month and year, taking into account the quality level of the model and the effective conditions of storage, use, cleaning, servicing and maintenance.

Where appreciable and rapid deterioration in PPE performance is likely to be caused by ageing resulting from the periodic use of a cleaning process recommended by the manufacturer, the latter must, if possible, affix a marking to each item of PPE placed on the market indicating the maximum number of cleaning operations that may be carried out before the equipment needs to be inspected or discarded. Where such a marking is not affixed, the manufacturer must give that information in his instructions.

2.6. PPE for use in potentially explosive atmospheres

PPE intended for use in potentially explosive atmospheres must be designed and manufactured in such a way that it cannot be the source of an electric, electrostatic or impact-induced arc or spark likely to cause an explosive mixture to ignite.

2.8. PPE for intervention in very dangerous situations

The instructions supplied by the manufacturer with PPE for intervention in very dangerous situations must include, in particular, data intended for competent, trained persons who are qualified to interpret them and ensure their application by the user.

The instructions must also describe the procedure to be adopted in order to verify that PPE is correctly adjusted and functional when worn by the user.

Where PPE incorporates an alarm which is activated in the absence of the level of protection normally provided, the alarm must be designed and placed so that it can be perceived by the user in the foreseeable conditions of use.

2.9. PPE incorporating components which can be adjusted or removed by the user

Where PPE incorporates components which can be attached, adjusted or removed by the user for replacement purposes, such components must be designed and manufactured so that they can be easily attached, adjusted and removed without tools.

2.12. PPE bearing one or more identification or recognition marks directly or indirectly relating to health and safety

The identification or recognition marks directly or indirectly relating to health and safety affixed to these types or classes of must preferably take the form of harmonized pictograms or ideograms and must remain perfectly legible throughout the foreseeable useful life of the PPE. In addition, these marks must be complete, precise and comprehensible so as to prevent any misinterpretation; in particular, where such marks incorporate words or sentences, the latter must appear in the official language(s) of the Member State where the equipment is to be used.

If PPE (or a PPE component) is too small to allow all or part of the necessary marking to be affixed, the relevant information must be mentioned on the packing and in the manufacturer's notes.

3. ADDITIONAL REQUIREMENTS SPECIFIC TO PARTICULAR RISKS

3.10.1. Respiratory protection

PPE intended for the protection of the respiratory system must make it possible to supply the user with breathable air when exposed to a polluted atmosphere and/or an atmosphere having an inadequate oxygen concentration.

The breathable air supplied to the user by PPE must be obtained by appropriate means, for example after filtration of the polluted air through PPE or by supply from an external unpolluted source.

The constituent materials and other components of those types of PPE must be chosen or designed and incorporated so as to ensure appropriate user respiration and respiratory hygiene for the period of wear concerned under the foreseeable conditions of use.

The leak-tightness of the facepiece and the pressure drop on inspiration and, in the case of the filtering devices, purification capacity must keep contaminant penetration from a polluted atmosphere low enough not to be prejudicial to the health or hygiene of the user.

The PPE must bear details of the specific characteristics of the equipment which, in conjunction with the instructions, enable a trained and qualified user to employ the PPE correctly.

In the case of filtering equipment, the manufacturer's instructions must also indicate the time limit for the storage of new filters kept in their original packaging.

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Technical Assessment of EN 149: 2001 + A1: 2009 Standard and other Standards it refers to, Clauses Corresponding to the (EU) 2016/425 Directive

Conforming to EN 149:2001 + A1:2009 Standard Requirements

Article 5	<p>Classification: Particle Filtering Half Mask</p> <p>The mask subject to evaluation based on the test results and technical file provided by the manufacturer is classified as: Filtering Efficiency and maximum Total Inward Leakage: Classified as FFP2</p> <p>Mask is classified for single shift use, NR</p>																																				
Article 7.4	<p>Packing: Particle filtering half masks are packaged to protect them from contamination before use and with cardboard boxes to prevent mechanical damage. The packaging design and the product is considered to withstand the foreseeable conditions of use based on the visual inspection results given in the test report.</p>																																				
Article 7.5	<p>Material: Materials used in particle filtering half masks, according to the simulated wearing treatment and temperature conditioning results; It is understood it withstands handling and wear over the period for which the particle filtering half mask is designed to be used, it suffered mechanical failure of the facepiece or straps, any material from the filter media released by the air flow through the filter has not constitute a hazard or nuisance for the wearer. The manufacturer declares that the materials used in manufacturing of the mask does not have an adverse affect to the health and safety of users.</p> <p>Based on the test results, the masks did not collapse when subject to simulated wearing and temarature conditioning. No nuisance situation is reported during the practical performance tests by human subjects.</p>																																				
Article 7.6	<p>Cleaning and Disinfection: Particle filtering half mask is not designed to be as re-usable. No cleaning or disinfection procedure provided by the manufacturer.</p>																																				
Article 7.7	<p>Practical Performance:</p> <p>The test report indicates that the human subjects did not face any difficulty in performing the excercises while they were weared by the sample masks, in walking test or work simulation tests. The wearers did not report any failure by means of head harness / straps/ earloops comfort, security of fastenings and field of vision. Also no imperfections reported during total inward tests about the comfort, field of vision and fastening issues.</p> <table border="1"> <thead> <tr> <th>Assessed Elements</th> <th>Positive</th> <th>Negative</th> <th>Requirements in accordance with EN 149:2001 + A1:2009 and Result</th> </tr> </thead> <tbody> <tr> <td>2.Head harness comfort</td> <td>2</td> <td>0</td> <td rowspan="3">Positive results are obtained from the test subjects No imperfections</td> </tr> <tr> <td>3.Security of fastenings</td> <td>2</td> <td>0</td> </tr> <tr> <td>5.Field of viston</td> <td>2</td> <td>0</td> </tr> </tbody> </table> <p>Conditioning: (A.R.) As Received, original</p>	Assessed Elements	Positive	Negative	Requirements in accordance with EN 149:2001 + A1:2009 and Result	2.Head harness comfort	2	0	Positive results are obtained from the test subjects No imperfections	3.Security of fastenings	2	0	5.Field of viston	2	0																						
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5.Field of viston	2	0																																			
Article 7.8	<p>Finish of Parts: Particle filtering half masks, which are likely to come into contact with the user, do not have sharp edges and do not contain burrs.</p>																																				
Article 7.9.1	<p>Total Inward Leakage:</p> <p>The Total Inward Lekage test is conducted by 10 individual in an aerosol chamber with a walking band, and samples are taken during the conduction of the excercises defined in the standard. The samples used in the test are subjected to the conditioning required in the standard as Temperature conditioning and as received. The face dimensions of the subjects are also reported. The measurement details for each subject and for each excersize are available in the test report.</p> <p>It was reported that: All 50 exercise measurement results are smaller or equal to 11%, the values varies between 3,7 % and 6,5 %. All 10 individual's arithmetic mean is smaller or equal to 8%, the values varies between 4,5 % and 5,7 %.</p> <p>According to the reported results, the product meets the limits for FFP1 and FFP2 classification.</p>																																				
Article 7.9.2	<p>Penetration of filter material: Sodium Chloride Testing</p> <table border="1"> <thead> <tr> <th>Condition</th> <th>No. of Sample</th> <th>Sodium Chloride Testing 95 L/min max (%)</th> <th>Requirements in accordance with EN 149:2001 + A1:2009</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>(A.R.)</td> <td>-</td> <td>0.1</td> <td rowspan="3">FFP1 ≤ 20 %</td> <td rowspan="9">Filtering half masks fulfill the requirements of the standard EN EN 149:2001 + A1:2009 given in 7.9.2 in range of the FFP1, FFP2 and FFP3 classes.</td> </tr> <tr> <td>(A.R.)</td> <td>-</td> <td>0.1</td> </tr> <tr> <td>(A.R.)</td> <td>-</td> <td>0.1</td> </tr> <tr> <td>(S.W.)</td> <td>-</td> <td>0.1</td> <td rowspan="3">FFP2 ≤ 6 %</td> </tr> <tr> <td>(S.W.)</td> <td>-</td> <td>0.1</td> </tr> <tr> <td>(S.W.)</td> <td>-</td> <td>0.1</td> </tr> <tr> <td>(M.S. T.C.)</td> <td>-</td> <td>0.2</td> <td rowspan="3">FFP3 ≤ 1 %</td> </tr> <tr> <td>(M.S. T.C.)</td> <td>-</td> <td>0.2</td> </tr> <tr> <td>(M.S. T.C.)</td> <td>-</td> <td>0.2</td> </tr> </tbody> </table> <p>Conditioning: (M.S.) Mechanical Strength (T.C.) Temperature Conditioning (A.R.) As Received, original (S.W.) Simulated wearing treatment</p> <p>95 L/min = 1,6 dm³.sn⁻¹</p>	Condition	No. of Sample	Sodium Chloride Testing 95 L/min max (%)	Requirements in accordance with EN 149:2001 + A1:2009	Result	(A.R.)	-	0.1	FFP1 ≤ 20 %	Filtering half masks fulfill the requirements of the standard EN EN 149:2001 + A1:2009 given in 7.9.2 in range of the FFP1, FFP2 and FFP3 classes.	(A.R.)	-	0.1	(A.R.)	-	0.1	(S.W.)	-	0.1	FFP2 ≤ 6 %	(S.W.)	-	0.1	(S.W.)	-	0.1	(M.S. T.C.)	-	0.2	FFP3 ≤ 1 %	(M.S. T.C.)	-	0.2	(M.S. T.C.)	-	0.2
Condition	No. of Sample	Sodium Chloride Testing 95 L/min max (%)	Requirements in accordance with EN 149:2001 + A1:2009	Result																																	
(A.R.)	-	0.1	FFP1 ≤ 20 %	Filtering half masks fulfill the requirements of the standard EN EN 149:2001 + A1:2009 given in 7.9.2 in range of the FFP1, FFP2 and FFP3 classes.																																	
(A.R.)	-	0.1																																			
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(M.S. T.C.)	-	0.2	FFP3 ≤ 1 %																																		
(M.S. T.C.)	-	0.2																																			
(M.S. T.C.)	-	0.2																																			

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Penetration of filter material: Paraffin Oil Testing																										
Condition	No. of Sample	Paraffin Oil Testing 95 L/min max (%)	Requirements in accordance with EN 149:2001 + A1:2009	Result																						
(A.R.)	-	0.8	FFP1 ≤ 20 % FFP2 ≤ 6 % FFP3 ≤ 1 %	Filtering half masks fulfill the requirements of the standard EN EN 149:2001 + A1:2009 given in 7.9.2 in range of the FFP1 and FFP2 classes.																						
(A.R.)	-	0.9																								
(A.R.)	-	0.8																								
(S.W.)	-	0.9																								
(S.W.)	-	0.8																								
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(M.S. T.C.)	-	5.0																								
Conditioning: (M.S.) Mechanical Strength (T.C.) Temperature Conditioning (A.R.) As Received, original (S.W.) Simulated wearing treatment																										
Article 7.10	Compatibility with skin: In Practical Performance report, the likelihood of mask materials in contact with the skin causing irritation or other adverse effect on health was not reported.																									
Flammability:																										
<table border="1"> <thead> <tr> <th>Condition</th> <th>No. of Sample</th> <th>Visual inspection</th> <th>Requirements in accordance with EN 149:2001 + A1:2009</th> <th colspan="2">Result</th> </tr> </thead> <tbody> <tr> <td>(A.R.)</td> <td>-</td> <td>Burn for 0.1s</td> <td rowspan="4">Filtering half mask shall not burn or not continue to burn for more than 5 s after removal from the flame</td> <td colspan="2" rowspan="4">Passed Filtering half masks fulfill requirements of the standard</td> </tr> <tr> <td>(A.R.)</td> <td>-</td> <td>Burn for 0.1s</td> </tr> <tr> <td>(T.C.)</td> <td>-</td> <td>Burn for 0.1s</td> </tr> <tr> <td>(T.C.)</td> <td>-</td> <td>Burn for 0.1s</td> </tr> </tbody> </table>						Condition	No. of Sample	Visual inspection	Requirements in accordance with EN 149:2001 + A1:2009	Result		(A.R.)	-	Burn for 0.1s	Filtering half mask shall not burn or not continue to burn for more than 5 s after removal from the flame	Passed Filtering half masks fulfill requirements of the standard		(A.R.)	-	Burn for 0.1s	(T.C.)	-	Burn for 0.1s	(T.C.)	-	Burn for 0.1s
Condition	No. of Sample	Visual inspection	Requirements in accordance with EN 149:2001 + A1:2009	Result																						
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(T.C.)	-	Burn for 0.1s																								
Conditioning: (A.R.) As Received, original (T.C.) Temperature Conditioning																										
Carbon dioxide content of the inhalation air:																										
<table border="1"> <thead> <tr> <th>Condition</th> <th>No. of Sample</th> <th>CO₂ content of the inhalation air [%] by volume</th> <th>An average CO₂ content of the inhalation air</th> <th>Requirements in accordance with EN 149:2001 + A1:2009</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>(A.R.)</td> <td>-</td> <td>0.7014</td> <td rowspan="3">0.70 [%]</td> <td rowspan="3">CO₂ content of the inhalation air shall not exceed an average of 1.0% by volume</td> <td rowspan="3">Passed Filtering half masks fulfill requirements of the standard</td> </tr> <tr> <td>(A.R.)</td> <td>-</td> <td>0.7021</td> </tr> <tr> <td>(A.R.)</td> <td>-</td> <td>0.7008</td> </tr> </tbody> </table>						Condition	No. of Sample	CO ₂ content of the inhalation air [%] by volume	An average CO ₂ content of the inhalation air	Requirements in accordance with EN 149:2001 + A1:2009	Result	(A.R.)	-	0.7014	0.70 [%]	CO ₂ content of the inhalation air shall not exceed an average of 1.0% by volume	Passed Filtering half masks fulfill requirements of the standard	(A.R.)	-	0.7021	(A.R.)	-	0.7008			
Condition	No. of Sample	CO ₂ content of the inhalation air [%] by volume	An average CO ₂ content of the inhalation air	Requirements in accordance with EN 149:2001 + A1:2009	Result																					
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(A.R.)	-	0.7021																								
(A.R.)	-	0.7008																								
Conditioning: (A.R.) As Received, original																										
Article 7.13	Head harness: In Practical Performance and TIL test reports no adverse effects have been reported for donning and remove of the mask also the results of these tests indicates that the ear loops / head harness are capable of holding the mask firmly enough.																									
Article 7.14	Field of vision: In Practical Performance report, no adverse effects were reported for the field of vision availability when the mask is worn.																									
Article 7.15	Exhalation Valve(s): The model under inspection have no valves.																									
Article 7.16	Breathing Resistance: Inhalation The overall evaluation in the figures gathered for 9 different samples 3 as received, 3 with temperature conditioning and 3 simulated wearing treatment conditioned complies with the limits given in the standard for FFP2 and FFP3 classes. This is valid for inhalation results for 30 L/min, 95 L/min and exhalation at 160 L/min. Passed.																									





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Article 7.17	Clogging: This test is not applied to Particle Filtering Half Mask which is not reusable. <i>(For single shift use devices, the clogging test is optional test. For re-usable devices test is mandatory.)</i>
Article 7.18	Demountable Parts: There are no demountable parts on the product.
Article 8	Testing: All tests conducted according to Clause 8 of this standard is available in the test report and are evaluated in this report for qualification and classification of the mask.
Article 9	Marking – Packaging: Necessary markings are available on the product package (box). The manufacturer and its trademark (BEINELAY) is clearly visible. The type of the mask and the classification including the status of re-usability, the reference to EN 149:2001+A1:2009 standard, the end date of shelf life, using and storage instructions and pictograms and CE mark are available on the product package. The above evaluation is based on the technical document for packaging and marking, for box design. Verified on the Annex 9.1 of the technical file. The technical documentation for mask design (drawing) also evaluated for marking requirements, drawing CY-005. The mask template (drawing) indicates that the mask will carry information about the name (Hunan Changyuan Technology Co., Ltd.) of the manufacturer, Type of mask, the reference to EN 149+A1:2009 standard and classification including the re-usability of the mask. The manufacturer also printed CE mark with our Notified Body number. The mask do not have sub-assemblies. Even the tested sample by the laboratory do not carry necessary marking information as stated in the technical documentation, the manufacturer shall follow marking instructions for serial production. Model CY-005 drawing exists in the technical file of the manufacturer, Annex 6 of technical file.
Article 10	Information to be supplied by the manufacturer: In each of the smallest commercially available packaging of the product, implementation (installation instructions) pre-use controls, warning and usage limitations, storage and meanings of symbols / pictograms are defined. User instruction document in the technical file found to be appropriate, Annex 8. The manufacturer shall include this documented user information text in every smallest commercially available package.

PREPARED BY	APPROVED BY
Osman CAMCI PPE Expert 	Suat KAÇMAZ Director  

检验报告



Test Report

Report No.: [2020] WSZ FHL NO.6605

Product Name Filtering half mask

Applicant UNIVERSAL CERTIFICATION and SURVEILLANCE SERVICES Trade Co.

Manufacturer Hunan Changyuan Technology Co.,Ltd.

Test Type Entrusted inspection

Jiangsu Guojian Testing Technology Co., Ltd.
3/F., Unit D, Xingye Building, Taihu International Tech-Park, Wuxi, Jiangsu, China





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Report No.: [2020] WSZ FHL NO.6605

Test Report

Product name	Filtering half mask	Model name	CY005
		Brand	—
Laboratory/ Add.	Jiangsu Guojian Testing Technology Co., Ltd./ 3/F., Unit D, Xingye Building, Taihu International Tech-Park, Wuxi, Jiangsu, China		
Applicant/ Add/Tel	UNIVERSAL CERTIFICATION and SURVEILLANCE SERVICES Trade Co./—/13062856052		
Manufacturer/ Add/Tel	Hunan Changyuan Technology Co.,Ltd./Zhentou, Liuyang Environmental Protection Industrial Park, Liuyang, Hunan Province, China/13062856052		
Sample classification	FFP2	Sample number	GW6605-2020
Sample quantity	130 pcs	Date of receipt of sample	10/06/2020
Test type	Entrusted inspection	Article/Batch/Style number	—
Date (s) of performance of tests	10/06/2020~19/06/2020	Testing location	Same as the Laboratory
Sample state	Meeting the requirements of testing	Sample description	Refer to page 3
Test standard(s)	EN 149:2001+A1:2009 Respiratory protective devices - Filtering half masks to protect against particles - Requirements, testing, marking		
Test items	Packaging, material, practical performance, finish of parts, compatibility with skin, flammability, carbon dioxide content of the inhalation air, head harness, field of vision, penetration of filter material, breathing resistance, total inward leakage		
Test conclusion	The samples upon testing comply with FFP2 classification requirements according to the standard EN 149:2001+A1:2009. The details of test results see on Pages 3-11. Date of issue: 19/06/2020		
Note	The test results presented in this report relate only to the submitted sample as received.		

Lu Bing

Approver (name, signature)

Wan Heng

Reviewer (name, signature)

Yang Ying

Chief Tester (name, signature)

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Report No.: [2020] WSZ FHL NO.6605

Sample description:	
Test item particulars:	
Type of use	<input type="checkbox"/> re-useable particle filtering half mask <input checked="" type="checkbox"/> single shift only particle filtering half mask
Classes of devices.....	<input type="checkbox"/> FFP1 <input checked="" type="checkbox"/> FFP2 <input type="checkbox"/> FFP3
Exhalation valve(s).....	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Inhalation valve(s).....	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Designed to protect against both solid & liquid aerosols. :	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Possible test case verdicts:	
- Test case does not be required to the test object.....	NRq (Not required)
- Test case does not apply to the test object.....	N/A (Not Applicable)
- Test object does meet the requirement.....	P (Pass)
- Test object does not meet the requirement.....	F (Fail)
General remarks:	
<p>The test results presented in this report relate only to the submitted sample as received.</p> <p>This report shall not be reproduced, except in full, without the written approval of the issuing Laboratory can provide assurance that parts of a report are not taken out of context.</p> <p>Determination of the test results includes consideration of measurement uncertainty from the test equipment and methods.</p> <p>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p>	
Environmental condition of the testing in this report:	
<p>1) Unless otherwise specified, the ambient temperature for testing shall be 25 °C;</p> <p>2) T.C. Temperature conditioned:</p> <p>a) for 24 h to a dry atmosphere of 70 °C; b) for 24 h to a temperature of -30 °C;</p> <p>and return to room temperature 25 °C for 4 h between exposures and prior to subsequent testing.</p>	



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S.No. (Cl.No.)	Test item		Unit	Technical requirements	Test result	Single item decision
1 (7.3)	Visual inspection	Marking/ information	—	Marking and the information supplied by the manufacturer, requirements refer to Cl.9 and Cl.10	The clause were not required	NRq
2 (7.4)	Packaging	Visual inspection	—	Particle filtering half masks shall be offered for sale packaged in such a way that they are protected against mechanical damage and contamination before use.	Particle filtering half masks packaged and protected against mechanical damage and contamination.	Pass
3 (7.5)	Material	Visual inspection	—	Materials used shall be suitable to withstand handling and wear over the period for which the particle filtering half mask is designed to be used.	Materials were suitable withstand handling and wear.	Pass
			—	After undergoing S.W., none of the particle filtering half masks shall have suffered mechanical failure of the facepiece or straps.	Sample 1: neither facepiece nor straps have mechanical failure Sample 2: neither facepiece nor straps have mechanical failure Sample 3: neither facepiece nor straps have mechanical failure	
			—	After undergoing S.W. and T.C., none of the particle filtering half masks shall not collapse.	Sample 4: no collapse Sample 5: no collapse Sample 6: no collapse	
			—	Any material from the filter media released by the air flow through the filter shall not constitute a hazard or nuisance for the wearer.	Not constitute a hazard or nuisance for the wearer	
			—			
4 (7.6)	Cleaning and disinfecting		—	Particle filtering half mask designed to be re-usable, the materials used shall withstand the cleaning and disinfecting agents and procedures to be specified by the manufacturer. Testing shall be done in accordance with 8.4 and 8.5.	<input type="checkbox"/> Fulfil the requirements after testing, or <input checked="" type="checkbox"/> The Particle filtering half mask is NOT re-usable according to information supplied by manufacturer	N/A
			—	With reference to 7.9.2, after cleaning and disinfecting the re-usable particle filtering half mask shall satisfy the penetration requirement of the relevant class. Testing shall be done in accordance with 8.11.	<input type="checkbox"/> Tests results refer to S. No. 7(7.9.2), or <input checked="" type="checkbox"/> The Particle filtering half mask is NOT re-usable according to information supplied by manufacturer	



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S.No. (Cl.No.)	Test item	Unit	Technical requirements	Test result	Single item decision		
5 (7.7)	Practical performance	Head harness comfort	— Head harness should be comfort.	Sample 1: has the feeling of comfortable wearing	Pass		
				Sample 2: has the feeling of comfortable wearing			
		Security of fastenings	— Fastenings are safe and reliable	Sample 1: All fastenings are firm			
				Sample 2: All fastenings are firm			
		Field of vision	— Field of vision is acceptable	Sample 1: Having a wider visual field			
				Sample 2: Having a wider visual field			
6 (7.8)	Finish of parts	Visual inspection	— Parts of the device likely to come into contact with the wearer shall have no sharp edges or burrs.	Parts of the device have no sharp edges and burrs	Pass		
7 (7.9.2)	Leakage— Penetration of filter material	Sodium chloride	— $\leq 6\%$	A.R. ¹⁾ 0.1% 0.1% 0.1%	Pass		
				S.W. ¹⁾ 0.1% 0.1% 0.1%			
				M.S+ T.C. ²⁾ 0.2% 0.2% 0.2%			
		Paraffin oil	— $\leq 6\%$	A.R. ¹⁾ 0.8% 0.9% 0.8%	Pass		
				S.W. ¹⁾ 0.9% 0.8% 0.9%			
				M.S+ T.C. ²⁾ 4.8% 4.9% 5.0%			
		¹⁾ average penetration over a time of 30s, beginning 3 min after the start of the test reported ²⁾ max. penetration during exposure test reported; Note: The penetration of the filter of the particle filtering half mask shall meet the requirements below: Maximum penetration of sodium chloride aerosol test 95 l/min max. FFP1: 20%, FFP2: 6%, FFP3: 1% Maximum penetration of paraffin oil aerosol test 95 l/min max. FFP1: 20%, FFP2: 6%, FFP3: 1%					



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S.No. (CLNo.)	Test item	Unit	Technical requirements	Test result		Single item decision
8 (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.	A.R.	5 pcs all don't cause irritation	Pass
				T.C.	5 pcs all don't cause irritation	
9 (7.11)	Flammability	—	When tested, the particle filtering half mask shall not burn or not to continue to burn for more than 5s after removal from the flame.	A.R.	The Sample is burning. Burning time:0.1s	Pass
					The Sample is burning. Burning time:0.1s	
				T.C.	The Sample is burning. Burning time:0.1s	
					The Sample is burning. Burning time:0.1s	
10 (7.12)	Carbon dioxide content of the inhalation air	—	The carbon dioxide content of the inhalation air (dead space) shall not exceed an average of 1.0 % (by volume). Remark: 3 half masks (S1, S2 and S3) A.R. tested.	Sample 1	0.7014%	Pass
				Sample 2	0.7021%	
				Sample 3	0.7008%	
				average	0.70%	
11 (7.13)	Head harness	—	The head harness shall be designed so that the particle filtering half mask can be donned and removed easily. The head harness shall be adjustable or self-adjusting and shall be sufficiently robust to hold the particle filtering half mask firmly in position	A.R.	All of 5 pieces particle filtering half mask meet the requirements	Pass
				T.C.	All of 5 pieces particle filtering half mask meet the requirements	
12 (7.14)	Field of vision	—	The field of vision is acceptable if determined so in practical performance tests.	The two samples both have a wider visual field		Pass



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S.No. (CLNo.)	Test item	Unit	Technical requirements	Test result	Single item decision
13 (7.15)	Exhalation valve(s)	—	A particle filtering half mask may have one or more exhalation valve(s), which shall function correctly in all orientations.	No exhalation valve(s)	N/A
		—	If an exhalation valve is provided it shall be protected against or be resistant to dirt and mechanical damage, and may be shrouded or may include any other device that may be necessary for the particle filtering half mask to comply with 7.9.	No exhalation valve(s)	
		—	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.	No exhalation valve(s)	
		—	When the exhalation valve housing is attached to the faceblank, it shall withstand axially a tensile force of 10 N applied for 10 s.	No exhalation valve(s)	
14 (7.17)	Clogging— Breathing resistance & Penetration of filter material	—	Optional for single shift use devices, mandatory for re-usable devices. Tested by Cl. 7.17.1/2/3.	<input type="checkbox"/> Tests results refer to Table C&D, or <input checked="" type="checkbox"/> Tests not requested for single shift use face mask	N/A
15 (7.18)	Demountable parts	—	All demountable parts (if fitted) shall be readily connected and secured, where possible by hand.	No demountable parts	N/A



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Table A- Leakage—Total Inward Leakage

S.No. (Cl.No.)	Test item	Unit	Technical requirements ¹⁾	Test result						Single item decision	
				Exercises	E1 (%)	E2 (%)	E3 (%)	E4 (%)	E5 (%)		TIL (%)
16 (7.9.1)	Leakage— Total inward leakage	—	At least 46 out of the 50 individual exercise results shall be not greater than 11% ; And in addition, at least 8 out of the 10 individual wearer arithmetic means for the total inward leakage shall be not greater than 8% .	A.R.	4.3	5.4	6.0	6.0	4.7	5.3	Pass
					4.4	5.1	6.1	5.9	4.5	5.2	
					4.9	5.8	6.4	6.5	5.0	5.7	
					4.0	4.7	4.7	5.3	3.7	4.5	
					3.8	4.9	5.7	5.9	4.3	4.9	
				T.C.	4.9	5.6	5.8	6.3	4.5	5.4	
					3.9	4.7	5.3	5.6	4.1	4.7	
					5.0	5.6	6.2	6.2	4.8	5.6	
					4.0	4.8	5.0	5.7	4.2	4.7	
					4.1	4.9	5.1	5.6	4.3	4.8	

Note 1:

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 25 % for FFP1 11 % for FFP2 5 % for FFP3
in addition, at least 8 out of the 10 individual wearer arithmetic means for the total inward leakage shall be not greater than 22 % for FFP1 8 % for FFP2 2 % for FFP3.

Table A-1- Test subjects—Facial dimension

Test Subject No.	Length of face (mm)	Width of face (mm)	Depth of face (mm)	Width of mouth (mm)
1	120	130	109	59
2	122	140	115	65
3	119	160	139	55
4	112	122	119	63
5	110	130	118	60
6	115	119	110	59
7	112	123	113	55
8	103	130	100	50
9	118	139	130	63
10	120	135	125	50



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Table B- Breathing Resistance

S.No (CLNo.)	Test item		Unit	Technical requirements ¹⁾	Test result					Single item decision	
					Exercises	Facing directly ahead	Facing vertically upwards	Facing vertically downwards	Lying on the left side		Lying on the right side
17 (7.16)	Breathing resistance	Inhalation 30 L/min	mbar	≤ 0.7	A.R.	0.6	0.6	0.6	0.6	0.5	Pass
		0.6				0.5	0.6	0.5	0.6		
		0.5				0.6	0.5	0.6	0.6		
		S.W.			0.6	0.5	0.6	0.5	0.6		
					0.5	0.6	0.6	0.6	0.6		
					0.6	0.6	0.5	0.6	0.5		
		T.C.			0.5	0.6	0.6	0.5	0.6		
					0.6	0.6	0.5	0.6	0.6		
					0.6	0.5	0.6	0.6	0.5		
	Breathing resistance	Inhalation 95 L/min	mbar	≤ 2.4	A.R.	1.9	2.0	1.9	1.9	2.0	Pass
						2.0	1.9	1.9	2.0	1.9	
						1.9	1.9	2.0	1.9	1.9	
					S.W.	1.9	2.0	2.0	2.0	1.9	
						2.0	1.9	1.9	1.9	1.9	
						1.9	1.9	1.9	1.9	2.0	
					T.C.	1.9	2.0	1.9	2.0	1.9	
						1.9	1.9	2.0	1.9	1.9	
						2.0	1.9	1.9	1.9	2.0	
	Breathing resistance	Exhalation 160 L/min	mbar	≤ 3.0	A.R.	2.6	2.6	2.7	2.6	2.6	Pass
						2.6	2.7	2.6	2.5	2.6	
						2.7	2.6	2.6	2.6	2.7	
S.W.					2.6	2.7	2.6	2.6	2.6		
					2.7	2.6	2.6	2.6	2.7		
					2.6	2.6	2.7	2.5	2.6		
T.C.					2.7	2.6	2.7	2.5	2.7		
					2.7	2.6	2.6	2.6	2.6		
					2.6	2.7	2.6	2.6	2.6		

Note 1: Limitation may need be changed according to classification, refer to Table 2 — Breathing resistance of EN 149:2001 +A1:2009 for the Technical requirements.



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Table C- Clogging Test—Breathing resistance

S.No. (Cl.No)	Test item ^{(1) (2)}		Unit	Technical requirements ^{(1) (2)} (mbar)	Test result						Single item decision
					Exercises	Facing directly ahead	Facing vertically upwards	Facing vertically downwards	Lying on the left side	Lying on the right side	
18 (7.17)	Clogging test—	Inhalation 95 L/min	mbar	—	A.R.						N/A
					T.C.						
	Breathing resistance	Exhalation 95 L/min	mbar	—	A.R.						N/A
					T.C.						

Note 1: Valved particle filtering half masks
After clogging the inhalation resistances shall not exceed FFP1: 4 mbar FFP2: 5 mbar FFP3: 7 mbar at 95 l/min continuous flow;
The exhalation resistance shall not exceed 3 mbar at 160 l/min continuous flow.

Note 2: Valveless particle filtering half masks
After clogging the inhalation and exhalation resistances shall not exceed FFP1: 3 mbar, FFP2: 4 mbar FFP3: 5 mbar at 95 l/min continuous flow.

Table D- Clogging Test—Penetration of filter material

S.No. (Cl.No)	Test item	Unit	Technical requirements	Test result		Single item decision
19 (7.17)	Clogging test- Penetration of filter material	Paraffin oil	—	—	A.R.	N/A
					T.C.	
					T.C.	

Note: Maximum penetration of test aerosol test 95 l/min max. FFP1: 20%, FFP2: 6%, FFP3: 1%

Abbreviations :		
A.R. As received	M.S. Mechanical strength	S.W. Simulated wearing treatment
T.C. Temperature conditioned	F.C. Flow conditioned	C.D. Cleaning and Disinfecting

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Annex A- Estimates of the uncertainty of measurement

Test item	Uncertainty
Total inward leakage	2.98%
Penetration of filter material	1.00%
Flammability	1.00%
Carbon dioxide content of the inhalation air	0.93%
Breathing resistance	1.90%

Annex B- Sample Photo



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Thank You