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Technical Datasheet

December 2024

3M™ Electric Arc Protective Faceshield WPAF Series

Description

3M™ Electric Arc Protective Faceshields WPAF1 and WPAF2-0 are designed to provide limited protection during work where there is a risk of exposure to an electric arc hazard, such as heat, flying debris, and optical radiation. The WPAF Series Faceshields are CE certified to EN 166:2001 and to GS-ET-29, 2019-06 Rev01.

A complete 3M™ GS-ET-29 electrical arc assembly consists of a 3M™ Industrial Safety Helmet, a 3M™ faceshield holder, a 3M™ adaptor to attach the faceshield holder to the helmet, and a 3M™ Electric Arc Protective Faceshield WPAF Series.

Product Range

3M™ Electric Arc Protective Faceshield WPAF1, GS-ET-29 class 1

3M™ Electric Arc Protective Faceshield WPAF2-0, GS-ET-29 class 2

3M™ Faceshield Holder FH1

P3E: Adaptor to attach FH1 to 3M™ Industrial safety helmets

G3001, X5500NVE, X5000VE and G3501: 3M™ Industrial Safety helmets CE certified with WPAF Series

Key Features

- The 3M™ WPAF-series Protective Faceshields meet EN 166:2001, the standard for PPE for eye and face protection.
- WPAF1 meets class 1 and WPAF2-0 meets class 2 of GS-ET-29, the standard for testing and certification of face shields for electrical work.

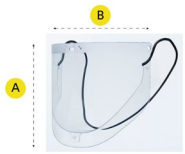
- The WPAF-series faceshields consist of a 1.8 mm thick polycarbonate faceshield. WPAF2-0 is additionally assembled with a 1.0 mm thick polycarbonate chin guard. The chin guard is extended towards the ears, designed to provide additional lateral protection.
- The WPAF-series faceshields and the WPAF2-0 chin guard are transparent, designed to allow for an unrestricted field of vision in all directions.
- The WPAF-series faceshields feature an easy to use “snap in” connection for fast replacement on the FH1 faceshield holder.
- The WPAF-series feature a fog resistant coating, marking N tested according to EN 166, to reduce fogging when compared to an uncoated faceshield.
- The faceshields of the WPAF-series offer good colour recognition, tested according to EN 166.
- The WPAF-series are marked with symbol IEC.
- 60417-6353 (2016-02)  ,indicating protection against the thermal effect of the electric arc.

Typical Applications

- Maintenance and repairs of electrical transmission and distribution networks in the electrical utilities market
- Electrical maintenance and repairs in general industry
- Electrical engineering at construction and civil engineering sites

Measurements

Table 1: Faceshield Measurements

Diagram	Model	A (mm)	B (mm)	Thickness (mm)	Weight (g)
	WPAF1	229	263	2.1	175
	WPAF2-0	229	263	1.8	253

* Numbers represent typical values and should not be regarded as product specifications.

Materials

WPAF-series faceshields: Polycarbonate

Frame and linkage: Polyamide

Standards and Approvals

The 3M™ WPAF-series Electric Arc Protective Faceshield meet the requirements of the PPE Regulation (EU) 2016/425 and is thus CE marked. These products are type approved and audited annually by Aitex, Plaza Emilio Sala 1, ES-03801 Alcoy (Alicante), Spain, Notified Body No. 0161. The Declaration of Conformity is available at www.3m.com/head/certs.

Performance

The table below summarises the 3M™ WPAF-series Protective Faceshield specifications and markings according to EN 166 and GS-ET-29.

Table 2: Performance Table

Model	Filtering Performance	Optical Clarity	Impact Performance	GS-ET-29	Fields of Use	Functional Properties
WPAF1	2C-1,2	1	B	8-1-0	3	N
WPAF2-0	2C-1,4	1	B	8-2-1	3	N

Filtering Performance:

- 2C-1,2 = UV filter with good colour recognition (EN 166:2001), Shade 1,2
- 2C-1,4 = UV filter with good colour recognition (EN 166:2001), Shade 1,4

Optical Clarity: The allowable variation in refractive powers for oculars is assessed during certification of the product. Class 1 is the highest performance class for optical clarity.

Impact Performance: 3M™ WPAF-series Protective Faceshield meet the requirement for protection against high-speed particles for medium energy impacts, marked B (120m/s).

Fields of Use: 3M™ WPAF1 Protective Faceshield meets the requirement for protection against the thermal hazards of a short circuit electric arc, meeting the standard GS-ET-29 class 1 (4 kA), and with a Visible Light Transmittance VLT (D65) ≥ 75 %.

3M™ WPAF2-0 Protective Faceshield meets the requirement for protection against the thermal hazards of a short circuit electric arc, meeting the standard GS-ET-29 class 2 (7 kA), and with a Visible Light Transmittance 50 % ≤ VLT (D65) < 75 %.

The 3M™ WPAF-series Protective Faceshield additionally meet the requirements for protection against liquid splash (3).

Functional Properties: 3M™ WPAF-series feature a fog resistant coating (marking N) to reduce fogging.

Faceshield Warnings

⚠ **WARNING**

Before use, please carefully read the User Instructions. Failure to follow all instructions on the use of these personal protection products and/or failure to properly wear the complete product during all periods of exposure may result in serious injury or death.

Where the faceshield and frame markings do not match the lowest level of protection applies.

Scratched or damaged faceshields should be replaced immediately.

Do not use this product against hazards other than those specified in this document.

Never modify or alter this product.

The selection of adequate personal protective equipment is determined by a risk assessment conducted by the user. For personal safety, any work on electrical installations should primarily be conducted with the electricity shut off and locked. If working with live electrical components is unavoidable, a faceshield should not be used alone. Use other insulating protective equipment according to the risks involved. Earmuff hearing protectors have not been tested to GS-ET-29 and do not provide protection against an electrical arc flash.

Always replace the faceshield after it has withstood an impact or arc flash incident.

This product is not intended to be used for (arc) welding applications.

3M WPAF1 is assigned to the highest Light transmittance class 0 (LT Class 0). Under normal working conditions no additional lighting is required. However, please check your ability to detect colour in the work environment before using this product.

3M WPAF2-0 is assigned to Light transmittance class 1 (LT Class 1). Additional lighting is not required under normal working conditions. In any case, check your ability to detect colour in the work environment before using this product.

Artificial lighting can interfere with the tint of the faceshield and impair colour perception, especially when using fluorescent or LED lamps as illuminants. It must be ensured that all cable codes used at the workplace can be safely distinguished under actual lighting conditions. Check your colour perception prior to starting work by performing the following steps:

1. Gather a sampling of cable pieces having the same colour coding as the cables used at your workplace.
2. Ensure that you are in a safe location, but with the same lighting (type and intensity) as anticipated at your workplace.
3. Clean the faceshield and check it for damage (do not hesitate to replace the faceshield if necessary - refer to the User information).
4. Don the faceshield as described in the User information.
5. Quickly sort through the bundled cable samples.

If you have difficulty distinguishing between the various cable codes or are mistaken in sorting them, then the lighting is insufficient and/or the faceshield is too dark. This could cause an accident at work, such as electric fault arcing.

Failure to follow all instructions on the use of these personal protection products and/or failure to properly wear the complete product during all periods of exposure may result in serious injury or death.

Please contact 3M for further information on alternative or additional protection requirements.

Compatibility

3M™ Electric Arc Protective Faceshield WPAF1 and WPAF2-0 are designed and certified to be used with 3M™ Industrial Safety helmets G3001, G3501, X5500NVE or X5000VE. The faceshield holder FH1 connects the WPAF-series to the helmets. FH1 is connected to the helmets through a 3M™ P3E adapter.

Storage

Temperature range for use and storage: +3° C - +40° C, <85% humidity

Maximum recommended product life: 5 years.

Important Notice

3M does not accept liability of any kind, be it direct or consequential (including, but not limited to, loss of profits, business and/or goodwill) arising from reliance upon any information herein provided by 3M. The user is responsible for determining the suitability of the products for their intended use. Nothing in this statement will be deemed to exclude or restrict 3M's liability for death or personal injury arising from its negligence.

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