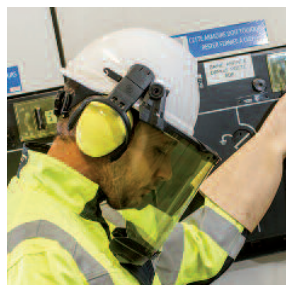
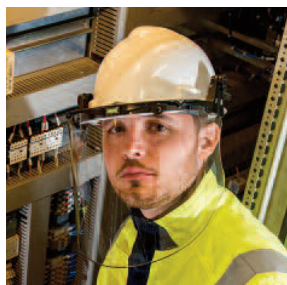


Head & Face Protection for Electrical Workers

Electrician Helmets, Arc Flash Visors, Liners & Ear Muffs



MSA has been in industrial head protection for over 50 years and is today the world's leader with more than 120 Million industrial helmets sold. For electrical workers MSA developed helmets, visors and accessories to protect against arc flashes and ensure insulation when in contact with live wires. This flyer explains the relevant norms and includes the MSA solutions designed for this challenging application.



NEW

V-Gard 950 Helmet System
with integrated Arc Flash
Visor, watch the video now:



*Because every life has a **purpose...***

Standards and Testing

The risks from arc flash include **high temperature, flying debris and powerful radiation**. Appropriate PPE is crucial even though there is no common global standard against arc flash hazards.

EN standards require **electrician's visors** to protect the face against **arc flashes** while **electrician's helmets** are tested to ensure **insulation when in contact with live wires**. Current EN standard arc flash protection requirements are for the face and do not include the helmet.

MSA provides **head and face protection certified for all relevant EN standards**. They should be selected according to each individual risk assessment. leftRIGHT ear muffs can be easily added in visor combination when needed. MSAs optional liners offer protection against cold, flames and arc flash.



EN Standards for Helmets

440 V AC is an optional requirement from the helmet norm EN397. It is intended to provide protection to the wearer against short-term, accidental contact with live electrical conductors. The leakage test is performed in 3 different conditions. The voltage used for this test is 1200 V AC.

1000 V AC from EN 50365. Electrically insulating helmets for use on low voltage installations. This optional test ensures reliable protection against electric shock up to AC 1000V or DC 1500V. The voltage used for this test is 10 000 V. Helmets approved to EN 50365 should be marked with the triangle symbol and "Electrician class 0" inside the shell. MSA electrician helmets are engraved like this in the middle of the shell inside.



EN Standards for Visors

EN166 marking "8" indicates visors and frames which protect against an open circuit electric arc of 12 kA max, 380-400 V, 50Hz nominal for 1 sec max. The requirements are: metal free, defined face coverage, visor thickness minimum 1,4mm with a scale number of 2-1,2 or 2C-1,2. These specifications have been derived from a series of tests using these parameters. Visors certified today are not tested in an arc flash.

MSA offers five visor versions with this certification and marking. All MSA visor frames are approved in combination. In this flyer you find the frames for slotted helmets. More frame versions, e.g. universal for other helmets, are available

GS-ET-29 "Supplementary requirements for the testing and certification of face shields for electrical works" first published in 2010 by German DGUV. This is "Arc-in-the-Box" testing with parameters of 400 V AC; 50 or 60 Hz for 500ms and has 2 classes:

Class 1: 4 kA, 135kJ/m³

Class 2: 7 kA, 423kJ/m³

The main difference to EN166 "8" is that each visor needs to be tested in real arc flash. The temperature behind the visor at eye, mouth and chin level of the test head is measured – maximum safe temperatures are given, to ensure that users will not be injured. Please see the MSA website for the videos on GS-ET-29 arc flash testing. MSA also simulated that an arc flash occurring from the side (normally not required by GS-ET-29), using GS-ET-29 conditions. leftRIGHTs ear muffs were mounted, passing as well class 1.



Other Arc Flash Protection Standards - NOT applicable to helmets and visors

VDE 0680. "PPE, protective devices and apparatus for work on electrically energized systems up to 1000 V" is an old German standard using 1000V and double triangle marking. Today it is valid only for insulating devices like self-sticking tapes, special covers, etc. but not for visors.

EN 61482-1-2. "Live working - Protective clothing against the thermal hazards of an electric arc" is relevant for clothing only. For a similar test method (directed arc box test) for visors please see GS-ET-29.

Standard for Liners

ASTM F 1959/F 1959M-06

This includes test method for determining the arc rating of materials for clothing. V-Gard Supreme liners offer protection for Arc Thermal Performance Value of 8 cal/cm², testing conducted by Kinectrics, Canada, report 1108P33/1106P17.

Complete Solution – Superior Helmet with Integrated Visor

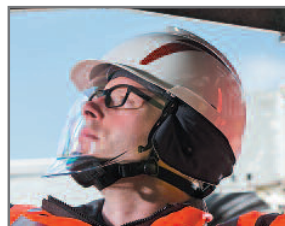
The V-Gard 950 offers complete head and face protection for electrical applications in one. Many different workers and safety officers from various power companies in Europe supported the development of V-Gard 950. The compact design, unique visor mechanism and innovative arc flash ear-flaps are the direct result of the Electrician workers needs. V-Gard 950 helmet system is the best complete solution available today.



Benefit to the user	from V-Gard 950 Features
Perfect Balance & High Wearing Comfort	<ul style="list-style-type: none"> • Best wearing balance and stability • Lightest electrician helmet on the market • Comfort pad in nape, low sitting nape strap • Great field of vision with premium anti-fog coating on both visor sides • 4-point chinstrap for increased stability and retention • Sweat absorbing, replaceable sweatband • Visor fits over corrective or safety glasses
Arc Flash Protection	<ul style="list-style-type: none"> • Guards from 4 kA electric arc (GS-ET-29 Class 1) • Excellent face coverage • Burn of ear area prevented by optional ear-flaps which are flame retardant and arc flash resistant • Increased neck protection with optional arc flash chin cup for the 4 point chinstrap
Ease of Use	<ul style="list-style-type: none"> • Handy Fas-Trac III ratchet knob can be used even wearing gloves • 2 reliable visor positions (up or completely down) • Hearing protection or ear flaps can be easily clipped into the helmet slots • Ear flaps can be placed in stand-by position when not in use • Delivered in a textile bag which can be easily hung near to work area
Modern & Customizable Design	<ul style="list-style-type: none"> • Dynamic, low profile shell design • 6 shell colours available: white, yellow, red, green, blue, orange • Reflective stickers for 360° visibility, day and night • Badge holder to include workers ID cards • Top quality, full colour printing on all helmet sides
Cost Effectiveness	<ul style="list-style-type: none"> • One helmet can be converted for other applications, visor exchanged to overspectacle • Durable, thick ABS shell • Premium antiscratch visor • Lifetime of helmet: 3 years storage + 5 years usage • Visor can be replaced easily without any tool
Accessories	<ul style="list-style-type: none"> • Optional chin cup can be added to chinstrap • Hearing protection, liners, cooling pads, individual naming stickers and other options & accessories



Visor up and ear flaps up



4 point chinstrap as standard, chin cup is optional



FasTrac III comfort pad & handy ratchet





Optional arc flash liner can be worn below

Details needed?

On our web product page you will find: V-Gard 950 Video, Technical Datasheet, V-Gard Range Overview etc.



V-Gard® 950 – Ordering Information

V-Gard 950 helmet with integrated face shield			
Description	Shell Colour	Part No	Approvals
 <p>This complete Solution includes:</p> <ul style="list-style-type: none"> • V-Gard 950 unvented, • 6 pt Fas-Trac III ratchet with premium washable and replaceable sweatband, • integrated arc flash visor, • 4 point chinstrap, • storage bag 	White	GVF1A-80A0000-000	 <p>Helmet:</p> <ul style="list-style-type: none"> • EN397:2012, -30°C, Electrical Insulation 440V AC, Lateral Deformation (LD), Molten Metal (MM) • EN 50365, Electrical class 0 nominal voltage up to 1000 V A.C. and 1500 V D.C. • EN 13463-1:2001, ATEX hazardous zones 1, 2, 20, 21, 22 <p>Visor:</p> <ul style="list-style-type: none"> • EN166:2001, marked 2C-1,2 1 BT 8-1-0 9 KN • GS-ET-29 Class 1 (4 kA) • EN170:2002, UV filtering
	Yellow	GVF2A-80A0000-000	
	Red	GVF3A-80A0000-000	
	Green	GVF4A-80A0000-000	
	Blue	GVF5A-80A0000-000	
	Orange	GVF6A-80A0000-000	
Helmet Options			
Description	Part No when fitted to the helmet (please add the corresponding digit)	Part No	Approvals
Arc Flash Ear Flaps	GVFxA-xxxxx G -xxx	GA90033	Arc flash resistant: GS-ET-29 Class 1 (4 kA) Antistatic: EN 13463-1:2001
Grey stickers –set of 5	GVFxA-xxxxx E x-xxx	GA90036	Exceeds the reflectivity values of EN 12899-1:2007 for Class RA2 materials Part of GS-ET-29 Class 1 (4 kA) testing
Red stickers –set of 5	GVFxA-xxxxx F x-xxx	GA90037	
Badge holder with lamp headband guides	GVFxA-xxxx 5 xx-xxx	Only during production process	Tested with V-Gard 950 Part of GS-ET-29 Class 1 (4 kA) testing
Chincup for V-Gard 900 4-point chinstrap	GVFxA- 9 xxxxxx-xxx	GA90040	Part of GS-ET-29 Class 1 (4 kA) testing
Spare Parts			
Description	Part No	Approvals	
V-Gard 900 Fas-Trac III suspension 6 point with ratchet and replaceable, washable, foam sweatband	GA90041	Tested with V-Gard 950	
Fas-Trac III foam sweatband (10 pcs)	10153518		
V-Gard 900 4 point chinstrap	GA90038	Tested with V-Gard 950/930 Part of GS-ET-29 Class 1 (4 kA) testing	
V-Gard 950 Face shield with connected rails	GA90034	EN166:2001, 2C-1,2 1 BT 8-1-0 9 KN GS-ET-29, Class 1 (4 kA) EN170:2002, UV filtering	
Storage bag	GA90039	Protects the helmet when not in use	

For certified Liners and Ear Muffs please see page 7/8 or consult the V-Gard catalog.