

# V-Gard **Helmet System**

Because your head deserves the best



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





## MSA – A global leader in Head Protection

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*MSA has been in industrial helmets for over 50 years, and is today the world leader for workers' head protection worldwide. The V-Gard product is a proven and a well established brand, including the patented V shell design and trademark. More than 120 Million helmets have been sold. The V-Gard is the most recognised helmet in almost every region with the iconic "V".*

MSA also serves a wide variety of markets with a unique range of high performance helmets:

- Fire and rescue helmets: with the unique Gallet F1 and F2 ranges, MSA protects fire-fighters in more than 80 countries worldwide
- Law enforcement and ballistic helmets: supplying head protection solutions to police and military around the globe
- Helicopter and jet pilot helmets





## MSA V-Gard System – Applications and Needs

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With the V-Gard series MSA offers four models giving performance levels to optimally suit all major industrial applications:

- Oil, Gas and Petrochemicals
- Utilities
- Mining
- Construction
- Metal Processing

Each helmet and its accessories provide a different level of protection and comfort. They should be selected depending on the hazards to which the wearer is exposed:

- Prolonged or occasional use
- Static or mobile use
- Outdoor or indoor use
- Exposure to falling objects
- High temperatures
- Liquid splashes
- Exposure to electrical risks
- Working at height
- Confined spaces or low ceilings
- Storage conditions, e.g. very low temperatures

A risk analysis of the workplace and tasks is needed to ensure the correct and most economic equipment is selected.



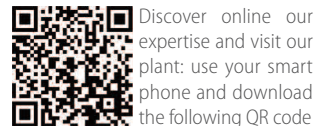
# Expertise, Approvals and Markings

## MSA high quality – high competency

MSA has operations on 6 continents, manufacturing high quality industrial helmets every minute, 365 days a year.

In MSA's european center of competence for head protection in France, MSA has its own, internationally accredited and certified test laboratory. Right next to the production lines and Research and Development center, helmets for industrial workers, fire fighters, police, military and jet pilots are tested every day. Modern technology in conjunction with experience in high-tech head protection assure the highest quality standards. MSA helmets exceed standards requirements for various criteria and provide best-in-class resistance and durability. For instance, penetration tests are always carried out after shock absorption to ensure continuity of protection.

Modern production methods and quality programs ensure the conformity of all helmets produced.



## Industrial head protection: EN 397

The aim of an industrial safety helmet is to protect the use against falling objects and consequently brain injury and skull fracture.

### Mandatory tests



#### Impact absorption test

- A 5kg round striker is dropped onto the helmet from 1 meter
- The maximum transmitted force should not exceed 5kN



#### Penetration test

- A 3 kg pointed cone is dropped onto the helmet from 1 meter
- The striker should not make contact with the headform underneath the helmet



#### Chinstrap anchorage

- Initial 150 N applied, then increased 20 N/ min until failure
- Chinstrap anchorage should release at a minimum force of 150 N and no more than 250 N

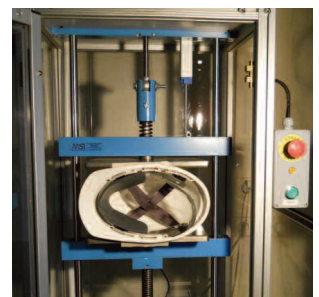


#### Flame test

- A burner pointing the flame at 45° to any point between 50 and 100 mm from the crown, during 10 seconds
- No visible flame after 5 seconds

### Optional tests

EN 397 includes a number of optional tests on helmets where additional protection is claimed: very high (+150 °C) or very low (–30 °C) temperatures, splashes of molten metal, electrical voltages up to 440 V and lateral deformation. MSA also tested and certified products to Eurasian regulation following the GOST standard which are based on EN 397 test methods and with additional temperature performance such as –50 or +90 °C (depending on helmet model).



## Electrical insulation approval: EN 397 440 V AC and EN 50365 1000 V AC



### MSA solution for electricians

Insulated helmets and electric-arc protection visor and frame without any metal part

- Certified according to eye and face protection standard EN 166, marking "8" - Short circuit electrical arc for 1.5 mm and 2.5 mm PC clear visors
- V-Gard frame and moulded 2.5 mm PC visor have also been tested according to Class 1 (test with 4kA) for the GS-ET-29 standard, supplementary requirements for the testing and certification of face shields for electrical works.

### 440 V AC from EN 397

- This test is a current leakage test performed in 3 different conditions to ensure there is no risk of the electrical current being transmitted to the wearer in case a powered wire is in contact with the helmet. 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.
- They offer reliable protection against electric shock up to AC 1000 V or DC 1500 V. The voltage used for this test is 10 000 V.



## Antistatic testing for safe use in ATEX areas: EN 13463-1

As this risk is covered in the PPE directive, there is no related harmonised standard for PPE in explosive environments (ATEX), MSA selected the standard EN 13463-1 non-electrical equipment for use in hazardous areas to show suitability.



### EN 13463-1 for MSA helmets

Preventing electrostatic charge, all MSA V-Gard helmets are suitable for use in ATEX environments.

- Industry:  
Dust: hazardous zones 20, 21, 22 (all zones)  
Gas: zones 1 and 2 with gas group IIA (Propane)
- Mines: any type of extraction and any depth

### EN 13463-1 for MSA accessories

Tests have been done by the laboratory INERIS.

- Dust only: PC and propionate visors
- IIA/Dust: V-Gard helmets, lamp brackets, ear-muffs, frame, vinyl stickers, chinguards
- IIB/Dust: ChemPro goggle, textile stickers
- IIC/Dust: Altimeter spectacles, chinstraps, knit cap

## Lifetime guidelines for MSA industrial helmets

As required by European regulations, MSA provides recommendation on industrial helmets service lifetime:

Helmet shell	Storage time (when helmet not used)	Service life (in addition to the storage time)
<b>HDPE</b>		
V-Gard	2 years	+4 years
<b>ABS</b>		
V-Gard 200	3 years	+5 years
V-Gard 500	3 years	+5 years
V-Gard 520	3 years	+5 years
<b>Nylon</b>		
ThermalGard	3 years	+5 years



NOTE: the "date code" on the brim of your MSA helmet is the date of manufacture (shell injection), not the actual starting date of use, as the period between manufacturing and actual distribution to the worker can vary.



MSA recommends writing the date of first use onto a sticker (supplied with each helmet) and then sticking into the shell. This is normally the point at which service life starts.

# V-Gard® – Head Protection System

## Key shell features

For the V-Gard helmet shells MSA uses either HDPE (High Density Polyethylene) or ABS (Acrylonitrile Butadiene Styrene).

Both are UV stabilised materials.

- **MSA's HDPE** shells offer good resistance to shocks.
- **MSA's ABS** shells have a higher resistance to shocks and scratches and provide better lateral crushing protection.

MSA also produces shells made with glass reinforced polyamide (Nylon) to offer better resistance to heat deformation (+150 °C) and molten metal splash (MM).

MSA helmets are designed to have many options and can be used with a wide range of accessories fully approved as an integrated head protection system.



Model Details from page 8 to 9		Helmet shell material	Weight (including Staz-On)	Weight (including Fas-Trac)	Peak	Rain gutter	Ventilation system	Colour options helmet shell	Suspensions	Approvals				
										EN 397 low temperature	EN 397 lateral deformation	EN 397 molten metal	EN 397 +150°C	EN 397 440 V AC
	<b>V-Gard</b> The "all-round" helmet	HDPE	325 g	380 g	Normal				Textile 4 points, 2 options: - Staz-On with slide adjustment 52–62 cm; - Fas-Trac with ratchet wheel adjustment 52–64 cm;	–30°C				■
	<b>V-Gard 200 vented</b> Functional and stylish	ABS	315 g	370 g	Short	■	■			–30°C	■			
	<b>V-Gard 200 non vented</b> Functional and stylish	ABS	320 g	375 g	Short	■				–30°C	■			■
	<b>V-Gard 500 vented</b> Comfort and protection	ABS	325 g	380 g	Normal	■	■			–30°C	■			
	<b>V-Gard 500 non vented</b> Fully featured for an unparalleled protection	ABS	330 g	385 g	Normal	■				–30°C	■			■
	<b>V-Gard 520</b> No peak safety helmet	ABS	315 g	370 g	No peak	■			Dedicated textile 4 points, Fas-Trac with ratchet wheel adjustment 52–64 cm	–30°C	■			■
	<b>ThermalGard</b> High temperature helmet	Nylon		450 g	Normal					–30°C	■	■	■	■

To easily get your individual helmet configuration, please use MSA configurator.

\* Marking added on demand

## Key suspensions features

- With over head straps made of woven polyester: it provides high comfort and long term, consistent shock absorption performance
- Ensure a consistent performance and comfort level even under the influence of moisture or low temperatures
- Sophisticated 4 point attachment: good positioning, stability and better air circulation
- Patented adjustment systems: Staz-On with slide and Fas-Trac with larger wheel ratchet for quick adjustment even with gloves
- Ideal positioning of the harness through height and length adjustment: perfect for use with full-face respiratory masks
- Wipeable PVC sewn sweatband with possibility to order additional Terri-Band sweatband (washable) for summer. For more comfort, leather sewn sweatband available for Fas-Trac suspensions
- Premium Fas-Trac version with ratchet cover and replaceable foam sweatband



Staz-On harness



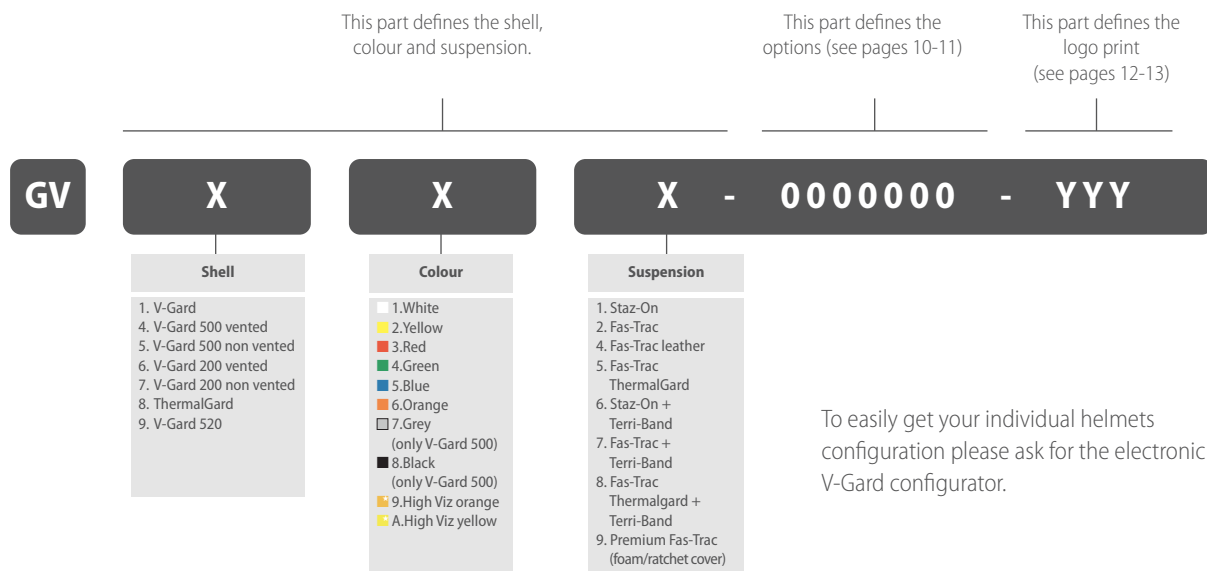
Fas-Trac harness



			Options Details from page 10 to 13					Spare parts Details on page 14	Accessories compatibility Details from page 15 to 27				
EN 50365 (1000 V AC)	EN 13463-1 antistatic	Eurasian approvals	Chinstraps	Lamp bracket	Reflective stickers	Badge holder	Logo customisation	Sweatbands and suspensions	Frames and visors	Ear-muffs	Winter liners, cooling pads and neck capes	Goggle attachment	Stow-away eye protection
■	Zone 1, 2, 20, 21, 22	GOST -50°C	2-point 3-point (Fas-Trac)	Plastic front Metal front Plastic side	Sticker options: 2 materials, 3 colours, 2 shapes		■	■	■	■	■		■
	Zone 1, 2, 20, 21, 22						■	■	■	■	■		■
■*	Zone 1, 2, 20, 21, 22						■	■	■	■	■		■
	Zone 1, 2, 20, 21, 22					■	■	■	■	■	■	■	
■	Zone 1, 2, 20, 21, 22					■	■	■	■	■	■	■	
■	Zone 1, 2, 20, 21, 22					■	■	■	■	■	■	■	
		GOST +150°C	2-point 3-point (Fas-Trac)					■	■	■	■		

# V-Gard® – Helmet Range

The V-Gard helmet range uses a specific part numbering system to enable each configuration to have a unique part number attached to it.



## V-Gard



### Solid "all-round" helmet

- The Original V-Gard, most popular style worldwide, >120 millions sold
- Reliable, UV stabilised HDPE helmet shell
- For many industrial applications the ideal and most economic solution
- Antistatic testing according to EN 13463-1. Suitable for use in ATEX environments hazardous zones 1, 2, 20, 21, 22
- Economic electrician helmet meeting EN 397 440 V AC and EN 50365
- GOST certified (-50°C)



## V-Gard 200



### Functional and stylish

#### Vented version

- UV stabilised ABS helmet shell offers good resistance to scratches
- Lightweight
- Stylish design
- Short peak for improved upward vision
- Effective ventilation system with larger holes on the upper part: most ventilated helmet of the market with 445 mm<sup>2</sup> of ventilation holes
- Limited rain gutter
- Provides lateral crushing protection
- Antistatic testing according to EN 13463-1. Suitable for use in ATEX environments hazardous zones 1, 2, 20, 21, 22

#### Non vented version

Benefits as described for vented version plus:

- Ideal electrician helmet meeting EN 397 440 V AC and EN 50365 1000 V AC (marking available on demand)





## V-Gard 500



### Comfort and protection

#### Vented version

- UV stabilised ABS helmet shell offering good resistance to scratches
- Provides lateral crush protection
- Built-in rain gutter for outdoor operations
- Ideal design for adapting ear-muffs, visors or attaching headband of MSA eyewear with goggle adapter
- Antistatic testing according to EN 13463-1. Suitable for use in ATEX environments hazardous zones 1, 2, 20, 21, 22
- Ventilation holes on the upper part for optimized airflow
- V-Gard 500 helmet can be delivered with a badge holder on the front (see page 10)

#### Non vented version

Benefits as described for vented version plus:

- Ideal electrician helmet meeting EN 397 440 V AC and EN 50365 1000 V AC



## V-Gard 520



### Non vented peakless safety helmet for work at height or confined spaces

- Selection of 2, 3 or 4 points chinstrap (not fitted onto the helmet)
- UV stabilised ABS helmet shell offers good resistance to scratches
- Provides lateral crush protection
- Built-in rain gutter for outdoor operations
- Ideal design for adapting ear-muffs, visors or attaching headband of MSA eyewear with goggle adapter
- Antistatic testing according to EN 13463-1. Suitable for use in ATEX environments hazardous zones 1, 2, 20, 21, 22
- Ideal electrician helmet meeting EN 397 440 V AC and EN 50365 1000 V AC
- V-Gard 520 helmet can be delivered with a badge holder on the front (see page 10)



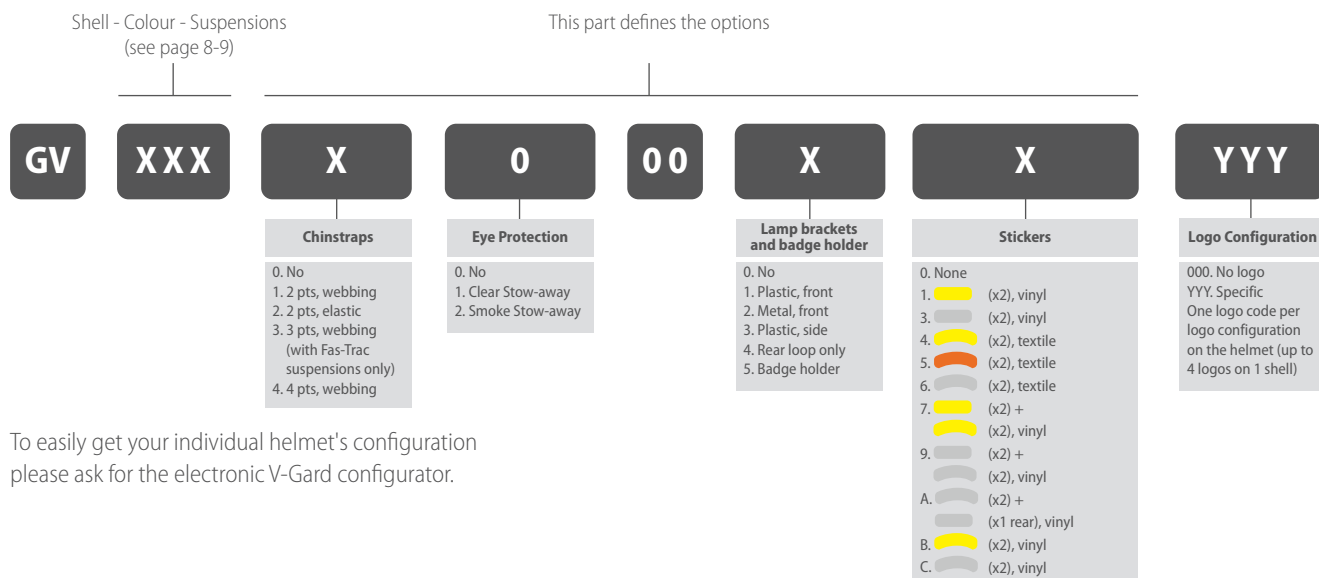
## ThermalGard



- Safety helmet for use in high temperature environments
- Glass reinforced polyamide (Nylon) injected shell
- High temperature resistance +150°C EN 397 and GOST option
- Protection against molten metal
- Provides lateral crush protection
- Special Fas-Trac ThermalGard suspension with ratchet
- Selection of high-temperature frame, visors and flame retardant winter liners



When you need more than just a helmet MSA offers you various options providing additional protection, comfort levels and adaptations for environmental conditions.



To easily get your individual helmet's configuration please ask for the electronic V-Gard configurator.

## Chinstraps

MSA chinstraps ensure a secure fit and stability.

- Easy to attach and remove from the shell thanks to plastic hooks
  - Reliable, comfortable and adjustable
  - Zebra design using contrast colours for webbing versions: highly visible
  - 3 point version is perfectly adapted for work at height and doesn't interfere with the ear muffs
- All MSA chinstraps comply with the requirements of EN 397 when fitted in the appropriate manner to our range of V-Gard industrial safety helmets.

Part No	Description
9100001	2 point chinstrap webbing (1)
B0259378	2 point chinstrap elastic (2)
10147559	3 point chinstrap webbing (valid for all helmets with a Fas-Trac as the 3rd point connects to the suspension ratchet knob) (3)
10148055	4 point chinstrap webbing (only valid for V-Gard 520) (4)
GA8403	Chin piece (can be added to the 3 point chinstrap for additional stability)



## Badge holder for V-Gard 500/520

The robust badge holder at the front is highly valueable for industries or construction sites when several operators are involved in the same work area. A business card, a magnetic access control badge or cards with worker specific "InCaseOfEmergency" information, authorisation and licences can be inserted.

- Transparent plastic embossed to avoid scratches damage
  - Robust and watertight for outdoor applications
  - Ultra sonic welding which resists a tearing test of more than 10 kg
- Must be ordered together with the helmet.



## Lamp attachments

MSA offers 3 optional lamp brackets which are mounted in the production process (so need to be ordered with the helmet): plastic front, metal front, plastic side (MSA offers ATEX lamps - XS, XP LED and XP Xenon).

V-Gard and V-Gard 500 with the plastic lamp brackets keep their electrical insulation (EN 397 440 V AC) and antistatic properties.

Part No	Description
Options when ordering a helmet	Plastic lamp bracket for helmet front, black retention clip in the rear <b>(1)</b>
	Metal lamp bracket for helmet front, transparent retention clip in the rear <b>(2)</b>
	Plastic lamp bracket fixed on the right side of the helmet, for MSA PELI lamps (XS, XP, XP LED) <b>(3)</b>
GA1466	Lamp XS, LED, ATEX Zone 0 (only for plastic side bracket) <b>(4)</b>
GA1457	Lamp XP, Xenon, ATEX Zone 1 (only for plastic side bracket)
GA1464	Lamp XP LED, ATEX Zone 0 (only for plastic side bracket)

### Other specials configurations available (please contact us):

- Rear loop only: retention clip transparent in the rear
- Metal lamp bracket for helmet front, without rear loop
- Plastic lamp bracket for helmet front, without rear loop
- Metal lamp bracket front and plastic lamp bracket fixed on the right side of the helmet
- Badge holder in front, plastic lamp bracket fixed on the right side of the helmet



(1)



(2)



(3)

(4)

## Reflective stickers

In many working conditions wearing high-visibility clothes is mandatory. The MSA stickers increase the visibility of the wearer, especially when used in low light conditions to increase the contrasts (when illuminated by a light source, such as headlights).

- EN 471 compliant
- Durable material
- Available in various colours, materials and shapes:
- Straight or curved (better visibility from the top for applications such as crane driver and workers on the ground)
- Vinyl (economic) or textile (premium quality)
- Orange, grey or yellow

MSA reflective stickers can be mounted within the production process (see the configurator on page 10) or can be ordered separately as an accessory (with the following part numbers):

Type	Yellow	Orange	Silver
Stickers (2 pcs) straight, vinyl <b>(1)</b>	GA90002-JO	N/A	GA90002-BO
Stickers (2 pcs), curved, textile <b>(2)</b>	GA90001-JO	GA90001-RO	GA90001-BO
Stickers (2 pcs) curved, vinyl <b>(3)</b>	GA90003-JO	N/A	GA90003-BO



(1)



(2)



(3)



## Logo customisation

### Why to customise your helmet ?

- Use PPE as a **branding vector** for the company on site
- **Strengthen the pride of your workers** as a company or in a community
- **Promote the safety image** of your company
- **Spread messages** to the workers eg. "Think Safety"
- **Promote a specific event** such as "year of", "50 years of the company..."
- **Identify your workers** when they are operating on construction sites along with other contractors
- **Identify the particular status or function** of the wearer such as "Safety officer", "Team Manager", "Maintenance"
- **Identify** the first aid workers



### Pad printing service

MSA integrated process includes made in France clichés/plates, ink mixture, production

- Express customisation process (1 week for an existing logo)
- Top-quality printing, durable and weather-proven
- Up to 4 logos per helmet can be printed (front, rear, left, right). On V-Gard 500, logo on peak is also possible.
- Possible to print logo, pictures and text
- Minimum order quantities start with 20 helmets
- 2 colour technologies:
  - **Pantone**: solid colour or colour gradient, up to 8 colours per logo
  - **Image 2000™ Service**: Unique feature of MSA logoexpress premium printing 4C process, you can even print pictures or very complicated logos, relevant using high colour. White background needed except on white shells.

To avoid logo distortion due to the curvature of the shell MSA's skilled graphic designers work on each logo individually to ensure an accurate representation of your logo !



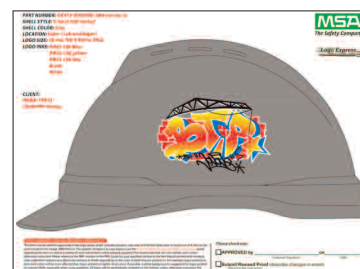
## Logo Express easy process

### For new logo:

1. Select your helmets
2. Send your vectorial logo (eps, ai, cdr) or high resolution bitmaps (bmp, jpg, tif) with the info on 4C or pantone colour code and logo size to your local distributor.
3. Approve as soon as possible the validation form your distributor will send you within 3 days.
4. MSA produces your logoed helmets within two weeks.

### For existing logo:

1. Just place the order with your dedicated P/N (for each logo configuration: a dedicated P/N)
2. MSA produces your logoed helmets within 1 week



Validation form

## Table with helmet models and dimensions per side

Models	Peak	Front	Sides	Rear
V-Gard	N/A	60 x 90 mm	60 x 90 mm	60 x 90 mm
V-Gard 200	N/A	60 x 90 mm	60 x 90 mm	60 x 90 mm
V-Gard 500	30 x 30 mm	60 x 90 mm	60 x 90 mm	30 x 80 mm
V-Gard 520	N/A	60 x 90 mm	60 x 90 mm	30 x 80 mm

Please contact us for any specific requests such as bigger dimensions or different locations than standard ones, MSA integrated Logo Express department can support you with their expertise.

## Individual naming

MSA offers the front badge holder option to insert ID card and identify each worker on a site. If you prefer or need individual naming MSA provides you with a cost effective solution to have the name of each user on an individual sticker. This allows individual traceability of the PPE.

## How to proceed ?

- 1. Just **ask your local MSA contact** to get the Excel form and **provide us with the list** of your workers.
- 2. **You will receive** then the individual stickers easily applied by the end user when the helmet is delivered.

Option available from 40 units (mixed names).

Sticker approved with all MSA helmets during penetration and shocks tests, and after hot and cold conditioning.



Sweatbands

MSA helmets have suspensions with PVC or leather sewn sweatband. In hot environment or summer conditions, you can add a sweatband in washable and reusable terrycotton to the PVC or leather one.

MSA also offers a premium Fas-Trac suspension with foam replaceable sweatband and foam ratchet cover. There is one suspension with both these options, but you can also order the parts separately.

Part No	Description
696688	Washable Terri-Band sweatband for all MSA suspensions
GA90030	Sweatband with foam (10 pcs), fits all MSA suspensions with a hook/loop closure
GA90027	Kit for MSA Fas-Trac Premium suspension: foam sweatband and foam ratchet cover (10 pcs of each)



V-Gard 500 Fas-Trac with foam sweatband



Fas-Trac harness with Terri-Band

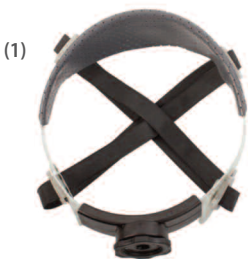
Suspensions spare parts

For hygienic reason and depending on user inspection, suspensions should be changed regularly. Also discover the visitor cap non woven accessory which can be used below all MSA suspensions.

Part No	Description
10109261	Fas-Trac suspension with PVC sweatband sewn <b>(1)</b>
10109230	Staz-On suspension with PVC sweatband sewn <b>(2)</b>
10110605	Fas-Trac suspension with leather sweatband sewn <b>(3)</b>
GA90018	ThermalGard Fas-Trac suspension with PVC sweatband sewn
CH504431	Premium Fas-Trac suspension with foam replaceable sweatband and ratchet cover <b>(4)</b>
D6178016	Visitors cap non woven <b>(5)</b>



(5)



(1)



(2)



(3)



(4)



*V-Gard accessory system is an integrated solution to protect your face, eyes, neck and chin. Frames, visors and chin protectors have been designed and certified as a system with MSA helmets to ensure product compatibility, a crucial component of compliance and safety. With its truly global platform, MSA offers ideal protection around the globe.*

## V-Gard Accessory System – Frames

### Standard frames

- Slot adapters compatible with all MSA helmets and included in each frame package
- Suitable for electrical applications as standard frame contains no metal parts
- Sloped design makes it easy to clean the frame as rubbish just slides off the frame
- Works with or without ear muffs - Adapter is stowable in case you use ear muffs, no more lost parts
- Standard frames can be ordered with or without debris control
- Replaceable debris control creates a tight seal between helmet and frame reducing potential ingress of contaminants
- Elevated Temperature (ET) version designed to withstand temperatures of 177 °C without warping, cracking or crazing



**V-Gard standard frame**  
10121266



**V-Gard standard frame  
Elevated Temperature (ET)  
version**  
10121267



**V-Gard standard frame with  
debris control**  
10115730



**Standard frame slot  
adaptor replacement**  
10117496

### Universal frames

- Heavy-duty, flat rubber strap allows easy and secure placement of universal frame on a helmet
- Pivot location leaves accessories slots open so that other safety equipment like existing ear muffs can be used
- Sloped design makes it easy to clean the frame as rubbish just slide off the frame
- Universal frames can be ordered with or without debris control
- Replaceable debris control creates a tight seal between helmet and frame reducing potential ingress of contaminants
- Suitable for electrical applications as universal frame contains no metal parts



**V-Gard universal frame**  
10121268



**V-Gard universal frame,  
with debris control**  
10115822



**Universal frame heavy duty  
rubber strap replacement**  
10117495

## V-Gard Accessory System – Visors

### Choosing the proper V-Gard visor

<b>Material</b>	Polycarbonate	Suitable for most applications where impact and splash hazards exist. Available in a variety of sizes and thicknesses, sheet or injection moulded versions. Moulded visors are optically corrected and therefore offer very good view and reduce fatigue during work. Their chemical and heat resistance is better as they are thicker and not as stressed as flat visors. Flat visors are the perfect solution for general and basic applications offering a good price/performance ratio.
	Mesh	Provides maximum ventilation in humid working conditions. Lightweight and durable great for outdoor applications such as brush clearing and trimming. Does not provide splash protection.
	Propionate	Provides superior chemical splash resistance mainly against organic chemicals such as solvents. Available in injection moulded version for a great optical quality and reliable resistance not as stressed as flat visors.
<b>Colour / Tint</b>	Clear	Provides maximum light transmission. Good for indoor use applications, or outdoor use in low-light conditions.
	Green tint	Helps alleviate eye strain and fatigue by reducing excessive glare and light transmittance. With Ultraviolet (UV) filter, great for outdoor use in bright light conditions.
	Shade 3 IR / Shade 5 IR	Helps protect against infrared (IR) up to Shade 3 and Shade 5, as applicable, as well as ultraviolet (UV) radiation. Perfect for autogenous welding, metal pouring, gas soldering, light cutting and brazing applications.
<b>Coatings</b>	Anti-fog	Controls condensation build-up on inside of visor surface. Great for humid conditions.
	Anti-scratch	Provides excellent scratch resistance, extending visor life. A “must have” in abrasive work environments.
	Reflective	Reflects radiant heat, keeping the wearer comfortable in elevated temperature environments, such as manufacturing plants with blast furnaces. Available in clear and green tint.
<b>Options</b>	Chin protectors	V-Gard chin protectors provide additional protection to the face and neck from impacts, chemical splash and arc flash making them suitable for applications in forestry, chemical industry, utilities, etc.
	Debris control	Provides additional protection against debris and chemical splash and reduces the possibility of debris or chemical entry between the visor frames and the front of the helmet.

### Markings on frames and visors according to EN 166

#### Filter class and scal number

- Increases with decreasing luminous transmittance through the visor:

2	Ultra violet radiation
2-C	UV radiation with enhanced colour recognition
2C-1.2	UV filter with enhanced colour recognition, light transmission 74.4% - 100% (UV EN 170)
2-2	UV filter, light transmission 29.1% - 43.2% (UV EN 170)
4-3 / 3	Shade 3 filter according to EN 171 (IR) and EN 169 (welding)
4-5 / 5	Shade 5 filter according to EN 171 (IR) and EN 169 (welding)

#### Optical quality

1	Highest optical quality for permanent use
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#### Mechanical strength

F	High speed particles with low energy impact (45 m/s)
B	High speed particles with medium energy impact (120 m/s)
T	Additional resistance at extreme temperatures (-5 and +55 °C)

#### Field of use

- Offers protection against:

3	Liquid droplets and splash
8	Short circuit electric arc
9	Non-adherence of molten metal and resistance to penetration of hot solids
K	Resistance to surface damage by fine particles
N	Resistance to fogging
R	Enhanced reflectance >60% in the infrared (780-2000 nm)



## Chemical application quick reference guide

The results shown in the table below were obtained under lab conditions ( $23 \pm 2^\circ\text{C}$  and  $25 \pm 5\%$  relative humidity) in the MSA test labs.

For testing purposes, V-Gard visors were secured to V-Gard frames in the “as worn” position.

Because each working environment is unique it is recommended you test your selected visor to see actual performance based on external factors and individual chemicals blend and concentrations. The results shown in this Quick Reference Guide are intended as a guide only to help in the selection of the proper V-Gard face protection products. While the table shows the performance against certain chemicals, it is not intended to be all-inclusive and such testing is not required by safety standards.

Use only V-Gard frames or V-Gard Headgear with V-Gard visors. Other product combinations are not certified and may not function as intended.

Chemical Family	Representative Chemical	Polycarbonate clear flat sheet (1-1.5 mm thick), uncoated (10115836, 10115837, 10115863, 10115840)	Polycarbonate clear flat sheet (1.5 mm thick), coated (10154949, 10154950, 10154961, 10154962)	Polycarbonate moulded, clear (2.5 mm thick), coated (10115844, 10115853, 10115845)	Propionate clear moulded (2.5 mm thick), uncoated (10115851, 10115855, 10115856)
<b>Organic Chemicals</b>					
Alcohol	Ethanol	***	***	***	***
Aldehyde	Butyraldehyde	NR	NR	*	*
Aliphatic Hydrocarbon	Gasoline	*(1)	NR	***	*
Aromatic Hydrocarbon	Toluene	NR	NR	*	*
Ester	Butyl acetate	NR	NR	*	*
Ether	Ethyl ether	*	*	*	*
Ketone	Methyl isobutyl ketone (MIBK)	NR	NR	NR	*
<b>Inorganic Chemicals</b>					
Inorganic acid	Hydrochloric acid (35% wt)	***	NR	***	***
Inorganic base	Ammonium hydroxide (28% wt)	***	***	***	***
	Sodium hydroxide (25% wt)	***	NR	***	***
<b>Other</b>					
Bug spray	DEET	NR	NR	*	*

<sup>(1)</sup> Not Recommended (NR) against this chemical when using a PC, clear flat, uncoated, 1.52 mm visor (10115840).

**Three-star (\*\*\*):** No cracking observed on visor under microscope after chemical spray. Only negligible haze may have been observed. The visor passes impact testing at 120 m/s after spray.

**Two-star (\*\*):** No cracking observed on visor under microscope after chemical spray. Slight haze may have been observed, but an assessment of the extent of visor usability as a result is subjective. The visor passes impact testing at 120 m/s after spray.

**One-star (\*):** No cracking observed on visor by un-aided eye after chemical spray. Visible haze may have been observed, but an assessment of the extent of visor usability as a result is subjective. The visor passes impact testing at 120 m/s after spray.

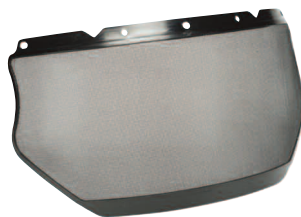
**NR (not recommended):** Crack(s) and/or severe warp and/or severe haze (i.e., that which renders the visor unusable) can be observed on visor after chemical spray; or the visor fails impact testing at 120 m/s after spray.

In all cases, visor should be inspected and replaced if damaged in any way that renders it unusable in a particular environment.



## Mesh visors

- Optimised face coverage: Length 203mm x width 432mm
- Durable, stainless steel, bound with heavy-duty plastic
- Meets requirements for EN1731:2006
- Luminous transmittance: >76 %
- Specific shaping to integrate with hearing protection



**Mesh visor**  
10155774



**Mesh visor with plastic edge,  
compatible with a chin protector**  
10155775

## Polycarbonate sheet visors

- Ideal for a protection from flying debris, splash or spray.
- Sides of visor are contoured towards face for a closer fit and improved resistance to impact and splash hazards.
- UV protection and good optical quality for permanent use.



	Sheet V-Gard visor, PC, clear, 203x432x1 mm EN 166 (2C-1,2 1B)	10115836 10115837*	■ ■	■*	■ ■			■ ■						
	Sheet V-Gard visor, PC, clear, 241x432x1 mm EN 166 (2C-1,2 1B)	10115863	■		■			■						
	Sheet V-Gard visor, PC, clear, 203x432x1.5 mm EN 166 (2C-1,2 1B 389)	10115840	■		■			■					■	EN 166/8
	Sheet V-Gard visor, PC, clear, AF/AS, 203x432x1.5 mm EN 166 (2C-1,2 1B 389 KN)	10154949 10154950*	■ ■	■*	■ ■	■ ■	■ ■	■ ■					■ ■	■ ■ EN 166/8 EN 166/8
	Sheet V-Gard visor, PC, green tinted, AF/AS, 203x432x1.5 mm EN 166 (2-2 1 B 39 KN)	10154961 10154962*	■ ■	■*	■ ■	■ ■	■ ■	■ ■	■ ■				■ ■	

\* For chin protector adaptation (retractable chin protector: 97 mm in height, standard chin protector: 72.6 mm in height).



Fits with ear muffs



Works with chin protectors



Impact



Anti-Scratch



Anti-fog



UV



Tinted



Welding (shade)



Arc



Elevated temperature



Chemical resistant














Molten metal splash

## Polycarbonate moulded visors

V-Gard PC moulded visors keep workers safe and comfortable in environments such as steel/smelting plants where they are exposed to high levels of heat and/or excessive glare. They are developed for heavy duty use and are thicker than most visors in the marketplace, which not only ensures impact resistance, but also reduces heat warping. Moulded for superior optical quality.











											
	Moulded V-Gard visor, PC, clear, AF/AS 235x432x2.5 mm EN 166 (2C-1,2 1BT 389 KN)	10115844	■	■	■	■	■		■	■ <sup>(1)</sup> EN 166/8	■
	264x432x2.5 mm EN 166 (2C-1,2 1BT 389 KN)	10115853	■	■	■	■	■		■	■ <sup>(1)</sup> EN 166/8	■
	Moulded V-Gard visor, PC, green tinted, AF/AS 235x432x2.5 mm EN 166 (2-2 1BT 39 KN)	10115845	■	■	■	■	■	■	■		■

<sup>(1)</sup> Tested according to GS-ET-29 class 1 (4kA)

## Polycarbonate shaded moulded visors

V-Gard PC shaded moulded visors protect against damage from impact and infrared (IR) radiation. Designed for autogenous welding, metal pouring, gas soldering, and light cutting/brazing, they have been engineered for heavy-duty use. They are thick for high impact and heat resistance.








								
	Moulded V-Gard visor, PC, Shade 3 IR, 203x432x1.8 mm EN 166 (3.0/4-3 1BT 39)	10115859	■		■	■	■	■
		10115860*	■	■*	■	■	■	■
	Moulded V-Gard visor, PC, Shade 5 IR, 203x432x1.8 mm EN 166 (5.0/4-5 1BT 39)	10115861	■		■	■	■	■
		10115862*	■	■*	■	■	■	■

\* For chin protector adaptation (retractable chin protector: 97 mm in height, standard chin protector: 72.6 mm in height).

## Polycarbonate reflective coated moulded visors

V-Gard polycarbonate reflective coated visors deflect a significant amount of heat. The reflective coating helps filter IR radiation and dissipate radiant heat. They are EN 166 'R' certified: spectral reflectance of IR between 780nm and 2000nm is >60%, helping to protect skin and eyes from IR exposure. Clear or tinted versions are available for dark vs. glare-riddled environments.








					
	Moulded V-Gard visor, PC, clear reflective coated 241x450x1.8 mm - EN 166 (2C-2,5 1BT3R)	10115848	■	■	■
	Moulded V-Gard visor, PC, green reflective coated 241x450x1.8 mm - EN 166 (2-4 1BT3R)	10115850	■	■	■

# V-Gard® – Face Protection

## Propionate moulded visors

V-Gard Propionate Visors provide good impact and splash protection especially for those applications where chemical splash hazards exist. They are moulded and thicker with higher impact resistance than comparable acetate visors in the marketplace. Superior optical quality for permanent use.

					
	Moulded V-Gard visor, Propionate, clear, 203x432x2.5 mm - EN 166 (MSA 1B3)	10115855	■		■
		10115856*	■	■*	■
	Moulded V-Gard visor, Propionate, clear, 235x457x2.5 mm - EN 166 (MSA 1B3)	10115851			■



\* For chin protector adaptation (retractable chin protector: 97 mm in height, standard chin protector: 72.6 mm in height).

## V-Gard Accessory System – Chin Protectors

V-Gard chin protectors provide extra protection from impact, arc flash and splash hazards to face and neck, approved in combination with frames and visors.



### Retractable chin protector

- Unique retractable plates allow greater flexibility of head movement both up and down, as well as side to side
- Opaque material ensures safety and standards compliance with clear, tinted, shaded and coated V-Gard visors



### Standard chin protector

- Compact and lightweight design provides additional protection between chin and neck area
- Opaque material ensures safety and standards compliance with clear, tinted, shaded and coated V-Gard visors

Part No	Description
10115828	Retractable chin protector 97 mm in height

Part No	Description
10115827	Standard chin protector 72.6 mm in height





## left/RIGHT ear muffs

### Passive ear muffs

Unique muffs designed to account for the anatomical individuality of the user

- Individual ear cups, left and right. The most comfortable protection on the market
- Helmet mounted and headband muff models
- 3 distinct wearing positions of helmet mounted models
- 3 attenuations levels
- 4 colours: blue, white, yellow, grey

### Electronic ear muffs

Muffs enabling protection and listening at the same time

- Level dependent hearing protector CutOff: face-to-face communication, hearing and amplification of important sound and warning signals while being protected
- Hearing protector Radio FM: excellent radio reception and superior sound quality
- Dual: combination of CutOff and FM
- All feature e.g.:
- Sound levels from microphones and speakers are limited to max 82 dB(A)
- Easy to use - operated by three distinct push buttons
- Battery save and low battery warning system



left/RIGHT passive ear muffs	LOW SNR 25 dB (H=27 dB, M=22 dB, L=15 dB)	■ 10087438	□ 10087439	■ 10087437	■ 10101995
	MEDIUM SNR 28 dB (H=29 dB, M=25 dB, L=17 dB)	■ 10087429	□ 10087430	■ 10087428	■ 10101996
	HIGH SNR 31 dB (H=32 dB, M=28 dB, L=21 dB)	■ 10087423	□ 10087424	■ 10087422	■ 10101997
left/RIGHT electronic ear muffs	SNR 27 dB (H=31 dB, M=24 dB, L=16 dB)	■ CutOff Pro 10111826	■ CutOff Pro 10111823	■ Dual Pro 10111832	■ FM Pro 10111829

Accessories for left/RIGHT ear muffs	
10092878	Hygiene kits for left/RIGHT Low
10092879	Hygiene kits for left/RIGHT Medium
10092880	Hygiene kits for left/RIGHT High
10094605	Hygiene kits for electronic left/RIGHT



## Classic Line ear muffs

Range of muffs designed to provide economic and reliable solution for most environments where hearing protection is required.

- Patented spring design offers low pressure tension and a good level of comfort
- Three distinct wearing positions for ease of use
- Excellent grip even when wearing gloves



### EXC

EXC features unique moulded inserts to ensure excellent noise attenuation for medium noise levels and provide enough space for the ears inside the cup.



### HPE

In environments with very high noise levels, especially in low frequencies, HPE offers reliable protection. Thick, soft, foam-filled cushions provide good comfort and perfect seal.

Part No	Description
SOR10012	SNR 26 dB, H=29 dB, M=23 dB, L=15 dB

Part No	Description
SOR12012	SNR 31 dB, H=32 dB, M=28 dB, L=22 dB

MSA offers a full range of high quality spectacles and goggles. The following are just a selection. Please ask for separate leaflets.

The following selected models are the perfect solution to fix the headband on the rain gutter of a V-Gard 500 or 520 helmet with two special brackets.

Part No	Description
GA9006	Bracket to attach a goggle to V-Gard 500/520 (2 clips)



## Altimeter

### Hybrid design for universal use.

- Delivered with comfortable headband and length adjustable soft temples
- Headband option is ideal for use with ear muffs
- Complete eye enclosure and superior shock absorption.
- Sightgard anti-fog coating with good antiscratch properties
- Headband can be opened with one click without taking off the helmet



## ChemPro

### Fresh look, safe fit and complete protection.

- Protects against impacts, liquids, coarse dust and metal splash.
- "Soft touch" body adapts perfectly to the face
- Coating options: Sightgard+ or OptiRock
- Exchangeable lens
- Indirect but effective ventilation



## FlexiChem

### Comfortable goggle with increased chemical resistance.

- With an acetate lens it protects against splashes and large dust particles
- The pliable frame and indirect ventilation enhances comfort and fit
- Sightgard+ premium anti-fog coating EN 166 "N" with good anti-scratch properties.

Part No	Description
10145583	Altimeter (with temples and headband) smoke, Sightgard coating, Premium UV400, EN 166: 5-2.5 MSA 1 FT CE
10153915	Altimeter (with temples and headband) clear, Sightgard coating, Premium UV400, EN 166: 2C-1.2 MSA 1 FT CE
10145597	ChemPro clear, OptiRock coating (durable high performance anti-fog coating with outstanding anti-scratch properties EN 166 "KN"), EN 166: 2C-1.2 MSA 1 BT 349KN CE
10104671	ChemPro clear, Sightgard+ coating (premium antifog coating EN 166 "N" with good anti-scratch properties), EN 166: 2C-1.2 MSA 1 BT 349N CE
10145578	FlexiChem clear, Sightgard+ coating (premium antifog coating EN 166 "N" with good anti-scratch properties), EN 166: 2C-1.2 MSA 1 FT 34 N CE

## Integrated eye protection Stow-away

- Fully integrated head and eye protection. The Stow-away "stows away" inside the helmet when eye protection is not required - protecting the visor from damage. Extremely comfortable, with no pressure points behind the ears.
- Compatible with helmet mounted ear muffs.
- For V-Gard and V-Gard 200 helmets.

Part No	Description
10002674	Stow-away visor, clear, coated antifog
10002675	Stow-away visor, tinted



V-Gard accessory system kits are designed to offer easy customer solutions for a variety of needs – all in one convenient box.

## V-Gard forestry kits

- High visibility versions (optional reflective stickers)
- Visors adapted to the shape of the ears-muffs
- Widest face coverage
- Retractable chinguard option
- Robust frame to withstand chainsaw rebound



Basic

### Ideal for lumberjacking

- Orange V-Gard helmet with Staz-On
- Standard V-Gard frame
- V-Gard metal mesh visor
- EXC ear muffs 27 dB



Premium

### Complete kit for forest activities

- Orange V-Gard 500 helmet vented with Fas-Trac
- Standard V-Gard frame
- V-Gard metal mesh visor
- left/RIGHT ear muff 28 dB
- PVC neck cape



Premium with chinguard

### Ideal for tree lumberjacking and trimming

- Orange V-Gard 500 helmet vented with Fas-Trac
- Standard V-Gard frame
- V-Gard metal mesh visor with slots for chinguard
- left/RIGHT ear muffs 28 dB
- PVC neck cape
- Retractable chinguard

Part No	Description
GV161-001700E-000	Basic
GV462-0017004-000	Premium (without reflective stickers)
GV462-0017044-000	Premium (with reflective stickers)
GV462-0018004-000	Premium with chinguard (without reflective stickers)
GV462-0018044-000	Premium with chinguard (with reflective stickers)

## Electrician kit

Basic

### Ideal for short-circuit electrical arc.

- White V-Gard 500 helmet non vented, with Fas-Trac; EN 397 440 V AC and EN 50365 certified
- Standard V-Gard frame – EN 166: 389 BT
- V-Gard sheet visor, 203x432x1,5mm – EN 166 (2C-1,2 1B 389)



Part No	Description
GV512-0024000-000	Basic electrician kit

# V-Gard® – Winter Liners

MSA offers three categories of V-Gard winter liners:

- **Supreme:** multiple layers, permanent flame retardance, arc thermal performance, water repellent.
- **Select:** 2 layers of fabric, limited flame performance (25 or 50 washings).
- **Value:** provides excellent protection against cold with maximum economy.

All range is auto-certified Category 1 according to the following annex II of the PPE directive: "6.7 Clothing and/or accessories (whether or not detachable) designed and manufactured to provide protection against weather conditions which are neither exceptional nor extreme, for professional use". In addition, these liners have been added to the MSA V-Gard safety helmets certificates after checking of penetration and shocks test when used with helmets.

## Flame retardancy

The MSA winter liners offer 2 level of protection against flame

- Supreme liners garments are made of special flame resistant fibers. Flame resistance cannot be removed by washing.
- Select liners garments have been chemically treated to ensure flame retardancy up to 50 washings.

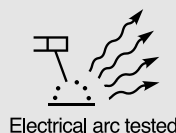
The flame resistance performance of our Select and Supreme liners have been tested at the specialist notified test house BTTG according to ISO EN 14116 paragraph 6.1, 6.1.4 . Test reports are available on request.



## Electrical arc

The Supreme liners in addition to cold and flame performance, offer protection from arc exposure:

- Resistant to exposure to an ATPV (Arc Thermal Performance Value) of 8 cal/cm<sup>2</sup>
- Tested to ASTM F 1959/F 1959M-06 aE1 test method
- Perfect combination with V-Gard 500 unvented, V-Gard frame and 2.5 mm PC GS-ET-29 arc tested visor.



## Water Repellancy

- Supreme and Value liners are water repellent for outdoor operations, performance Grade 3 according to AATCC 22 2010



## Knit cap

- Can be worn under any model of helmet
- Perfect ear protection without obstructing vision
- Helmet remains stable on the head



## Attachment to helmet suspension

- 2 velcro straps, wrapped around helmet headband
- Offers proper stability and position
- Easy to don, no adjustment required



## Neck pocket for warming pack (Supreme only)

- Integrated pocket 9.5 x 5.7 cm to place a warming pack for enhanced warmth
- Warming pack not supplied with liners, available in most sporting goods retailers



## Ear muffs compatibility

- Quilted, adjustable flaps to provide continuous cold protection with or without ear muffs
- For use with earmuffs – won't compromise attenuation levels
- Earflap opens and stores with hook and loop on back of liner when in use with ear muffs





	Part No	Description	Lenght	Warmth level	Flame retardancy	Water repellency	Withstands arc exposure	Can be worn with earmuffs	Sale Units in pcs
									
V-Gard Supreme Liners									
	10118425	V-Gard Supreme liner	370 mm			■	■	■	3
	10118427	V-Gard Supreme liner, 2-piece	370 mm			■	■		3
V-Gard Select Liners									
	10129659	V-Gard Select liner, 2-piece	370 mm			■			12
	10118423	V-Gard Select liner	370 mm			■		■	12
	10118424	V-Gard Select liner, Yellow high visibility	370 mm			■		■	12
	10118426	V-Gard Select neck gaiter	260 mm			■		■	6
V-Gard Value Liners									
	10118417	V-Gard Value liner knit cap	300 mm						12
	10118418	V-Gard value liner can be worn over or under helmet	370 mm						12
	10118419	V-Gard Value liner	280 mm						12
	10118422	V-Gard Value liner	370 mm						12



# V-Gard® – Cooling Pads

MSA offers two innovative cooling pads. HyperKewl™ evaporative cooling provides extended relief from heat fatigue and heat stress.

- Lightweight, durable and non-toxic
- Easy to activate and re-usable
- 5-10 hours of cooling relief per soaking 6 to 12°C lower than the outside temperature!
- CE certified (PPE category 1)
- Both have passed testing to EN 397
- Accessories in V-Gard certificate

## How it works?

A water management system created from the HyperKewl™ fabric absorbs and releases water within the multi-layered material.

- Simply submerge the product in water for 1 minute allowing the HyperKewl™ fabric to absorb the water
- Gently squeeze out the excess water, wipe dry and wear
- Before first use: follow activation proceeding above and let the product dry completely. This is necessary for the cooling fabric fibers to set into the product.
- For washing: soap and water only (max 100 washes)

## Crown cooler

- Protect from dangerous heat
- Hook and loop conveniently attaches easily to V-Gard helmet suspensions
- Colours: royal blue

Part No	Description
GA90022	Crown cooler



## Crown cooler with neck shade

- Protect neck and head from dangerous heat and sun
- Hook and loop conveniently attaches to V-Gard helmet suspensions
- Colours: Hi-Viz yellow/lime (meets EN 471 requirements)

Part No	Description
GA90023	Crown cooler + neck shade



Neck capes provides protection from wind and rain, dust, debris and liquid splash.

Two different washable neck capes are available with all MSA helmet models. Both neck capes have to be fitted to the two rear tabs of the MSA suspensions.

Part No	Description
GA90005	PVC fluo orange neckcape
T1900700	Nomex orange neckcape

\* Oil, Gas and Petrochemicals

### PVC fluo orange neckcape

- Protects from wind, rain, debris and liquid splash
- Mainly used in forestry applications



### Nomex orange neckcape

- Protects from limited flame spread
- Mainly used for OGP\* applications or steel industries



## MSA - Environmentally Sensitive



The MSA head protection range design is environmentally friendly and the production plant takes full account of all environmental considerations in the manufacturing process, from the selection of raw material suppliers to shipping. All the plastic material wastage during operations or helmets used for laboratory tests are sorted and recycled with all the plant waste (paper, etc). Globally MSA is compliant with all the latest environmental directives such as the REACH, regulations for chemical components used in our products. All these aspects are written into our "Plant Safety & Environment Guideline and Policies" which are available on request.

**At MSA, Every Life has a Purpose.**





## MSA V-Gard is a protection icon in the PPE world

You can find V-Gard helmets around the world in different markets and industries.

MSA V-Gards are the most recognised industrial helmets globally. Everybody knows its "V" shape, not only workers but famous people around the globe.

Everyday you will see in movies, TV programs and TV news V-Gard helmets on the heads of celebrities: Beyoncé, the Chilean miners, the French Prime Minister, the street art creator JonOne and even Walker the bear at a Scottish zoo for who's favourite toy is a V-Gard.

Let's play recognise the "V" and send us any funny pictures or pictures of famous people wearing V-Gards.

**V-Gard is our brand but also your brand.**





Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.



**UK Office**

**Keison Products,**

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**Email: [sales@keison.co.uk](mailto:sales@keison.co.uk)**

Please note - Product designs and specifications are subject to change without notice. The user is responsible for determining the suitability of this product.