

THE V-Gard IS GETTING A lace lift!

Renowned for quality, dependability and life-saving testimonials, the iconic V-Gard[®] Helmet with its unique V-shaped design is the head protection choice of workers world-wide. No other hard hat possesses the trust people have in their V-Gard Helmet to keep them safe.

So how did MSA make the best hard hat even better? By listening to V-Gard owners. You wanted to select a visor, frame, and chin protector and not worry about compatibility or compliance. You wanted a system that accommodates other personal protective equipment, like earmuffs and respirators. Most of all, you wanted reliable helmet accessories that offer the same high standard of protection as the V-Gard Helmet you already trust.

And MSA Delivered! Introducing the V-Gard Accessory System – frames, visors, and chin protectors designed for MSA V-Gard Helmets. And for those who love other MSA helmets, (such as the Skullgard[®] Helmet), a universal version of the V-Gard frame fits any MSA slotted or non-slotted helmet.

Compliance Made Easy! Why choose MSA's new line of V-Gard accessories when competitors' visors and frames may *appear* to be compatible? Because **only** V-Gard Accessory products are tested and approved as a system.

Simple Ordering! V-Gard Accessories meet applicable global standard requirements – with only one part number per product!

For more information, please visit www.MSAsafety.com/VGardSystem

TABLE OF CONTENTS

- Keys to Safety
- V-Gard Frames
- Anatomy of a Packaging Label
- V-Gard Visor Shapes and Sizes
- Choosing the Proper V-Gard Visor
 - V-Gard Visors for General Purpose Applications
 - V-Gard Visors for Chemical and Splash Applications
 - V-Gard Visors for Elevated Temperatures Applications
 - V-Gard Visors for Welding Applications
 - V-Gard Visors for Arc Flash Hazards
- V-Gard Chin Protectors
- V-Gard Accessory System Kits
- V-Gard Accessory System Replacement Parts
- Chemical Application Quick Reference Guide

V-Gard[®] Frame FOR SLOTTED CAPS



V-Gard Frame for Slotted Caps, with debris control. Shown with V-Gard clear molded, polycarbonate visor and MSA left/RIGHT[®] (HIGH) earmuffs.

¹Patent pending



V-Gard[®] **UNIVERSAL FRAME**



V-Gard Universal Frame for Non-Slotted or Slotted Caps, with debris control. Shown with V-Gard clear, molded propionate visor.

¹Patent pending

off the frame.



Introducing the V-Gard Accessory System – frames, visors, and chin protectors designed for MSA helmets. Reliable accessories offering the same high standard of protection as the V-Gard Helmet – the head protection choice of workers world-wide.



Keys to Safety: Testing as a System to Exceed the Standard

MSA is serious about safety. To help ensure safety, don't combine accessories from different manufacturers. **Only** V-Gard Accessory products are tested and approved as a fully-integrated system to work with MSA protective helmets.

Most V-Gard Accessories exceed the impact protection requirements of ANSI/ISEA Z87.1-2010. V-Gard Accessories have stood up to:

-) a $\frac{1}{4}$ metal ball speeding > 204 mph
- a > 1 lb. pointed metal missile and a sharp, added-weight needle being dropped from a height > 4 feet.

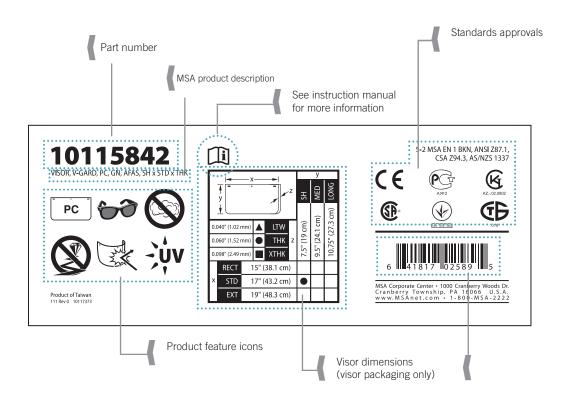
V-Gard Accessory products have also met some pretty strenuous global standards requirements. Tests some V-Gard Accessories have passed include:

- Resistance to surface penetration by molten grey iron metal, heated to 2642°F / 1450°C.
-) Conditioning to temperature extremes between $23^{\circ}F/-5^{\circ}C$ and $131^{\circ}F/55^{\circ}C$, then impact tested with a metal ball moving >268 mph.
- Resistance to surface penetration by a steel ball, super-heated to 1652°F/ 900°C.

V-Gard Accessory System: Going beyond the standards to Make the World Safer, One Person at a Time®.

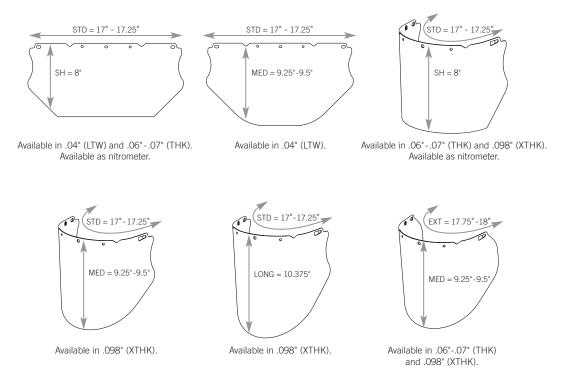
Anatomy of a Packaging Label

All MSA V-Gard Accessories are packaged for ease of selection at point of purchase. With barcodes and helpful customer-approved product feature icons, MSA makes it simple for customers to select the proper product.



Visor Shapes and Sizes

The following V-Gard Visor shapes and sizes are included in the V-Gard Accessory System:



V-Gard Frames

The V-Gard Accessory System offers helmet-mounted frames for various work conditions and user helmets.

The sloped design allows liquids, chips and other materials to slide off the frame and away from the line of sight. Each frame or frame/visor combination, whether used with or without debris control, meets the applicable requirements for ANSI/ISEA Z87.1-2010, EN 166, CSA Z94.3 and AS/NZS 1337, as well as many local standards.

WARNING

Use V-Gard Frames ONLY with V-Gard Visors, to ensure compliance with safety standards. Misuse can result in death, permanent impairment of sight, or other serious injury.

V-Gard Frames for Slotted MSA Caps

	 P/N 10115730 V-Gard Frame for MSA Slotted Caps, with debris control P/N 10121266 V-Gard Frame for MSA Slotted Caps, without debris control² P/N 10115821 V-Gard Frame for MSA Slotted Caps, Elevated Temperatures (ET), with debris control 	 Stowable slot adaptors¹ allow frames to work with or without earmuffs. Replaceable debris-control creates a tight seal between the helmet and the frame. Sliding adjustment blades allow visor to work with most half-mask respirators. Unique V-shaped channels.¹ Fits all slotted MSA caps.² ET frame tested to temperatures of 350°F (176.7°C), reducing warping, cracking or crazing.
The second second	P/N 10121267 V-Gard Frame for MSA Slotted Caps, Elevated Temperatures (ET), without debris control	

V-Gard Universal Frames for Slotted or Non-Slotted MSA Caps

	P/N 10115822 V-Gard Universal Frame for Caps, with debris control	 Heavy-duty, flat rubber strap allows easy and secure placement of frame on the cap. Design allows use with other personal protective equipment, such as earmuffs and most half-mask respirators.
	P/N 10121268 V-Gard Universal Frame for Caps, without debris control	 Non-metal construction enables use in electrical applications. Unique V-shaped channels.¹ Fits all MSA caps.^{2,3}
COMING SOON	V-Gard Universal Frame for Caps Elevated Temperatures (ET)	 Replaceable debris-control creates a tight seal between the helmet and the frame. ET Frame designed to withstand temperatures of 350°F (176.7°C), reducing warping, cracking or crazing.

V-Gard Frames for Full Brim Hats

COMING SOON	V-Gard Frame for Hats ⁴	 Design allows use with other personal protective equipment, such as earmuffs and half-mask respirators. Heavy-duty rubber strap prevents frame from slipping off of hats. Fits all MSA full brim hats.
COMING	V-Gard Frame for Hats	 Unique V-shaped channels.¹ ET Frame designed to withstand temperatures of 350°F (176.7°C)
SOON	Elevated Temperatures (ET)	without warping, cracking or crazing.

¹ Patent pending.

² MSA recommends the use of debris control on V-Gard frames when wearing both cap-mounted earmuffs **and** V-Gard molded visors.

³ MSA does not recommend the use of the V-Gard Universal Frame with the MSA Smooth Dome cap when using cap-mounted earmuffs **and** V-Gard Molded visors. The MSA V-Gard Frame for Slotted Caps can be used for this particular combination.

Choosing the Proper V-Gard Visor

The V-Gard Accessory System includes a full line of V-Gard Visors for a variety of applications: from general purpose to elevated temperature. Many of the V-Gard Visors are designed for use with V-Gard Chin Protectors. And since all V-Gard Visors fit all V-Gard Frames, it's easy to select a combination that is compliant and meets just about any safety need.

When choosing a V-Gard Visor, first assess possible environmental hazards. Is there excessive glare, humidity or exposure to IR radiation? Is there a risk of impact, chemical splash or arc flash hazards? The chart below lists the benefits of different V-Gard Visors.

Material	Polycarbonate	Suitable for most applications where impact hazards exist. Available in a variety of sizes and thicknesses. Provides UV protection, unless otherwise noted. Molded polycarbonate visors also provide protection against some chemical splash. <i>See Chemical Application Quick Reference Guide</i> .
	Mesh	Provides maximum ventilation in humid working conditions. Lightweight and durable – great for outdoor applications such as brush clearing and trimming. Does not provide impact, splash or UV protection.
	Propionate	Provides chemical splash resistance. Good for many applications where chemical splash hazards exist. See Chemical Application Quick Reference Guide.
Color / Tint	Clear	Provides maximum light transmission. Good for indoor applications, or outdoor use in low-light condition:
	Green Tint	Helps alleviate eye strain and fatigue by reducing excessive glare and light transmittance. 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. Perfect for metal pouring, gas soldering, light cutting and brazing applications.
	Arc	Helps protect against low-level arc flash hazards. This specialty-tinted lens offers protection from electromagnetic energy, fragments and molten metals that could be released during an electric arc.
Coatings	Anti-fog	Controls condensation build-up on inside of visor surface. Great for humid conditions. V-Gard Visors offering anti-fog are marked with an EN "N" marking, having passed strenuous testing to confirm anti-aging properties.
	Anti-scratch	Provides excellent scratch resistance, extending visor life. A "must have" in abrasive work environments. V-Gard Visors, offering anti-scratch are marked with an EN "K" marking, having passed strenuous testing to confirm anti-scratch properties.
	Reflective	Reflects radiant heat, keeping the wearer comfortable in elevated temperature environments. Available in clear and green tint.

WARNING

Wear MSA impact-rated spectacles or goggles under visors. Inspect visors frequently and replace immediately if worn, scratched or damaged.

Use V-Gard Visors ONLY with V-Gard Frames and V-Gard Chin Protectors to ensure compliance with ANSI/ISEA Z87.1-2010, EN 166, CSA Z94.3 and AS/NZS 1337, as well as many local standards. Misuse can result in death, permanent impairment of sight, or other serious injury.

V-Gard Visors for General Purpose Applications

These visors are made of durable mesh or polycarbonate, and help protect wearers from flying debris, splash or spray¹. All V-Gard Visors for general purpose can be worn with cap-mounted earmuffs.

	P/N 10116557 Mesh with Plastic Edge	8″ (20.3 cm) x 17″ (43.2 cm) Durable, epoxy-coated 20 x 20 steel mesh, bound with heavy-duty plastic.
	P/N 10116558 Mesh with Plastic Edge Nitrometer	Nitrometer can only be used with V-Gard Retractable or Standard Chin Protector. Meets requirements for EN 1731-S, ANSI/ISEA Z87.1-2010 (general protector), and AS/NZS 1337. Do not use where splash, elevated temperatures, UV or impact hazards exist.
COMING	Aluminum Bound Mesh	8" (20.3 cm) x 16.5" (41.9 cm) Durable, epoxy-coated 20 x 20 steel mesh, bound with heavy-duty aluminum. Standards requirements met by this product will be published at time of product launch.
	P/N 10117750 Clear, PC Flat (non-CSA version) P/N 10117781 Clear, PC Flat Nitrometer (non-CSA version)	8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm) Wider design for improved resistance to impact and splash hazards. Maximum UV protection. Nitrometer can only be used with V-Gard Retractable or Standard Chin Protector. PNs 10117750 and 10117781 meet requirements for ANSI/ISEA Z87.1-2010.
	P/N 10115840 Clear, PC Flat P/N 10117782 Clear, PC Flat (non-CSA version) P/N 10117783 Clear, PC Flat Nitrometer (non-CSA version)	8" (20.32 cm) x 17" (43.2 cm) x .06" (1.52 mm) Wider design for improved resistance to impact and splash hazards. Slightly thicker for industrial applications such as cutting metal. Maximum UV protection. Nitrometer can only be used with V-Gard Retractable or Standard Chin Protector. PN 10115840 meets requirements for EN 166 (2C-1.2 MSA 1B89), ANSI/ISEA Z87.1-2010, CSA Z94.3 and AS/NZS 1337. PN 10117782 and 10117783 meet all of the above, except CSA Z94.3.
	P/N 10118094 Clear, PC Flat (non-CSA version)	9.5" (19 cm) x 17" (48.3 cm) x .04" (1.02 mm) Slightly longer and wider design offers extended coverage for improved resistance to impact and splash hazards. Meets requirements for ANSI/ISEA Z87.1-2010.
COMING	Clear, PC Flat, AF/AS	8" (20.32cm) x 17" (43.2 cm) x .06" (1.52 mm) Wider design for improved resistance to impact and splash hazards. Slightly thicker for industrial
COMING	Clear, PC Flat Nitrometer, AF/AS	impact applications such as cutting metal. Maximum UV protection. Anti-fog and anti-scratch coating versions available. Nitrometer can only be used with V-Gard Retractable or Standard Chin Protector. Standards requirements met by this product will be published at time of product launch.
COMING SOON	Green Tint, PC Flat, AF/AS	8" (20.32 cm) x 17" (43.2 cm) x .06" (1.52 mm) Wider design for improved resistance to impact and splash hazards. Maximum LIV protection
COMING	Green Tint, PC Flat Nitrometer, AF/AS	Maximum UV protection. Slightly thicker for industrial impact applications, such as grinding. Green tint helps alleviate eye strain and fatigue by reducing excessive glare, especially when working outside. Not for usewhere a Shade Infrared (IR) visor is required. Anti-fog and anti-scratch coatings. Nitrometer can only be used with V-Gard Retractable or Standard Chin Protector. Standards requirements met by this product will be published at time of product launch.

¹ Exceptions are noted in the product descriptions, above.

P/N 10115853 Clear, PC, Molded, AF/AS	 10.375" (26.4 cm) x 17" (43.2 cm) x .098" (2.49 mm) Designed for heavy duty use – thicker than most visors on the market. Maximum UV protection. Molded for superior optical quality. Extended length for greater coverage of face and neck. Anti-fog and anti-scratch coatings. Meets requirements for EN 166 (2C-1.2 MSA1BT89KN), ANSI/ISEA Z87.1-2010, CSA Z94.3, and AS/NZS 1337.
P/N 10115854 Green Tint, PC Molded, AF/AS	 10.375" (26.4 cm) x 17" (43.2 cm) x .098" (2.49 mm) Designed for heavy duty use – thicker than most visors on the market. Maximum UV protection. Molded for superior optical quality. Extended length for greater coverage of face and neck. Green tint helps alleviate eye strain and fatigue by reducing excessive glare, especially in outdoor working conditions. Not for use where a Shade Infrared (IR) visor is required. Anti-fog and anti-scratch coatings. Meets requirements for EN 166 (2-2 MSA1BT9KN), ANSI/ISEA Z87.1-2010, CSA Z94.3, and AS/NZS 1337.

V-Gard Visors for Chemical and Splash Applications

These visors are for chemical and splash applications, and are ideal for use in manufacturing plants, laboratories and other industrial applications that demand face protection against abrasive particles, splash and spray.¹ Molded V-Gard Visors are manufactured with hand-polished molds for unsurpassed, distortion-free optical clarity and impact resistance.

	P/N 10115855 Clear Propionate, Molded P/N 10115856 Clear Propionate, Molded Nitrometer	8" (20.3 cm) x 17" (43.2 cm) x .098" (2.49 mm) Impact-rated protection. Molded for superior optical quality. Extra thick to help prevent warping, cracking or crazing under tough work conditions. Nitrometer can only be used with V-Gard Retractable or Standard Chin Protector. Meets requirements for EN 166 (MSA 1 B 3), ANSI/ISEA Z87.1-2010, CSA Z94.3 and AS/NZS 1337.
	P/N 10115851 Clear Propionate, Molded	9.25" (23.5 cm) x 18" (45.7 cm) x .098" (2.5 mm) Impact-rated protection. Molded for superior optical quality. Extended length and width for greater coverage of face and neck. ² Extra thick to prevent warping, cracking or crazing under tough work conditions. Meets requirements for EN 166 (MSA 1 B 3), ANSI/ISEA Z87.1-2010, CSA Z94.3, and AS/NZS 1337
COMING	Green Tint, Propionate, Molded	8" (20.3 cm) x 17" (43.2 cm) x .098" (2.5 mm) Impact-rated protection. Molded for superior optical quality. Green tint helps alleviate eye strain and fatigue by reducing excessive glare. Not for use where a Shade Infrared (IR) visor is required. Great for outdoor work where impact risks, exposure to select chemicals and other splash hazards exist. Standards requirements met by this product will be published at time of product launch.
COMING	Green Tint, Propionate, Molded	 9.25" (23.5 cm) x 18" (45.72 cm) x .098" (2.49 mm) Impact-rated protection. Molded for superior optical quality. Great for outdoor work where impact risks, exposure to select chemicals and other splash hazards exist. Extended length and width for greater coverage of face and neck.2 Green tint helps alleviate eye strain and fatigue by reducing excessive glare. Not for use where a Shade Infrared (IR) visor is required. Standards requirements met by this product will be published at time of product launch.

¹ Refer to the our Chemical Application Quick Reference Guide found in this brochure for performance against select chemical families.

² Visor will not close fully when worn with earmuffs.

V-Gard Visors for Elevated Temperature Applications

These visors help keep workers comfortable in environments such as steel/smelting plants where they are exposed to high levels of heat and/or excessive glare.¹ Our V-Gard Visors are engineered for heavy duty use and are thicker than most visors in the marketplace, which not only helps ensure impact resistance, but also reduces heat warping.

	P/N 10115844 Clear PC, Molded, AF/AS	 9.25" (23.5 cm) x 17" (43.2 cm) x .098" (2.5 mm) Extended length for greater coverage of face and neck. Maximum UV protection. Molded for superior optical quality. Anti-fog and anti-scratch coatings. Meets requirements for EN 166 (2C-1.2 MSA1BT89KN), ANSI/ISEA Z87.1-2010, CSA Z94.3, and AS/NZS 1337.
	P/N 10115845 Green Tint PC, Molded, AF/AS	 9.25" (23.5 cm) x 17" (43.2 cm) x .098" (2.5 mm) Extended length for greater coverage of face and neck. Maximum UV protection. Molded for superior optical quality. Anti-fog and anti-scratch coatings. Green tint helps alleviate eye strain and fatigue by reducing excessive glare. Not for use where a Shade Infrared (IR) visor is required. Meets requirements for EN 166 (2.2 MSA1BT9KN),ANSI/ISEA Z87.1-2010, CSA Z94.3, and AS/NZS 1337.
	P/N 10115846 Clear PC, Molded, AF/AS	 9.25" (23.5 cm) x 18" (45.7 cm) x .098" (2.5 mm) Extended length and width for greater coverage of face and neck.² Maximum UV protection. Molded for superior optical quality. Anti-fog and anti-scratch coatings. Meets requirements for EN 166 (2C-1.2 MSA1BT89KN), ANSI/ISEA Z87.1-2010, CSA Z94.3, and AS/NZS 1337.
	P/N 10115849 Green Tint PC, Molded, AF/AS	 9.25" (23.5 cm) x 18" (45.7 cm) x .098" (2.5 mm) Extended length and width for greater coverage of face and neck.² Maximum UV protection. Molded for superior optical quality. Green tint helps alleviate eye strain and fatigue by reducing excessive glare. Not for use where a Shade Infrared (IR) visor is required. Anti-fog and anti-scratch coatings. Meets requirements for EN 166 (2.2 MSA1BT9KN),ANSI/ISEA Z87.1-2010, CSA Z94.3, and AS/NZS 1337.
COMING SOON	P/N 10115848 Clear PC, Reflective Coating, Molded	9.5" (24.1 cm) x 17.75" (45.09 cm) x.07" (1.78 mm) Reflective coating dissipates radiant heat while reducing glare. Extended length and width for greater coverage of face and neck. ² Standards requirements met by this product will be published at time of product launch.
COMING SOON	P/N 10115850 Green Tint PC Reflective Coating, Molded	9.5" (24.1 cm) x 17.75" (45.09 cm) x .07" (1.78 mm) Reflective coating dissipates radiant heat while reducing glare. Green tint helps alleviate eye strain and fatigue by reducing excessive glare. Not for use where a Shade Infrared (IR) visor is required. Extended length and width for greater coverage of face and neck. ² Standards requirements met by this product will be published at time of product launch.

¹ The proper personal protective equipment should be selected for use and application by the site safety specialist, whose responsibility is to ensure hazards,

communication of instructions, precautions and limitations are conveyed and observed.

² Visor will not close fully when worn with earmuffs.

V-Gard Visors for Welding, Cutting and Brazing Applications

These visors help protect against damage from infrared and ultraviolet radiation. Designed for metal pouring, gas soldering, welding, light cutting and brazing, they're engineered for heavy duty use. They are thick to help prevent warping from heat or weld spatter.

COMING	Shade 3 IR, PC, Molded Shade 3 IR, PC, Molded Nitrometer	8" (20.3 cm) x 17.25" (43.8 cm) x .07" (1.8 mm) Designed for impact resistance and protection from infrared (IR) up to Shade 3. Nitrometer can only be used with V-Gard Retractable or Standard Chin Protector. Standards requirements met by this product will be published at time of product launch.
COMING	Shade 5 IR, PC Molded ¹ Shade 5 IR, PC, Molded Nitrometer	8" (20.3 cm) x 17.25" (43.8 cm) x .07" (1.8 mm) Designed for impact resistance and protection from infrared (IR) up to Shade 5. Nitrometer can only be used with V-Gard Retractable or Standard Chin Protector. Standards requirements met by this product will be published at time of product launch.

V-Gard Visors for Arc Flash Applications

These visors are engineered for protection from dangerous arc flash. Perfect for electrical workers and electricians working with high-voltage connections.

Note: V-Gard Arc Visors are intended to be used only with dielectric frames and helmets.

COMING	Arc, PC, Molded	9.25" (23.5 cm) x 18" (45.72 cm) x .065" (1.7 mm) Impact-rated protection Extended length and width for greater coverage of face and neck. Standards requirements and arc rating (cal/cm ²) met by this product will be published at time of product launch.
COMING	Arc, PC, Molded Nitrometer	8" (20.3 cm) x 17.25" (43.8 cm) x .065" (1.65 mm) + 3.02" (7.7 cm)(chin protector length) Impact-rated protection Includes V-Gard Chin Protector (required to achieve arc rating). Nitrometer can only be worn with V-Gard Retractable ONLY to achieve stated cal/cm ² rating. Standards requirements and the arc rating (cal/cm²) met by this product will be published at time of product launch.

V-Gard Chin Protectors

V-Gard Chin Protectors work as a system with select V-Gard Nitrometer Visors to help provide extra protection from impact and splash hazards to face and neck.

Note: MSA V-Gard Chin Protectors meet the applicable safety requirements as noted on the V-Gard Nitrometer Visor when worn in conjunction with V-Gard Frames and V-Gard Nitrometer Visors.

P/N 10115828 Retractable Chin Protector	3.82" (9.7 cm) in height, when unretracted 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.
P/N 10115827 Standard Chin Protector	2.86" (7.26 cm) in height Opaque material ensures safety and standards compliance with clear, tinted, shaded and coated V-Gard Visors. Compact, lightweight design provides additional protection between chin and neck area.

V-Gard Accessory System Kits

V-Gard Accessory System Kits are designed to offer easy customer solutions for a variety of needs.

COMING SOON	V-Gard Cap and Accessory System Kit	Contains: • White V-Gard Cap with ratchet suspension (PN 475358) • V-Gard Frame for Slotted Caps (PN 10115730) • V-Gard Clear, PC Visor, 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm) (PN 10115836)
COMING SOON	V-Gard Accessory System Kit	Contains: • V-Gard Universal Frame for Caps (PN 10115822) • V-Gard Clear, PC Visor, 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm) (PN 10115836) Does not contain a V-Gard Cap.
COMING	V-Gard Arc Flash Kit	Contains: • White V-Gard Cap with ratchet suspension (PN 475358) • V-Gard Frame for Slotted Caps (PN 10115730) • V-Gard Arc Visor with Chin Protector (PN 10115858) Standards requirements met by this product will be published at time of product launch.
COMING	V-Gard Forestry Kit ¹	Contains: • Hi-viz orange V-Gard Cap with ratchet suspension (PN 488146) • V-Gard Frame for Slotted Caps (PN 10115730) • V-Gard Mesh Visor with Plastic Edge (PN 10116558) • V-Gard Retractable Chin Protector (PN 10115828) • left/RIGHT, HIGH (NRR 28 db) Cap-Mounted Earmuffs (PN 10087422)

V-Gard Accessory System Replacement Parts¹

* * *	P/N 10117496 (2 pair)	Slot Adaptors (2 pair). For use with V-Gard Frames for Slotted Caps.
	P/N 10116539	Debris Control for V-Gard Cap Frames. Debris control exceeds EN requirements for molten metal.
\bigcirc	P/N 10117495	Heavy Duty Rubber Strap for V-Gard Universal Cap or Hat Frames.

¹ Use only genuine MSA V-Gard Accessory System replacement parts to help ensure compatibility and compliance. MSA does not warrant, guarantee, or promote the use of components manufactured by other companies when used in conjunction with MSA products.

Chemical Application Quick Reference Guide

Chemical Family	Representative Chemical	Polycarbonate clear flat sheet (.04"06"thick), uncoated	Polycarbonate clear flat sheet (.06" thick), coated	Polycarbonate molded, clear (.098" thick), coated	Propionate clear molded (0.098" thick), uncoated
Organic Chemicals		1			
Alcohol	Ethanol	***	***	***	***
Aldehyde	Butyraldehyde	NR	NR	*	*
Aliphatic Hydrocarbon	Gasoline	*1	NR	***	*
Aromatic Hydrocarbon	Toluene	NR	NR	*	*
Ester	Butyl acetate	NR	NR	*	*
Ether	er Ethyl ether		*	*	*
Ketone Methyl isobutyl ketone (MIBK)		NR	NR	NR	*
Inorganic Chemicals		1	1		
Inorganic acid	Hydrochloric acid (35% wt)	***	NR	***	***
	Ammonium hydroxide (28% wt)	***	***	***	***
Inorganic base	Sodium hydroxide (25% wt)	***	NR	***	***
Other					
Bug spray	Bug spray DEET		NR	*	*

NR (not recommended): Crack(s) and/or severe warp and or severe haze can be observed on the visor after chemical spray. Visor should be inspected and replaced if damaged in any way.

One-star (*) – No cracking; only slight warp and/or haze observed on visor by un-aided eye after chemical spray. The visor passes impact testing @ 120 m/s after spray. Visor should be inspected and replaced if damaged in any way.

Two-star (**) – No cracking; only slight warp and/or haze observed on visor under microscope after chemical spray. The visor passes impact testing @ 120 m/s after spray. Visor should be inspected and replaced if damaged in any way.

Three-star (***) – No cracking; no warp and/or haze observed under microscope after chemical spray. The visor passes impact testing @ 120 mls after spray. Visor should be inspected and replaced if damaged in any way.

The results shown in the table were obtained under lab conditions $(73.4 \pm 3.6^{\circ} F [23 \pm 2^{\circ} C]$ 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. The results shown in the "MSA Chemical Application Quick Reference" 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. Additionally, the performance of any product can vary based on conditions of use (such as subjection of the material to different types of heat, etc.). For these reasons, MSA recommends:

- > The proper personal protective equipment should be selected for use and application by the site safety specialist, whose responsibility is that hazards, communication of instructions, precautions and limitations are conveyed and observed.
- Eye protection, such as MSA safety spectacles or goggles, as required for the application which meets the appropriate impact requirements, should be worn under any visor.
- Inspect visors frequently, and replace them immediately if worn, scratched, or damaged in any way.
- Use only MSA frames with MSA visors, and vice-versa. Incompatible products may not function as intended.

For additional questions about V-Gard Visors and chemical resistance, please contact MSA Customer Service at 1-800-MSA-2222.

¹ Not Recommended (NR) against this chemical when using a PC, Clear Flat, Uncoated, .06" Visor.

For more information visit www.MSAsafety.com/VGardSystem or call Customer Service 1.800.MSA.2222





Note: This bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.

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