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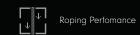
















# STATE OF THE ART MULTIFUNCTIONAL **TACTICAL GLOVES**





Because we care. We listen. We create. For all heroes who protect us.

> The backbone of our product range is based on co-creation in which we map out the specific and critical needs before even the first lines appear on paper.

- Because we create comfort.
  - Our main target is to combine sublime fitting with high comfort and maximum protection.
- Because we develop dedicated.

Focusing on tender and project business, our ultimate aim is to create durable solutions.

Because we interact long-term.

We favor long-term partnerships with both end users and involved partners.

Because we act sustainable.

Every single step towards an environmental friendly and socially responsible way of doing business is a step in the right direction.





Masters of Gloves originated in 2017 from the awareness that for many professional users facing serious threats on a daily basis (physical attacks with cuts and punctures, fires, disasters, accidents, etc.), there were insufficient or inadequate hand protection solutions. With years of experience in the (industrial) PPE sector, we understood perfectly how urgent and vital this issue was.

Even though strong brands offering such products have existed for decades, it is striking that many users are still unaware of their existence or are not satisfied with their user comfort. One striking example is needle puncture protection that ultimately led to the development and distribution of the Guide CPN gloves. In addition, several other protective gloves were launched, including the combat gloves for the NATO. After new

requests kept arising, asking for very specific (tactical) performances, the brand MoG was established with one very clear baseline: we create for all those who protect us.

Our current range is 100% based on very particular questions from the field. Since we develop and produce in co-creation with our end-users, we are dedicated in addressing the real gaps in supply and bringing targeted solutions. MoG is, as you might call it, a Work In Progress, adding gradually new developments for both standard and niche oriented applications. This approach gives sufficient freedom to allow for adjustments during the design process so that the best result can be rigorously pursued.





# **Tactical gloves**





Light Duty 8111
A lightweight and exceptionally durable tactical glove that offers enhanced finger sensitivity, allowing you to perform tasks with precision as if you weren't wearing gloves at all. These gloves are the perfect blend of power and dexterity.





















#### **APPLICATIONS**

- · Various military / law enforcement operations
- Forcible entry
- · Weapon handling
- Use of communication devices

#### **KEY FEATURES**

- DexSuede technology
- Lightweight appearance and yet durable performance
- Slim fit
- · Unique dexterity
- · Extremely high finger sensitivity

#### **TARGET GROUP**

- Armed / Special Forces
- Law Enforcement
- Security
- Customs

#### **STANDARDS**

- EN 388:2019
- EN 407:2020
- EN ISO 21420:2020

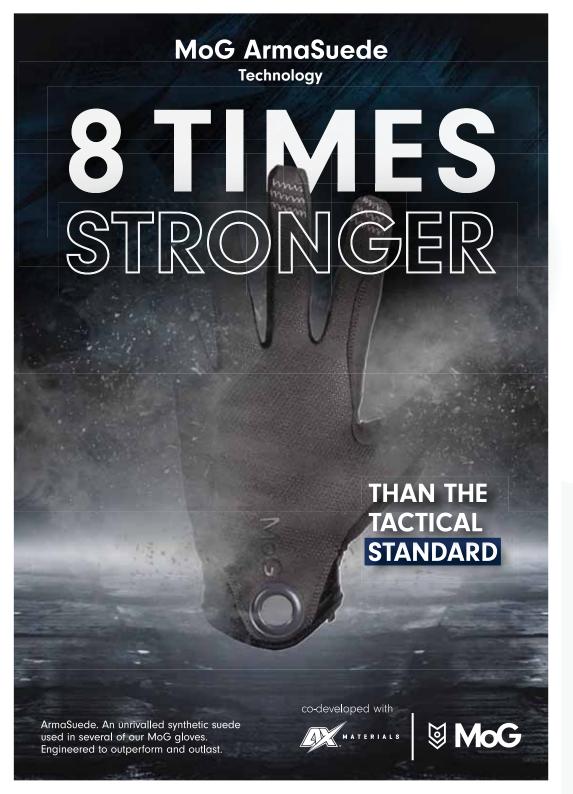
### SIZE 6 - 12













High Abrasion 8109

All-round performance makes these gloves the ultimate choice for those looking for a combination of extreme durability, dexterity and versatility in a single high performance glove.





















#### **APPLICATIONS**

- · Weapon handling
- · Allround tactical operations
- Searches
- Patrolling

#### **KEY FEATURES**

- · ArmaSuede technology that is 8x stronger than other suedes
- Extremely high abrasion resistance and good grip
- Unique dexterity
- High finger sensitivity

#### **TARGET GROUP**

- Armed / Special Forces
- Law Enforcement
- Special Units Police
- Security
- Customs

#### **STANDARDS**

- EN 388:2019
- EN 407:2020
- EN ISO 21420:2020

### SIZE



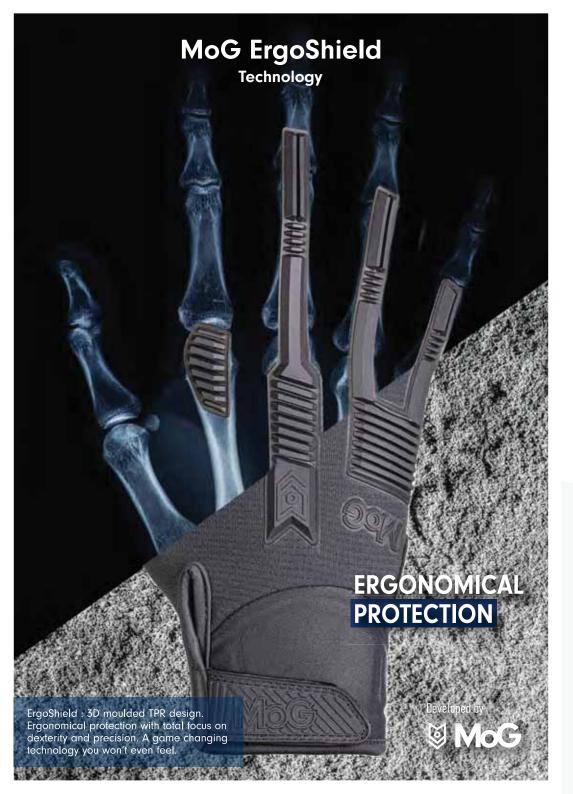














### High Abrasion ErgoShield 8110 All-round performance makes these gloves the ultimate

choice for those looking for a combination of extreme durability, dexterity and versatility in a single high performance glove. Combined with ergonomically designed impact protection that you don't feel.

















#### **APPLICATIONS**

- · Weapon handling
- · Allround tactical operations
- Searches
- Patrolling

### **KEY FEATURES**

- ErgoShield technology: 3D moulded TPR design without
- Extreme high abrasion resistance and good grip
- Slim fit
- Unique dexterity
- · High finger sensitivity

#### **TARGET GROUP**

- Armed / Special Forces
- Law Enforcement
- Special Units Police
- Security
- Customs

#### **STANDARDS**

- EN 388:2019
- EN 407:2020
- EN ISO 21420:2020

#### SIZE











# Target High Abrasion ErgoShield Trivium 8114

High abrasion glove with innovative ErgoShield protection combines extreme durability with an ergonomic impact design. The semi-fingerless design provides a glove that fits snugly, yet offers the dexterity and precision of bare fingers for optimum control and versatility in a variety of











MoG
Masters of Gloves







#### **APPLICATIONS**

- Weapon handling
- · Allround tactical operations
- Searches
- Patrolling

#### **KEY FEATURES**

- ErgoShield technology: 3D moulded TPR design without being
- Extreme high abrasion resistance and good grip
- Slim fit
- · Semi-fingerless design for perfect control during weapon handling or when handling smart devices

#### **TARGET GROUP**

- Armed
- · Special assistance units
- · Law enforcement
- Security
- Customs

#### **STANDARDS**

- EN 388:2016 + A1:2018
- EN 407:2020
- EN ISO 21420:2020

Please note : these gloves are an exception to the protection levels mentioned due to the open fingers (index, middle finger and thumb).

#### SIZE

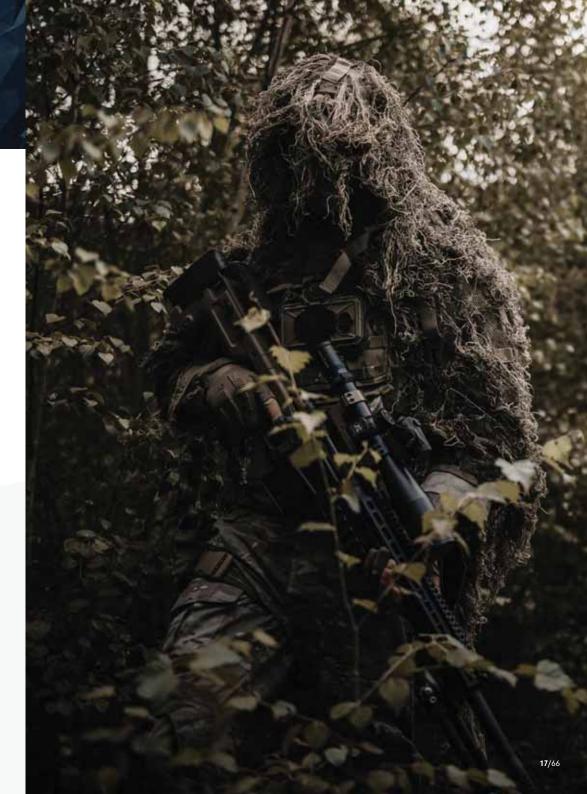














**Cut resistant gloves** 





# 2ndskin

Cut resistant tactical glove with very snug fit for maximum dexterity and tactility during several operations.

















#### **APPLICATIONS**

- · Weapon handling
- Patrolling

#### **KEY FEATURES**

- Cut resistant Kevlar® lining with maximum dexterity
- Slim fit leather fits your hand
- High finger sensitive
- Light impact protection
- · Conductive leather on thumb and index finger

#### TARGET GROUP

- Armed / Special Forces
- Special Units Police
- Security
- Customs

#### **STANDARDS**

- EN 388:2016
- EN 420:2011



SIZE

6 - 13

19/66



Needle resistant gloves



### MoG - Guide

CPN 6202

Discrete, black needle protection glove in synthetic leather based on highly approved CPN technology. Gives you the perfect blend between needle & cut protection. Perfect for frisking and shooting.















### MoG - Guide

CPN 6203

Discreet, black needle protection glove in soft, durable full-grain goatskin based on highly approved CPN technology gives you the perfect blend between needle & cut protection. Perfect for frisking and shooting.











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#### **APPLICATIONS**

- Rescue operations
- · Every operation with light risk of needles and glass
- Frisking

#### **KEY FEATURES**

- High cut resistance
- · Needle resistance
- Light impact on knuckles
- · Durable and thin suede for good finger sensitivity

### **TARGET GROUP**

- Law Enforcement
- Security
- · Waste management
- Rescue teams
- · Fire brigades

#### **STANDARDS**

- EN 388:2016
- EN 420:2003
- ASTM F2878-10

#### SIZE

6 - 13

### CE





#### **APPLICATIONS**

- · Rescue operations
- · Every operation with light risk of needles and glass
- Frisking

#### **KEY FEATURES**

- · High cut resistance
- · Needle resistance
- Light impact resistance on the knuckles
- · Soft full-grain goat skin leather

#### **TARGET GROUP**

- Law Enforcement
- Security
- Waste management
- Rescue teams
- · Fire brigades

#### **STANDARDS**

- EN 388:2016
- EN 420:2003
- ASTM F2878-10

### SIZE









### MoG - Guide

CPN 6204

Discrete, black needle protection glove in synthetic leather based on highly approved CPN technology. On the back of the hand cut resistant & flame retardant fabrics. Gives you the perfect blend between needle & cut protection and dexterity. Perfect for frisking and shooting.











### MoG - Guide

CPN 6225

Needle protection glove with PU-dipped palm based on highly approved CPN technology in palm of hand which gives you a extreme grip on dry surfaces, feels very thin & good breathable.

















#### **APPLICATIONS**

- Rescue operations
- Every operation with high risk of needles and glass
- Frisking

#### **KEY FEATURES**

- · High cut & needle protection
- · Light impact
- · Cut & flame retardant back of hand
- Silicone print in palm of hand for a good grip in wet & dry conditions

### **TARGET GROUP**

- Law Enforcement
- Security
- · Waste management
- Rescue teams
- · Fire brigades

#### **STANDARDS**

- EN 388:2016
- EN 420:2003
- ASTM F2878-10

### SIZE

7 - 12







#### **APPLICATIONS**

- · Rescue operations
- · Every operation with high risk of needles and glass

#### **KEY FEATURES**

- · PU dipped for high breathability
- High cut and needle protection
- · Long slim-fit cuff avoids the intrusion of dirt, glass, etc.
- Extreme grip in dry conditions

#### **TARGET GROUP**

- Law Enforcement
- Security
- Waste management
- Rescue teams
- · Fire brigades

#### **STANDARDS**

- EN 388:2016
- EN 420:2003
- ASTM F2878-10



SIZE

8 - 11

25/66

Flame resistant gloves





### **Patrol**

Allround, flame retardant, cut resistant and water repellent glove with light impact protection and touch.



















# **Operator**

A snug, comfortable pilot glove featuring flame-retardant and water-repellent properties.

















#### **APPLICATIONS**

- Standard operations
- Handling weapons
- Breaching / forcible entry
- Use of communication devices
- Frisking

#### **KEY FEATURES**

- Flame retardant
- · Light impact protection
- Cut resistant
- Conductive leather on thumb, index and middle fingers

#### **TARGET GROUP**

- Armed / Special Forces
- Law Enforcement
- Security
- Customs

#### **STANDARDS**

- EN 388:2019
- EN 407:2020
- EN ISO 21420:2020

#### SIZE

7 - 12











#### **APPLICATIONS**

- · All-round use by pilots during training, operations, etc
- Handling weapons
- Use of communication devices

### **KEY FEATURES**

- Flame-resistant Nomex® on back of hand
- Flame-retardant leather on palm of hand
- Conductive leather on thumb and index finger
- · Short cuff

#### **TARGET GROUP**

- Armed / Special Forces
- · Law Enforcement

#### 6 - 14

SIZE

- **STANDARDS** EN 388:2016
- EN 420:2003
- EN 407:2004



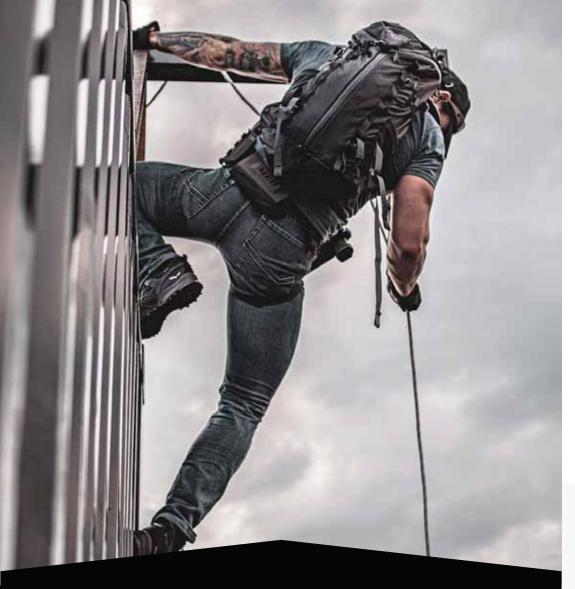
CE

1









# **Roping gloves**





### Abseil/Rappel

9162

Specialized glove that seamlessly combines three essential elements for rope handling and securing: outstanding dexterity, superior abrasion resistance, and a secure grip.











#### **APPLICATIONS**

- (Tactical) rappelling, belaying, ... during training or intervention tasks
- Rescue operations
- Height works (industry / environment)

#### **KEY FEATURES**

- · Very high abrasion resistance
- Slim-fit finger design to secure control when roping up and for activities such as rigging, climbing structures and ladders, etc.
- . Conductive leather on index + thumb
- Nose-wipe on the back of thumb

#### **TARGET GROUP**

- Armed Forces
- Law Enforcement / Special Units
- **Rescue Operations**
- Instructors / Professionals Performing Height Works

#### **STANDARDS**

- EN 388:2019
- EN 407:2020
- EN ISO 21420:2020











### **Fast Rope**

A collaborative development with the Group Rotary Wing of the Royal Dutch Army, prioritizing exceptional dexterity, effective heat management, and abrasion resistance.



















### **Rope Overglove**

9164

Roping glove for abseiling or fast roping. Used as overglove above a tactical glove. Quick solution to operate weapons easily.















#### **APPLICATIONS**

- Fast rope training and operations
- · Descents up to 90 ft

### **KEY FEATURES**

- Very high abrasion resistance
- · Special index finger design for handling weapons
- Slim fit avoids twisted fingers
- Specific heat blocking construction enables multiple descents - can be used up to 90 FT

#### **TARGET GROUP**

- Armed / Special Forces
- · Special Units Police
- Rescue operations

#### **STANDARDS**

- EN 388:2019
- EN 407:2011
- EN ISO 21420:2020

#### SIZE

lasters of Gloves

7 - 13









#### **APPLICATIONS**

- · Descender gloves for working at height and abseil training / operations
- Can be used in combination with a thin tactical glove

#### **KEY FEATURES**

- High Abrasion
- Good protection against heat development
- Easy to attach to a belt
- · Fast solution in combination with tactical glove

#### **TARGET GROUP**

- Armed / Special Forces
- Law Enforcement
- Special Units Police
- Rescue operations

#### **STANDARDS**

- EN 388:2019
- EN 407:2004
- EN ISO 21420:2020



SIZE









**Anti Riot gloves** 



### MoG-Guide

CPN 6505

Heavy and discrete needle-resistant glove in goat grain leather based on the highly estimated CPN technology, with impact protection on knuckles and fingers and good flexibility, offering extremely high protection against cuts, needles and punctures.











Masters of Gloves



Anti-riot gloves for use in a law enforcement environment during demonstrations, events, etc. Perfect blend between dexterity and protection.











Masters of Gloves

#### **APPLICATIONS**

- Anti riot
- Frisking
- Rescue operations
- Every operation with risk of needle & glass

#### **KEY FEATURES**

- · High inpact on fingers and back of hand
- Needle protection
- High cut resistance
- · Long cuff that fit your sleeve and avoids intrusion of dirt or glass

#### **TARGET GROUP**

- Law Enforcement
- Security
- Penitentiary Institutions
- Waste management
- Rescue teams

#### **STANDARDS**

- EN 388:2016
- EN 420:2003
- ASTM F2878-10

#### SIZE

7 - 12







#### **APPLICATIONS**

- · All common law enforcement operations
- · Handling baton and shield

### **KEY FEATURES**

- Silicone and kevlar® in palm of hand for extreme grip
- $360^{\circ}$  flame retardant and cut
- Impact on fingers and back of hand
- · Good dexterity

#### **TARGET GROUP**

• Law enforcement (anti riot and crowd control)

# SIZE

CE

1

#### 6 - 14

#### **STANDARDS**

- EN 388:2019
- EN 407:2020
- EN ISO 21420:2020











Cold/water resistant gloves





# **Target**

POLAR 5505

A versatile tactical winter glove designed to enable weapon operation and precise frisking. With a slim, all-around fit and exceptional dexterity, it provides the flexibility you need for various tasks.





















#### **APPLICATIONS**

- Professional and tactical use in cold weather environments
- For weapon handling
- For operating touchscreen devices

#### **KEY FEATURES**

- Windproof and water-repellent durable softshell fabric with fleece liner
- MoG Dexsuede technology
- TPR reinforcements
- · High finger dexterity
- Touchscreen compatible

#### **TARGET GROUP**

- Armed Forces
- Special Forces
- Police forces
- Customs, Security, etc.
- Outdoor

#### **STANDARDS**

- EN 388:2016 + A1:2018
- EN 407:2020









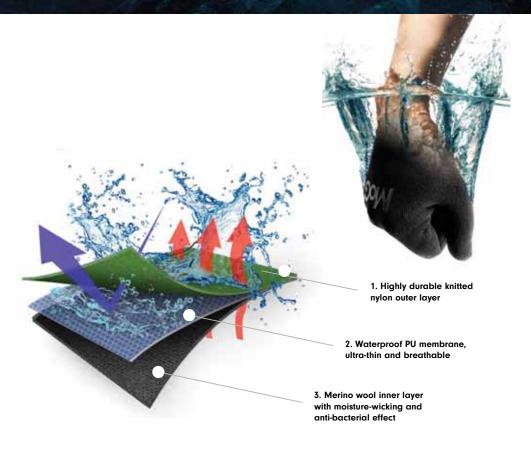
### **3-LAYER LAMINATION TECHNOLOGY**



#### How does it works?

With several traditional waterproof technologies the membranes are acting as a waterproof bag, to prevent water from entering into the glove. However, when water remains between the surface layer and the membrane, the gloves get soaked after limited time. This causes an uncomfortable feel, the gloves start weighing heavier and you have don't have the finger sensitivity you need, your hands cool down very quickly and you pull the liner out of the glove very easily causing twisted fingers.

With the 3-layer lamination technology used in our MoG Shelter gloves, the three existing layers (nylon, membrane and wool) are bonded into one solid layer. The seamless build-up ensures that rain, snow and wind are blocked at the surface, and the hands are kept dry and warm. The bonding technique gives these gloves a very thin and flexible fit, providing a unique finger sensitivity, and avoids that all layers come loose. Ultimately, you won't need to take off your gloves and you keep performing your activities comfortably with dry hands, without being hindered by rain or wind.







### **Shelter**

4301

This seamless glove offers 100% waterproof and windproof protection. Its stretchy design allows for maximum dexterity while protecting against a wide range of weather conditions.













Masters of Gloves

#### **APPLICATIONS**

- · Professional, tactical and leisure use in a wide range of situations
- Provides protection against wind, rain and cold
- Precision work, outdoors, etc

#### **KEY FEATURES**

- 100% waterproof
- Ultra slim fit
- High finger sensitivity
- Great grip on wet/dry surface
- MoG 3-layer technology
- Touch function (new version)

#### **TARGET GROUP**

- Armed / Special Forces
- Police, customs and security
- Civilian services, firefighters, etc
- Logistics and warehousing
- Outdoor (cycling, hiking,...)

#### **STANDARDS**

- EN 388:2019
- EN ISO 21420

#### SIZE

S (7/8), M (8/9), L (9/10), XL (10/11)







### **DuoFlex**

100% windproof and water repellent glove with foldable flap offering protection against the vast majority of cold and rainy weather conditions.









Masters of Gloves



### **Nordic Black**

Cold protective, windproof, cut resistant and water repellent gloves for professional use and precision work with foldable index and thumb.

















#### **APPLICATIONS**

- Daily use in cold/wet weather conditions
- · In situations where, if necessary, high finger sensitivity is still required

#### **KEY FEATURES**

- Foldable flap
- Free fingers for manipulating
- Wind and water resistance
- Heatblocker: heat stays in the glove

#### **TARGET GROUP**

- Armed / Special Forces
- · Postal services and logistics
- · Standard operations by law enforcement, security, etc

#### **STANDARDS**

- EN 388:2019
- EN 420:2011
- EN 511:2006

#### SIZE

7 - 14









#### **APPLICATIONS**

- · Professional and tactical use in cold and wet weather
- Precision work
- Outdoor activities

#### **KEY FEATURES**

- Cut resistant
- Windproof
- Zipper pocket
- Foldable index & thumb

#### **TARGET GROUP**

- Armed / Special Forces
- Law Enforcement
- Civil services
- Logistics & warehousing
- Leisure (hunting, hiking, ...)

#### **STANDARDS**

- EN 388:2019
- EN 511:2006



SIZE







### **Patrol Winter**

8113

Allround, flame retardant, cut resistant and water repellent winter glove with light impact protection and touch function.























### Genie

Water- and windproof glove with extended cuff offering protection against cold weather during (combat) engineering operations.







**Ø** MoG

Masters of Gloves

#### **APPLICATIONS**

- · Standard operations in cold weather environments
- Handling weapons and frisking
- Breaching / forcible entry
- Use of communication devices

#### **KEY FEATURES**

- Flame retardant leather
- · Cut resistant lining
- Touch function
- Light impact protection
- Winter lining
- Insulation layer on the back of hand

#### **TARGET GROUP**

- Armed / Special Forces
- Security
- Customs

#### **STANDARDS**

- EN 388:2019
- EN 407:2020
- EN ISO 21420:2020

#### SIZE

7 - 12









#### **APPLICATIONS**

· All-round use in cold and wet weather and even under water, such as the construction and maintenance of (military) infrastructure

#### **KEY FEATURES**

- High abrasion resistance
- Extended cuff with waterproof
- · isolation layer for cold protection

#### **TARGET GROUP**

- · Combat engineering
- Civil services

#### **STANDARDS**

- EN 388:2019
- EN 420:2011





SIZE

7 - 14

47/66



# Rescue gloves





Very robust and strong rescue glove with extreme protection levels, designed for firefighters and rescue teams, suitable for heavier rescue operations at accidents, (natural) disasters, etc.











#### **APPLICATIONS**

- · Rescue operations
- · Extrication practices
- · For industrial and mining applications

#### **KEY FEATURES**

- · Extremely high cut protection: up to 65N
- Hi-Vis + reflective fingertips
- 3D moulded ergonomic design
- Turtle neck cuff avoids intrusion of dust or glass
- Pulltab with hole to fix the gloves to
- · Great grip on wet and dry surfaces

#### **TARGET GROUP**

- Rescue teams
- **Emergency forces**
- Firefighters
- Industry

#### **STANDARDS**

- EN 388:2019
- EN ISO 21420:2020





SIZE

### MoG - Guide

CPN 6401

Hi-Vis needle-resistant glove in synthetic fabrics based on the highly estimated CPN technology, offering extremely high protection against cuts, needles and punctures.





### MoG - Guide

CPN 6502

Heavy needle-resistant glove in synthetic fabrics based on the highly estimated CPN technology, offering extremely high protection against cuts, needles and punctures.













#### **APPLICATIONS**

- Rescue operations
- · Every operation with high risk of needles and glass

#### **KEY FEATURES**

- · Extremely high cut resistance
- · Needle protection
- · Hi-vis back of hand
- · Light impact protection on knuckles

### **TARGET GROUP**

- Law Enforcement
- Security
- Fire brigades
- Waste management
- Rescue teams

#### **STANDARDS**

- EN 388:2016
- EN 420:2003
- ASTM F2878-10

#### SIZE

8 - 12

### CE





#### **APPLICATIONS**

- · Rescue operations
- Breaching
- · Every operation with high risk of needles and glass

#### **KEY FEATURES**

- · Extremely high cut resistance
- · Impact protection on the back of the fingers
- · Long slim-fit cuff avoids the intrusion of dirt, glass, etc.

#### **TARGET GROUP**

- Law Enforcement
- Security
- Fire brigades
- Waste management
- Rescue teams

#### **STANDARDS**

- EN 388:2016
- EN 420:2003
- ASTM F2878-10



SIZE





# Accessories



### MoG - Guide

Cut protection sleeve, designed to protect the upper arm and forearms from cuts. Equipped with a soft and ergonomically designed hand-attachment part that makes the sleeve stay firmly in place









### MoG - Guide

Cut protection sleeve, designed to protect the upper arm and forearms from cuts. Equipped with a soft and ergonomically designed hand-attachment part that makes the sleeve stay firmly in place.











#### **APPLICATIONS**

- Secure protection in any situation where there is a possible danger of getting injured by cuts
- Breaching
- Rescue operations

#### **KEY FEATURES**

- Knitted in 13gg Para-aramid
- · Cut protection level C
- Contact heat level 1
- Ergonomically designed handattachment part
- Food approved

#### **TARGET GROUP**

- · Law enforcement, special forces, armed forces, Railway police,...
- Security, Prison guards
- Rescue and Civil services
- Public services / wast management

#### **STANDARDS**

- EN 420:2003
- EN 388:2016 + A1:2018
- EN 407:2020

#### SIZE

M - L - XL









### **APPLICATIONS**

- Secure protection in any situation where there is a possible danger of getting injured by cuts
- Breaching
- Rescue operations

#### **KEY FEATURES**

- Knitted in 13gg HXFIBR™
- Cut protection level F
- HXFIBR™ filament
- Ergonomically designed handattachment part
- · ESD, antistatic and food approved

#### **TARGET GROUP**

- · Law enforcement, special forces, armed forces, Railway police,...
- Security, Prison guards
- Rescue and Civil services
- Public services / wast management

#### **STANDARDS**

- EN 388:2016 + A1:2018
- EN 16350 : R:0.3x10<sup>3</sup>-1.6x10<sup>3</sup>Ω
- IEC 61340-5-1: R:1,9x105-2,1x105



SIZE

M - L - XL













# **Glove Holder**

2110

An essential accessory for keeping your gloves secure in any situation. Designed for optimum compatibility with both webbing/MOLLE and belt attachments, this pouch is the epitome of lightweight durability.







#### **APPLICATIONS**

 Secure storage system for gloves, ropes, keys,...

#### **KEY FEATURES**

- Strong hook and loop fasteners that are less likely to retain dirt and sand
- Universal system for molle or belt. Perfect for plate carriers, backpacks & all belt systems
- Strong & durable steel hook carabiners. Multiple system for gloves, keys,...

#### **TARGET GROUP**

- Armed / Special Forces
- Law Enforcement
- Special Units Police
- Security
- Customs,...

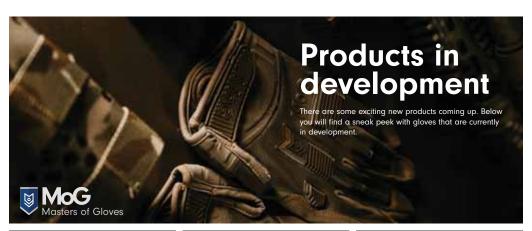
### SIZE

One size































### **STANDARDS**

Masters of Gloves works in an innovative way and, where possible, we use materials or technologies that make a real difference with traditional products. Or we incorporate elements from other sectors such as sports or industry, to obtain higher comfort or protection levels. With due attention to indispensable values such as ecology and sustainable enterpri-

And finally, all or our gloves are tested and certified according to the European EN standards for PPE (2016/425 regulation), including standards such as EN ISO 21420, EN 388, EN 407, EN 511 or EN 659 to name a few.

### **STANDARDS**



Gloves in this category are intended to protect the user from minimal injuries that might occur during for example washing, dishing but also from hot objects where temperatures are below +50C. Also suitable for less heavy gardening and other work where risk for lighter injuries.

#### **CATEGORY 2**

This category of gloves are intended to protect the user from injuries that are not classified like minimal nor very high. The gloves must be marked with a pictogram showing the gloves protection properties and are tested according to the standard EN388, mechanical protection, at an accredited test institute. All category 2 gloves are validated and type certified by a Notified Body to show the validity of protecti-

#### **CATEGORY 3**

Gloves in this category protects against risks that may cause very serious consequences such as death or irreversible damage to health. The gloves must be marked with pictograms showing the gloves protection properties and must be tested at an accredited test institute. They must also be validated and certified, for both type and production control, by a Notified Body to show the validity of protection. Chemical protection gloves are all category 3 but also heat protection can be classified to this category.



#### EN 420:2003

#### PROTECTIVE GLOVES - GENERAL REQUIREMENTS AND TEST METHODS

This standard defines the general requirements valid for all protective gloves and sets requirements for glove marking. The glove itself shall not be a risk to wear or cause injuries to the user. The glove material shall have a pH value between 3,5 and 9,5. The Chrome VI level in the glove leather must stay at 2,9 mg/kg or below. If the glove contains any substances known to cause allergic reactions, it shall be stated in the product information. The glove sizes are standardized according to minimum length.

EN 420:2003 has no pictogram.



#### PROTECTIVE GLOVES AGAINST COLD

In cold environments it is extra important to protect the hands from cold burns. This standard measure how well the glove can withstand both convective cold and contact cold. In addition, water permeation is tested after 30 minutes.

The first figure shows how well the glove protects against convective cold (performance level 0-4) The second figure shows how well the glove protects against contact cold (performance level 0-4) The third figure shows the glove protection against water penetration (performance 0 or 1 where 0 indicates "water penetration after 30 minutes" and 1 indicates "no water penetration after 30 minutes")



#### EN388:2016

#### PROTECTIVE GLOVES AGAINST MECHANICAL RISKS

According to this standard, characteristics such as abrasion resistance, cut resistance, tearing strength, puncture resistance and impact protection are tested. In conjunction with the pictogram, four numbers and one, or two letters, will be displayed. These signs indicate the performance of the glove.

#### 1. ABRASION RESISTANCE

The material is subjected to abrasion by a sandpaper under a determined pressure. The protection level is indicated on a scale of 1 to 4 depending on the number of turns required until a hole appears in the material. The higher the number is, the better the resistance to abrasion.

#### 2. CUT RESISTANCE, COUP TEST

The cut protection is tested. A knife is passed over the glove material until it cuts through. The protection level is given by a number between 1 and 5, where 5 indicates the highest cut protection. If the material dulls the knife during this test, the cut test ISO 13997(TDM test) shall be performed instead, see point 5.

#### 3. TEARING STRENGTH

The force required to tear the glove material apart is measured. The protection level is indicated by a number between 1 and 4, where 4 indicates the strongest material.

#### 4. PUNCTURE RESISTANCE

Based on the amount of force required to puncture the material with a tip. The protection function is indicated by a number between 1 and 4, where 4 indicates the strongest material.

#### 5. CUT RESISTANCE, TDM TEST ISO 13997

If the knife gets dull during the coup test, see point 2, this test shall be performed instead. The result is given by a letter, A to F, where F indicates the highest level of protection. If any of these letters is given, this method determines the protection level instead of the coup test.

ISO 13997:1999 - Determination of resistance to cutting by sharp objects

An alternative cut test recommended for cut protection gloves. Shall be used in EN388:2016 for cut protection gloves where the cut material dulls the cutting knife during testing. A knife cuts with constant speed but increasing force until breakthrough of the cut protection material. Level of protection is given in Newton, the force needed for cut through at 20mm cut length.

#### 6. IMPACT PROTECTION

If the glove has an impact protection, this information is given by the letter P as the 6th and last sign. If no P sign, no impact protection is claimed.

#### EN 388:2003

This is the old version of the standard against mechanical risks. The differences compared to the 2016 version are the paper grid in the abrasion test and how to perform testing of cut resistant fibers. Also not applicable to test impact protection.

There are still many protective gloves on the market labeled according to the old version of this standard. These are as good to use as the new marked gloves.

Important to understand is: it's not the gloves performances that has changed. It is the way of testing the performances that has changed!





EN 407



EN 407

#### PROTECTIVE GLOVES AGAINST THERMAL RISKS (HEAT AND/OR FIRE)

This standard specifies demands and test methods for protective gloves that shall protect against heat and/or fire. The numbers given besides the pictogram indicates the gloves performance for each test in the standard. The higher number the better performance level.

#### 1. FIRE PROPERTIES OF THE MATERIAL

The ignition time and how long the material glows or burns after ignition is measured in this test. If the seam comes apart after an ignition time of 15 seconds, the glove has failed the test.

#### 2. CONTACT HEAT

The glove is exposed to temperatures between  $+\ 100^{\circ}\text{C}$  to  $+\ 500^{\circ}\text{C}$ . Then it is measured how long it takes for the inner side of the glove to become  $10^{\circ}\text{C}$  warmer than it was from the beginning (about 25  $^{\circ}$  C degrees). The glove must withstand the increasing temperature of maximum  $10^{\circ}\text{C}$  for at least 15 seconds for an approval.

#### 3. CONVECTIVE HEAT

Here it is measured how long it takes to increase the inside temperature of the glove with  $24^{\circ}$ C, using a gas lubrication (80kW / m2).

#### 4. RADIANT HEAT

The average time is measured for a heat permeation of 2.5kW / m2.

#### 5. SMALL SPLASHES OF MOLTEN METAL

The test is based on the number of drops of molten metal that generates a temperature increase between the glove material and the skin with  $40^{\circ}$ C.

#### 6. LARGE QUANTITIES OF MOLTEN METAL

A PVC film is attached to the back of the glove material. Molten iron is poured onto the material. The measurement consists of how many grams of molten iron required to damage the PVC film.



# A

EN 659:2003 + A1:2008

#### PROTECTIVE GLOVES FOR FIREFIGHTERS

A specialist standard for gloves used in firefighting that references test procedures from EN 420, EN 388 and EN 407 plus other specific tests for properties such as resistance to water and chemical penetration.

#### **ELECTROSTATIC PROPERTIES**

The EN ISO 1149 standard specifies a test method for materials to be used in the production of protective clothing (or gloves) with electrostatic dissipation for preventing incendiary discharge.

#### EN 1149



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