

# *Choosing the Right Cut-Resistant Hand Protection*

Good cut protection is not an unnecessary luxury



SHOWA 

Best 

from  
Globus 

RIDDOR and HSE statistics report that 15.3% of all work accidents are cuts and that in 1 out of the 3 accidents, the hand, fingers or wrist gets injured.

Showa Best gloves are tested to the European EN388 test method, the American ASTM F1790-05 test method and the international ISO 13997-1999 test method.

The right cut-resistant hand protection does make a difference. Eliminate doubt, talk to a hand protection expert from Globus today.

## ***Cut Resistance – A Few Common Myths***

### **1. Some hand protection is cut proof: FALSE**

Whilst it's true that significant progress has been made in Cut-Resistant technology (i.e. Kevlar, Dyneema, Stainless Steel), it would be a misconception to categorise any hand protection as cut proof. Cut 'resistant' is the key terminology in the discussion of protective gloves.

### **2. Cut resistant hand protection is too costly: FALSE**

This is a good place to endorse the Globus Hand Protection Programme (GHPP). The GHPP undertakes a workplace analysis and assessment of the type of hand protection currently being used considering replacement costs, average wear time, number of injuries, etc. Globus can demonstrate how investing in the appropriate hand protection could ultimately have a positive impact on safety and budgets over time.

### **3. Any type of glove offers some cut resistance: FALSE**

It is important to note that leather, cotton and synthetic gloves offer little to no cut resistance whatsoever. Globus Account Managers are experts in the field of cut resistance as well the other disciplines of industrial hand protection. We offer gloves expertly manufactured with a variety of high performance fibres combined with synthetic polymers for added grip and dexterity. We know premium hand protection and we specialise in Cut-Resistant hand protection.

## ***'CUT COSTS'***

Every company can insure itself against work accidents but every accident will increase the insurance premium. Apart from the insurance cost, every accident will result in uninsured costs to be paid by the company like lost time, sick pay, repairs, loss of contracts, loss of business reputation and other negative effects. These uninsured costs might rise to 36 times the insurance premium. (Source: EU-OSHA)

## CUT RESISTANT GLOVE MATERIALS EXPLAINED

### ARAMID

Aramid is lightweight, supple, comfortable and washable. It provides effective protection from cuts (above level 5, with stainless steel reinforcing), from convective heat and offers durability and performance that far exceed that of leather and cotton. Gloves made from aramid only, mostly achieve cut levels in EN388:2003 of 3. Kevlar is the aramid fibre developed and commercialised by DuPont.



*Kevlar aramid reinforced with  
Stainless steel: 250 – AEGIS KVS4*

### HPPE

High Performance Polyethylene (HPPE) is flexible, tactile, light and durable. It is almost as resistant to cuts as a para-aramid but with more resistance to abrasion and remains resistant to chemicals, in particular solvents. Gloves made from HPPE only, mostly achieve cut levels in EN388:2003 of 2/3 unless blended with other yarns such as steel or glass. Dyneema is the HPPE fibre developed and commercialised by DSM.



*HPPE for maximum tactility: 542*

### STAINLESS STEEL vs FIBREGLASS

Stainless steel and Fibreglass can be combined with another fibre in order to significantly improve cut resistance. When adding these reinforcements to another fibre, EN 388:2003 cut levels of 4/5 become possible.

Stainless steel adds significant cut resistance to gloves however the testing procedures (both EN388:2003, ISO 13997-1999 and ASTM F1790) have difficulties showing the true protection level as the tests are both based on the cutting blade contacting a metal surface to stop the test. The steel yarn gives the machine a 'false' read and ends the test.

The glass fibre provides a different result. The surface becomes so slippery that the blade 'slides' over the yarn and dulls the microscopic edge. It is recommended looking at both test scores when evaluating high cut level gloves (EN cut level 4 & 5).



*Stainless steel & polyester  
(Hagane Coil):  
S-TEX GP-1 / S-TEX GP-2*

## NEVER IMITATE

Innovation has always been a tradition with Showa Best gloves. GP-KV1 (aramid grip glove) and 540 (HPPE with maximum tactility) were the original cut protection gloves.

Showa Best continues to focus its efforts at developing gloves with high cut protection and comfort. The result today is a complete range of anti-cut gloves, with improved grip, tactility and chemical protection, appropriate to almost every application and industry.

## HAGANE COIL

HAGANE Coil has been developed by Showa Best and is applied to all S-TEX gloves: S-TEX KV3, S-TEX GP-1 and S-TEX GP-2.

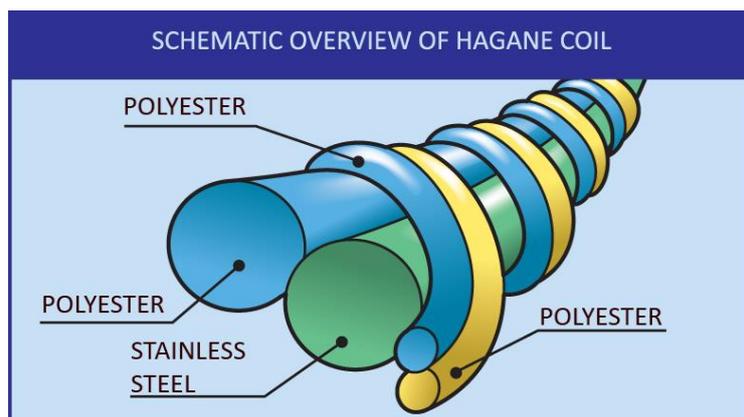
HAGANE Coil is a technology that combines HAGANE Stainless steel with another fibre in order to provide the very high cut protection. In addition, HAGANE coil shell adheres to the latex and nitrile coating well and HAGANE coil is not affected by UV light.

S-TEX KV3 combines Stainless steel with Kevlar aramid resulting into a very high cut level 5 into EN388:2003.

S-TEX GP-1 and S-TEX GP-2 combine Stainless steel with polyester resulting into an EN388:2003 cut level 4 and greater comfort. See schematic overview of the HAGANE Coil for S-TEX GP-1 and S-TEX GP-2.

Did you know that HAGANE steel is used for making the Japanese SAMURAI sword?

HAGANE Coil is the patented way Showa Best combines this Hagane steel with another yarn.



## OVERVIEW OF CUT RESISTANT GLOVES BY SHOWA BEST

Globus offer a range of Showa Best cut resistant gloves combining the aforementioned cut resistant materials.

Product	Brand	Liner Material	Cut Index	Cut Application	Feature
<b>S-TEX KV3</b>	Showa	HAGANE Coil (Stainless steel & Kevlar)	5	Metal sheet Glass Knives	Highest cut level Wet & dry grip
<b>S-TEX GP-1</b>	Showa	HAGANE Coil (Stainless steel & Polyester)	4	Metal sheet Glass Metal wire	High visibility Wet & dry grip
<b>S-TEX GP-2</b>	Showa	HAGANE Coil (Stainless steel & Polyester)	4	Metal sheet Glass Metal wire	High visibility Wet & oil grip
<b>KV660</b>	Showa	Kevlar aramid	3	Metal sheet Chemical hazards Oils	High chemical protection
<b>250</b>	Best	Kevlar aramid & Stainless steel	4	Metal sheet Glass Oils	Wet & oil grip Comfort
<b>4560</b>	Best	Kevlar aramid	3	Metal sheet Glass Oils	Wet & oil grip Breathability
<b>4565</b>	Best	Kevlar aramid	3	Metal sheet Glass Oils	Wet & oil grip Knuckle protection
<b>542</b>	Showa	HPPE	3	Metal sheet Glass Electronics	Durability Tactility
<b>541</b>	Showa	HPPE	3	Metal sheet Glass Electronics	Tactility
<b>8110</b>	Best	HPPE	5	Glass Knives Food	Highest cut level Breathability



The disadvantage of this Coup Test is the dulling of the microscopic edge of the blade when testing highly cut protective gloves. Round robin tests indicate many differences between different test labs. The Coup Test tends to give more favourable results with ceramic than steel based engineered yarns. Steel-based engineered yarns will stop the machine due to metal to metal contact and do not necessarily cut through the material while glass fibre makes the material slippery. That is why manufacturers are recommended to also indicate the results of the TDM test further to ISO 13997-1999 for gloves with a Cut Index of 4 or 5.

## RECOMMENDATIONS BY GLOBUS



Gloves can contaminate the handled products, or worse, they can put the life of workers at danger. It is our duty to inform about possible contaminations, allergies, storage conditions, washing instructions, chemical protection, grip features, etc.

Important: It is recommended not to use high cut resistant engineered fibre gloves when exposed to moving and serrated blades. The tensile strength of these fibres is very high and can pull the worker's hands into the machinery.

There is a lot of information available about the cut protection of gloves. You can rely on the technical knowledge of glove manufacturers. They are at your disposal to give you advice when, for instance, to use a specific glove in a very specific application. For Showa Best gloves in the UK and Ireland you can contact [sales@globus.co.uk](mailto:sales@globus.co.uk)

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### About Globus

Globus serves customers in the UK and Ireland with professional hand and arm protection solutions. Globus' portfolio consists of products from the Showa Best and Skytec ranges and it is committed to a zero tolerance approach to product and service deficiency. Globus is a privately held company and is based in Manchester, UK. For news and information on Globus, please visit [www.globus.co.uk](http://www.globus.co.uk).