



Hand Protection Buying Guide

Health & safety for your hands

Hands at work are extremely vulnerable to a wide range of hazards which include cuts, blows, chemical attack and temperature extremes. With industry's increasingly complex and sensitive manufacturing and handling processes, there is a growing insistence on the use of "job fitted" gloves that meet each user's specific requirements.

The importance of glove maintenance

Contaminated and damaged gloves may fail to protect the hands from the very hazard they were designed for. Effective protection is maintained by regular replacement of the gloves. Check the condition of the gloves, inside and out before use..

Safety standards symbols and what they each represent

What to look out for

Each glove has its own individual rating for each standard it qualifies for. Against each product there will be a prominent 'standards box' (as per the example shown on the right) clearly displaying the particular safety standards that the glove complies with.

This will help you quickly see what you need to know about the glove, helping you shop more efficiently.

Your guide to safety standards and choosing the right hand protection

European Standards

CE Implies that the gloves comply with the basic requirements laid down by the EC Regulation: Personal Protective Equipment.

Simple Design (Category I)

For areas of 'minimal risk' where the effects of not wearing a glove are easily reversible or superficial. Such products are self-certified.

Intermediate Design (Category II)

For areas of specific risk i.e. mechanical risks. Such products will have been EC type tested against European test methods and certified by a notified body.

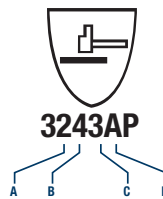
Complex Design (Category III)

For areas/applications that can seriously or irreversibly harm the health. Such products, in addition to the CE type test, will also have to be either produced under an approved quality system OR be type tested on an annual basis.

What the symbols represent

- EN 388** – This standard applies to all kinds of protective gloves giving protection from mechanical risks, in respect of physical problems caused by abrasion, blade cut, tearing, puncture or impact. This standard also covers risk of electrostatic discharge.
 - EN ISO374-5:2016** – Gloves have been tested for penetration (leakage) using test method in EN 374-2:2014 but do not need to be tested against chemical permeation. If the word VIRUS appears under the symbol, this signifies protection against bacteria, fungi and viruses. If the word Virus is not present, then only protection against bacteria and fungi is claimed. Such gloves may not protect against all viruses.
 - EN ISO374-1:2016/Type A** – The permeation performance shall be at least level 2 (minimum 30 mins breakthrough time) against a minimum of 6 test chemicals.
 - EN ISO374-1:2016/Type B** – The permeation performance shall be at least level 2 (minimum 30 mins breakthrough time) against a minimum of 3 test chemicals.
 - EN ISO374-1:2016/Type C** – The permeation performance shall be at least level 1 (minimum 10 mins breakthrough time) against a minimum of 1 test chemicals.
 - EN 511** – This standard applies to gloves which protect the hands against convective and contact cold.
 - EN 407** – This standard specifies thermal performance for protective gloves against heat and/or fire.
 - EN 659** – This standard defines performance requirements for gloves designed to protect fire fighters against heat and flames.
 - EN 421** – This standard lays down test methods and performance criteria for gloves offering protection against ionising radiation and radioactive contamination.
 - EN 455** – Medical gloves for single use.
- If a glove is to be used for food handling, it is required to carry either the words 'for food use' or this symbol.

What the numbers represent



Mechanical Hazards: EN 388

	Performance Level
(a) Abrasion resistance	0-4
(b) Blade-cut resistance	0-5
(c) Tear resistance	0-4
(d) Puncture resistance	0-4
(e) Straight blade cut (TDM) resistance A-F (f) Impact resistance P if passes	

An "X" can be shown in place of any of the first 5 digits underneath the pictogram, where the test was either not carried out, not required or not suitable. The same method applies to these two standards below also.

Thermal Hazards: EN 407

	Performance Level
(a) Burning behaviour	0-4
(b) Contact heat	0-4
(c) Convective heat	0-4
(d) Radiant heat	0-4
(e) Small splashes of molten metal	0-4
(f) Large splashes of molten metal	0-4

Contact Heat

A sample is taken from the palm area of a glove. The outside of the glove is put on a hot surface and the temperature of the inside of the glove is then monitored. The temperature on the inside of the glove must take 15 seconds or more to rise by 10°C from room temperature.

EN 407 Performance Level	Contact Temperature °C	Threshold Time Seconds
1	100	>15
2	250	>15
3	350	>15
4	500	>15

EN 511: Cold

	Performance Level
(a) Resistance to convection cold	0-4
(b) Resistance to contact cold	0-4
(c) Permeability to water	0-1

TAKE NOTE... CHANGES ARE HERE

CHANGES TO EC STANDARD EN 388

During 2016 a new version of EN 388, Protection against Mechanical Hazards, was published. It allows products offering higher classifications of cut levels to be identified.

What changed

Any sample tested for cut resistance using the existing coup method, which blunts the blade used in the test, will have to be additionally tested using the ISO cut method.

LEVEL A	LEVEL B	LEVEL C	LEVEL D	LEVEL E	LEVEL F
2	5	10	15	22	30

Back of hand protection (impact protection testing) is now included.



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- 3** means the sample achieved level 3 for abrasion
- 4** means the sample achieved level 4 for coup cut
- 4** means the sample achieved level 4 for tear
- 3** means the sample achieved level 3 puncture

- A** means the sample achieved level A for ISO cut which was tested due to blade blunting during the coup test
- P** means the sample passes requirements for impact protection

What it means to you

- This change only affects new products being certified once the standard has been published
- As with any new PPE standard, it does not apply retrospectively
- Over the next few years, you will see more and more products carrying this standard
- It will allow products offering higher levels of cut protection to be identified
- EN420: General requirements for Protective Gloves – New Test Method being added (prEN 16778) for the determination of the presence of Dimethylformamide (DMF), a toxic ingredient of insecticide sometimes used in the leather tanning process

