# Knowledge Centre

## European Standards

Implies that the gloves comply with the basic requirements laid down by the EEC directive: Personal Protective Equipment.

### Simple Design (Category 1)

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 2)

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 3)

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.

## Health & Safety

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; hence our offering of a wider and more comprehensive range of gloves in this section.

## EN388: 2016

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.

There will be 6 cut levels defined on the ISO cut method. Levels A, B and C are new. Level D is of a different value previously quoted as level 4. Level E is the same value previously quoted as level 5. Level F is also new and is the highest cut resistance value.

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

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

**3443EP**

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

## More standards

- **EN420:** General requirements for Protective Gloves - New Test Method being added (pr EN 16778) for the determination of the presence of Dimethylformamide (DMF), a toxic ingredient of insecticide sometimes used in the leather tanning process
- **EN374-1:** Mandatory Challenge Chemicals increased to 18 from 12 & Creation of 3 levels of Permeation Testing, i.e. Type A gloves (must pass on 6 Challenge chemicals), Type B Gloves (3 Challenge Chemicals) & Type C Gloves (1 Challenge chemical)
- **EN374-2:** Claims for micro-organism resistance must now satisfy EN374-5. If virus protection is claimed, it must pass ISO 16604 (EN374-2 for bacteria and fungi)
- **EN374-3:** Permeation of pesticides now included and the Standard for this hazard will now fall under EN16523-1
- **EN374-4:** Determination of Resistance to Degradation determined by measuring the permeation resistance before and after 60 minutes exposure to a chemical. Degradation results must be included in the User information for those chemicals which correspond to the letters under the pictogram.

### PRODUCT SAFETY MARKINGS GUIDE

**EN388:2016 4 . 4 . 1 . 1 . E . P**

- Abrasion (0-4)
- Cut (0-5)
- Tear (0-4)
- Puncture (0-4)
- ISO 13997 (A-F)
- Impact (Pass/Fail)

# Knowledge Centre

## EN 374-2 Chemical & Micro-organisms

Low Chemical resistant or Waterproof glove pictogram is to be used for those gloves that do not achieve a breakthrough time of at least 30 minutes against at least three chemicals from the pre-defined list (but which comply with the Penetration test).

## EN 374-3 Chemical & Micro-Organisms

This standard specifies the capability of gloves to protect the user against chemicals and/or micro-organisms.

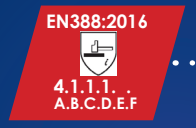
## Resistance to penetration by micro-organisms.

Referred to as acceptable quality level (AQL).

## EN 388 Mechanical Hazards

This standard applies to all kinds of protective gloves giving protection from mechanical risks, in respect of physical problems caused by abrasion, blade cut, puncture or tearing. This standard also covers risk of electrostatic discharge.

| | |
|---|---|
| A) Resistance to abrasion | – Rating 0-4 |
| B) Blade cut resistance | – Rating 0-5 |
| C) Tear resistance | – Rating 0-4 |
| D) Puncture resistance | – Rating 0-4 |
| E ) ISO 13997 | – A-F |
| F ) Impact | – Pass/Fail |




*INFORMATION BASED ON CURRENT STANDARDS, MORE INFO ON PREVIOUS PAGE.*

## EN 407 Thermal Hazards

This standard specifies thermal performance for protective gloves against heat and/or fire.

| | | |
|---|---|---|
| A)Burning behaviour | – | Rating 0-4 |
| B) Contact heat | – | Rating 0-4 |
| C)Convective heat | – | Rating 0-4 |
| D)Radiant heat | – | Rating 0-4 |
| E) Small splashes of molten metal | – | Rating 0-4 |
| F) Large splashes of molten metal | – | Rating 0-4 |

| Contact Temp°C | Threshold Time Seconds |
|---|---|
| 100 | >15 |
| 250 | >15 |
| 350 | >15 |
| 500 | >15 |

## EN 659 Thermal Hazards

This standard defines performance requirements for gloves designed to protect fire fighters against heat and flames.

## EN 511 Protection from cold

This standard applies to gloves which protect the hands against convective and contact cold.

| | |
|---|---|
| A) Resistance to convective cold | Rating 0-4 |
| B) Resistance to contact cold | Rating 0-4 |
| C) Permeability to water | Rating 0-1 |

## Food Handling

Gloves suitable for food handling must carry this symbol or be labelled 'For Food Use'.

## CE Mark

CE implies that the gloves comply with the basic requirements laid down by the EEC directive: Personal Protective Equipment.

## EN 421 Radioactive Hazards

This standard lays down test methods and performance criteria for gloves offering protection against ionising radiation and radioactive contamination.

| European Glove Sizing Chart | Glove Size as text: | XS | S | M | L | XL | XXL |
|---|---|---|---|---|---|---|---|
| | Glove Size as number: | 6 | 7 | 8 | 9 | 10 | 11 |