THE EUROPEAN STANDARDS OF DISPOSABLE PPE

The garments for chemical protection belong to the category III defined by 89/686/CEE directive. This category groups together the PPE intended for the protection against serious or irreversible risks. Standards have been developed at European scale concerning test methods and performance levels applicable to PPE for each of the characteristics of physical and chemical protection tested :

- EN465 : garments for chemical protection
- EN369 : garments for chemical protection
- EN468 : garments for chemical protection
- EN374-2 : gloves for micro-organisms protection
- EN374-3 : gloves for chemical protection

Furthermore, projects of European standards have been established and **6 types of garments** have been defined by the **CEN / TC162** for **chemical protection garments:**

- **TYPE 1**  tight to gases
- **TYPE 2**  tight to gases, non tight joint
- **TYPE 3**  tight to liquids
- **TYPE 4**  tight to aerosols
- **TYPE 5**  tight to particles
- **TYPE 6**  tightness limited to splashes and particles

The types are determined by submitting the whole garment to tests.
Type tests include :

- Test for seams resistance
- Test for internal leak (only type 1)
- Test for internal pressure (only type 1)
- Performance test into practice
- Test for movement easiness in 7 stages

- Test for squirt (type 3) according to EN463
- Test for aerosols (type 4) according to EN468
- Test for particles (type 5) according to CEN/TC162/WG3/G3/N81
- Test limited for aerosols (type 6) according to EN463

EN465 standard

Relative to performance requirements for chemical protection garments with fogs tight joints between the different parts of the garment.

EN369 standard

Garments for chemical protection. Protection against liquid chemicals.
Test methods : materials resistance to fog penetration.

EN468 standard

Garments for chemical protection. Protection against liquid chemicals.
Test methods : resistance determination to fog penetration

EN 374-2 standard : micro-organisms risks

The **EN374-2** standard specifies a test method for the resistance to penetration of protective gloves by chemicals and / or micro-organisms. When the gloves resist to penetration, and when tested according to this section of the **EN374** standard, they constitute an effective barrier against microbiological risks.

Performance level	**Requirement**
0 or 1	**Penetration :** indicates whether or not the product resists to water and air penetration.

EN 374-3 standard : chemical risks

The **EN374-3** standard regards the determination of the materials resistance constituting the gloves for permeation by non gaseous chemicals potentially dangerous in case of continuous contact. It is therefore advisable to insist on the fact that this test does not account for the conditions liable to be met during service, and it is highly recommended to use the test results, which have an essentially relative value, only to compare materials by high categories of time of passage.

Performance level	**Requirement**
0 to 1	**Penetration :** indicates whether or not the product resists to water and air penetration.
0 to 6	**Permeation :** indicates the time necessary for a dangerous product to go across the protective film barrier by permeation.