



Forniture per l'industria alimentare e per l'agricoltura dal 1950

## PRODUCT DETAILS GLOVES NITRILE DOC ZERO HIGH PROTECTION

Disposable nitrile ambidextrous glove. Suitable for sensitive skin. Sensitive and resistant. The textured surface on the fingertips ensures optimal grip. Finely powdered. Suitable for use in hospitals, outpatient and medication. Recommended for use even in the laboratories.

### GENERAL DESCRIPTION

The product is certified as a medical device class 1 in compliance with the provisions of the GUIDELINES FOR THE DEFINITION OF STANDARD SAFETY AND HEALTH DEPARTMENT OF ENVIRONMENTAL OPERATORS drafted by ISPESL, the gloves were tested to determine the ability of 'be impermeable barrier and provide effective protection against viral agents and pathogens ensuring the impermeability of gloves to blood and body fluids that may contain these pests.

The product has also been tested by the notified body CE0465 for protection from RISKS MECHANICAL, CHEMICAL AND BIOLOGICAL, in accordance with Legislative Decree No. 475: implementation of Directive 89/686/EEC Directive with reference to the provisions of the aforementioned guidelines ISPESL.

The product does not bear the marking as PPE validity of the legislation which provides that the examination gloves are considered medical devices and does not allow a product can simultaneously be marked as medical device and which personal protective equipment (vds. Note Min. Health DGFDM III/P/13228/I 1c.r.

### REFERENCE STANDARDS

Legislative Decree no. 46/97, Directive 93/42  
Legislative Decree. N. 475/92 Legislative Decree no. 626/94, Directive 89/686 / EEC  
Italian Republic Pharmacopoeia Ed. Current European Pharmacopoeia Ed. Current  
EN 455 I - II - III, EN 374 I - II - III, EN 420, EN 388, ASTM F1670,  
ASTM F1671  
ISO 2859

### INSTRUCTIONS FOR STORAGE AND WAREHOUSE

Store in cool, dry place. Do not store at temperatures above 40°C. Do not expose to direct sunlight, UV light and fluorescent lamps. If the packaging is damaged or wet you discard the product. Do not use beyond the expiration date printed on the packaging. Do not use beyond the expiration date printed on the package.

### LIFE PRODUCT

5 years

### PRECAUTIONS AND SAFETY

Warning: gloves can cause contact allergy in susceptible individuals.

In order to minimize the risks apply the following procedures:

- Do not use gloves with chemicals and incompatible products (see briefing notes available from the manufacturer)
- Frequent change gloves and wash and dry your hands thoroughly before use
- Discontinue use immediately in case of allergic reaction and/or inflammation
- Wash your hands thoroughly with soap and lukewarm water
- Consult your doctor if necessary
- Communicate to the supplier any particular side effects

Caution: the product is combustible, but does not generate heat. Fire may produce toxic fumes: carbon monoxide, carbon monoxide, organic acids .

Extinguishing media: water, powder, CO<sub>2</sub>.



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## COMPOSITION

### Nitrile

The material composition of the gloves is the acrylonitril/butadiene/acid metacrilico (XNBR) commonly known as nitrile.

#### Content of Additives

| Additive                            | Main function    | Content       |
|-------------------------------------|------------------|---------------|
| ZDEC (zinc diethyldithiocarbamate)  | Accelerator      | 0.10 - 0.50 % |
| ZDBC (zinc diethyldithiocarbamate)  | Accelerator      | 0.10 - 0.50 % |
| SULPHUR                             | Curing agent     | 0.60 - 2.50 % |
| ZnO (zinc oxide)                    | Activator        | 0.50 - 3.00 % |
| Vultamolo                           | Dispersing Agent | 0.30 - 0.50 % |
| Wingstay L, Nonox SP                | Antioxidant      | 0.30 - 0.50 % |
| TiO <sub>2</sub> (titanium dioxide) | Colorant         | 0.40 - 2.00 % |
| Teric 320                           | Stabilizing      | 0.10 - 0.20 % |
| Ammonia                             | PH regulator     | 0.10 - 0.60 % |
| KOH (potassium hydroxide)           | PH regulator     | 0.05 - 0.20 % |

With regard to the processing residues of chemicals used to see over point WASTE PROCESSING/ALIEN SUBSTANCES

The product contains no thiurams, mercaptans and other chemicals known to be toxic or harmful to health and to the environment.

It does not contain substances that are not compatible with food use (FDA and EEC legislation for intermittent contact plastics with food).

### Lubricating powder

Talcing using corn starch modified conform to the USP Ed . Current

QUANTITY ' OF POWDER LUBRICANT REMAINING ASTM D6124 < 200 g / Glove

### PH LUBRICANT COMPOSITION AND DUST RESIDUAL

|                             | Values required for USP |      |       | Declared value |
|-----------------------------|-------------------------|------|-------|----------------|
|                             | Conf. USP               | Min  | Max   |                |
| Residual dry                | %                       | /    | <12.0 | compliant      |
| PH in suspension            | Unit                    | 10.0 | 10.8  | compliant      |
| Ashes                       | %                       | /    | <3.0  | compliant      |
| Test sedimentation (purity) | ML                      | 45.0 | 75.0  | compliant      |
| Magnesium oxide             | %                       | /    | <2.0  | compliant      |
| Residual heavy metals       | PPM                     | /    | <10   | compliant      |
| stability autoclave         | Conf. USP               | /    | /     | compliant      |
| chlorides                   | ppm                     | /    | /     | < 1000         |
| Residue 325 mesh            | %                       | /    | < 1.0 | compliant      |
| Residue 400 mesh            | %                       | /    | < 2.0 | compliant      |
| Total bacterial count       | cfu/g                   | /    | < 600 | compliant      |
| Molds                       | cfu/g                   | /    | < 40  | compliant      |
| Yeasts                      | cfu/g                   | /    | < 20  | compliant      |
| Coliforms                   | cfu/g                   | /    | < 20  | compliant      |
| Escherichia coli            | Absent 10g              | /    | /     | compliant      |
| Pseudomonas Aeruginosa      | absent 10g              | /    | /     | compliant      |
| Staphylococcus Aureus       | absent 10g              | /    | /     | compliant      |



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#### MISURA DEI QUANTI

| Size    | LENGTH (mm) |     | WIDTH (mm) STD | THICKNESS (mm) |     |        |     |       |     |
|---------|-------------|-----|----------------|----------------|-----|--------|-----|-------|-----|
|         | MIN         | STD |                | Palm           |     | Finger |     | Wrist |     |
|         |             |     |                | MIN            | STD | MIN    | STD | MIN   | STD |
| SMALL   | 240         | 240 | 80±10          | 0.09           | -   | 0.13   | -   | 0.05  | -   |
| MEDIUM  | 240         | 240 | 95±10          | 0.09           | -   | 0.13   | -   | 0.05  | -   |
| LARGE   | 240         | 240 | 110±10         | 0.09           | -   | 0.13   | -   | 0.05  | -   |
| X-LARGE | 240         | 240 | >=110          | 0.09           | -   | 0.13   | -   | 0.05  | -   |

Reference to EN 455-2 - ISO 2859-1 AQL 4

The values stated in the " standard "refers to the size required by the standards mentioned above; those in column" minimum" in the minimum actual product supplied

#### PACKAGE

PAPERBOARD 1000 PIECES TO FIT IN 10 BOXES / DISPENSER 100 PIECES

#### QUALITY CONTROL

NO HOLES

| NUMBER OF DEFECTS | REGULATIONS            | METHOD TO TEST          | SAMPLING PLAN | ACCEPTABLE QUALITY LEVEL (AQL) |
|-------------------|------------------------|-------------------------|---------------|--------------------------------|
| Holes             | EN 455-1<br>UNI EN 374 | Kept filling wit hwater | ISO 2859-1    | 1.5                            |

#### PHYSICAL: BREAKING LOAD

| DEFECTS HIGHLIGHTED                                 | REGULATIONS | METHOD TO TEST                                 | SAMPLING PLAN | ACCEPTABLE QUALITY LEVEL (AQL) |
|---|-------------|--|---------------|--------------------------------|
| Tensile strength before and after accelerated aging | EN 455-2    | Breaking load N as measured with a dynamometer | ISO 2859-1    | 4.0                            |

| MINIMUM BREAKING LOAD    | N standard reference |
|--------------------------|----------------------|
| Before accelerated aging | > 9                  |
| After accelerated aging  | > 6                  |

#### PHYSICAL: TENSILE STRENGTH

| DEFECTS HIGHLIGHTED                                 | REGULATIONS            | METHOD TO TEST  | SAMPLING PLAN | ACCEPTABLE QUALITY LEVEL (AQL) |
|---|------------------------|---|---------------|--------------------------------|
| Tensile strength before and after accelerated aging | ASTM D412<br>ASTM D573 | Tensile strength in MPa measured with the dynamometer | ISO 2859-1    | 4.0                            |

| TRACTION RESISTANCE MINIMUM | MPa normative reference | MPa Sample | % Elongation reference standard | % Elongation sample |
|-----------------------------|-------------------------|------------|---------------------------------|---------------------|
| Before accelerated aging    | 14                      | 16         | 500                             | 500                 |
| After accelerated aging     | 12                      | 12         | 400                             | 450                 |

#### VISIBLE DEFECTS

Critical defects: visible holes , tears, dirt is not removable , lumps , folds , stains

Minor defects: removable dirt , lumps , wrinkles , bad finish edge

| DEFECTS HIGHLIGHTED | REGULATIONS         | METHOD TO TEST   | SAMPLING PLAN | ACCEPTABLE QUALITY LEVEL (AQL) |
|---------------------|---------------------|------------------|---------------|--------------------------------|
| Critical defect     | ASTM 3578<br>EN 420 | Ispezione visiva | ISO 2859-1    | 2.5                            |
| Minor defect        | ASTM 3578<br>EN 420 | Ispezione visiva | ISO 2859-1    | 4.0                            |



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#### RESISTANCE TO PENETRATION OF MICRO AND CHEMICALS

| DEFECTS HIGHLIGHTED   | REGULATIONS | METHOD TO TEST                            | SAMPLING PLAN | ACCEPTABLE QUALITY LEVEL (AQL) |
|-----------------------|-------------|---|---------------|--------------------------------|
| penetration chemicals | EN 374-2    | Test of air leakage by immersion in water | ISO 2859-1    | 1.5                            |

#### RESISTANCE TO CHEMICALS PERMEATION

| DEFECTS HIGHLIGHTED          | REGULATIONS | METHOD TO TEST   | SAMPLING PLAN | ACCEPTABLE QUALITY LEVEL (AQL) |
|------------------------------|-------------|--|---------------|--------------------------------|
| Permeation chemical products | EN 374-3    | Determination time passing chemical for constant contact | Randomly      | -                              |

#### RESISTANCE TO PENETRATION OF BIOLOGICAL AGENTS - ISPESL REFERENCE GUIDELINES FOR THE DEFINITION OF STANDARD SAFETY AND HEALTH DEPARTMENT OF ENVIRONMENTAL OPERATORS

| DEFECTS HIGHLIGHTED              | REGULATIONS | METHOD TO TEST   | SAMPLING PLAN | ACCEPTABLE QUALITY LEVEL (AQL) |
|----------------------------------|-------------|--|---------------|--------------------------------|
| Penetration of biological agents | ASTM F1670  | verifying the absence of penetration of the artificial blood | Randomly      | No penetration                 |
| Penetration of biological agents | ASTM F1671  | penetration testing bacteriophage Phi - X174                 | Randomly      | No penetration                 |

#### RESISTANCE TO MECHANICAL STRESS

| DEFECTS HIGHLIGHTED                              | REGULATIONS | METHOD TO TEST | SAMPLING PLAN | ACCEPTABLE QUALITY LEVEL (AQL) |
|--|-------------|----------------|---------------|--------------------------------|
| Resistance to damage caused by blunt instruments | EN 388      | CIMAC          | Randomly      | N/A                            |

#### BIOCOMPATIBILITY

As provided for by the ISO 10993-1 the product has been tested for biocompatibility with the tissues: devices in contact with the surface of the skin, mucous membranes, membranes, surfaces injured or compromised, longer contact time.

| DEFECTS HIGHLIGHTED | REGULATIONS  | METHOD TO TEST | SAMPLING PLAN | ACCEPTABLE QUALITY LEVEL (AQL) |
|---------------------|--------------|----------------|---------------|--------------------------------|
| Cytotoxicity        | ISO 10993-5  | Vitro          | Randomly      | Biocompatible                  |
| Sensibilization     | ISO 10993-10 | Vitro          | Randomly      | Biocompatible                  |
| Irritation          | ISO 10993-10 | Vitro          | Randomly      | Biocompatible                  |

#### RESIDUI DI LAVORAZIONE /SOSTANZE ESTRANEE

Secondo quanto previsto dalle normative indicate il prodotto è stato testato per evidenziare l'assenza di residui di lavorazione sia chimici che biologici.

| DEFECTS HIGHLIGHTED    | REGULATIONS   | METHOD TO TEST                 | SAMPLING PLAN | ACCEPTABLE QUALITY LEVEL (AQL) |
|------------------------|---|--------------------------------|---------------|--------------------------------|
| Chemical additives     | En 455, EN 374, Pharmacopoeia Italian Republic European Pharmacopoeia USP Current ed. | Chemical Analyses              | Randomly      | Absent / in the specifications |
| Residual EtO           | Pharmacopoeia Italian Republic  | Analysis by gas chromatography | Randomly      | EtO below the limit of 10 ppm  |
| Endotossine batteriche | Pharmacopoeia Italian Republic  | LAL test                       | Randomly      | Endotoxins below the limits    |
| Bioburden              | European Pharmacopoeia USP Current ed.  | microbiological analysis       | Randomly      | <150 cfu/pz.                   |



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**Results analysis of chemical compounds used ( test liquid chromatography )**

|                                    |         |
|------------------------------------|---------|
| ZDEC (zinc diethyldithiocarbamate) | < 0.35% |
| ZDBC (zinc diethyldithiocarbamate) | < 0.35% |
| Nonox SP                           | < 0,40% |

It is undetectable the presence of residues of other additives (detection limit 12:01 %)

**PRODUCTION PROCESS GLOVES NITRILE**

**1. Preparation of intermediate**

- a. Raw material preparation
- b. Extrusion of the plastic film

NOTE : the definition of the production batch is done according to the batch of raw material preparation

**2. Diving molds**

- a. Dipping the mold in the polymer
- b. Automatic molding gloves

**3. Lamination**

- a. Plasticization process in the oven at 220 ° - 250 ° C

**4. Cooling**

- a. Solidification by cooling in a convection oven up to 100 ° C
- b. Winding of the flange
- c. Further cooling to 60 ° C

**5. Suspension of dust**

- a. Application of the powder of cornstarch by immersion in aqueous bath
- b. Drying of the piece in a hot air oven

**6. Packaging , Labeling and Packaging**

- a. Glove removal from the molds and breakdown by measure
- b. Packaging gloves multipack and labeling identification product and lot number of production
- c. Cardboard packaging Shipping

**7. Quality control**

- a. Product inspection during production
  - Visible major and minor defects
  - Sized
- b. Inspections after production
  - Visible major and minor defects
  - Check waterproofing and physical properties
  - Sized
  - Storing and Shipping
  - Marking labels and packaging
  - Visible major and minor defects
  - Check waterproofing and physical properties
  - Sized
  - Amount per unit of packaging

**RULES 'OF DISPOSAL**

To dispose hospital waste according to current legislation

TECNOLATTE S.R.L.

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