# SLOVENSKI STANDARD
# SIST EN 374-1:1996

**01-februar-1996**

---

**Varovalne rokavice za zaščito pred kemikalijami in mikroorganizmi - 1. del: Terminologija in zahteve za izdelavo**

Protective gloves against chemicals and micro-organisms - Part 1: Terminology and performance requirements

Schutzhandschuhe gegen Chemikalien und Mikroorganismen - Teil 1: Terminologie und Leistungsanforderungen



Gants de protection contre les produits chimiques et les micro-organismes - Partie 1: Terminologie et performances requises



**Ta slovenski standard je istoveten z:** **EN 374-1:1994**

---

**ICS:**

| | | |
|---|---|---|
| 01.040.13 | Varstvo okolja in zdravja. Varnost (Slovarji) | Environment and health protection. Safety (Vocabularies) |
| 13.340.40 | Varovanje dlani in rok | Hand and arm protection |

**SIST EN 374-1:1996** **en**

EUROPEAN STANDARD **EN 374-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM January 1994

UDC 614.896.2:54:573.4:620.1:001.4

Descriptors: Personal protective equipment, work clothing, accident prevention, protective clothing, gloves, chemical compounds, micro-organisms, definition, specification, water tightness, gaz permeability

English version

# Protective gloves against chemicals and micro-organisms - Part 1: Terminology and performance requirements

Gants de protection contre les produits chimiques et les micro-organismes - Partie 1: Terminologie et performances requises

Schutzhandschuhe gegen Chemikalien und Mikroorganismen - Teil 1: Terminologie und Leistungsanforderungen



This European Standard was approved by CEN on 1994-01-14. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

**CEN**

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

**Central Secretariat: rue de Stassart,36 B-1050 Brussels**

## Foreword

This European Standard was prepared by CEN/TC 162 "Protective clothing including hand and arm protection and lifejackets" of which the secretariat is held by DIN.

This European Standard has been prepared under a mandate given to CEN by the Commission of the European Communities and the European Free Trade Association, and supports essential requirements of EC Directive(s).

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 1994, and conflicting national standards shall be withdrawn at the latest by July 1994.

In accordance with the CEN/CENELEC Internal Regulations, following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

## 1 Scope

This standard specifies the requirements for gloves to protect the user against chemicals and/or micro-organisms and defines terms to be used.

This standard shall be used in conjunction with EN 420.

This standard does not specify requirements for protection against any mechanical hazards. However, there is a requirement for data to be reported on the following mechanical tests: Abrasion, blade cut, tearing resistance and puncture according to the test methods described in EN 388:1993, clauses 6.1, 6.2, 6.3 and 6.4 respectively.

This standard does not specify any requirements for protection against thermal or ionizing radiation hazards. If the use requires these types of protection, reference should be made to EN 407 and EN 421 respectively.

## 2 Normative references

This European Standard incorporates by dated or undated reference provisions from other publications. These normative references are cited at the appropriate place in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.



| | |
|---|---|
| EN 374-2 | Protective gloves against chemicals and micro-organism - Part 2: Determination to resistance to penetration |
| EN 374-3 | Protective gloves against chemicals and micro-organism - Part 3: Determination of resistance to permeation by chemicals |
| EN 388 | Protective gloves against mechanical risks |
| EN 407 | Protective gloves against thermal hazards (heat and/or fire) |
| EN 420 | General requirements for gloves |
| EN 421 | Protective gloves against ionizing radiation and radioactive contamination |
| ISO 2859 | Sampling procedure for inspection by attribute |

## 3 Definitions

For the purposes of this standard, the following definitions apply:

### 3.1 Protective glove material

Any material or combination of materials used in a glove for the purpose of isolating the hands and arms from direct contact with a chemical and/or micro-organism.

### 3.2 Protective gloves against micro-organisms

At this time it is believed that gloves which resist penetration, when tested according to clause 5.2, form an effective barrier to micro-biological hazards.

### 3.3 Degradation

A deleterious change in one or more mechanical properties of a protective glove material due to contact with a chemical.

### 3.4 Penetration

The movement of a chemical and/or micro-organism through porous materials, seams, pinholes, or other imperfections in a protective glove material on a non-molecular level.



### 3.5 Permeation

The process by which a chemical moves through a protective glove material on a molecular level. Permeation involves the following:



- absorption of molecules of the chemical into the contacted (outside) surface of a material;

- diffusion of the absorbed molecules in the material;

- desorption of the molecules from the opposite (inside) surface of the material.

### 3.6 Test chemical

Test chemical can be single or multicomponent.

### 3.7 Breakthrough time

The elapsed time between the initial application of a test chemical to the outside surface of a protective glove material and its subsequent presence on the other side of the material, measured as described in this standard.

3.8 Permeation rate

The mass of test chemical permeating the glove per unit time per unit area.

3.9 Collecting medium

A medium in which the test chemical is freely soluble to saturation concentration greater than 0,5 % by mass or 0,5 % by volume.

3.10 Analytical technique

A procedure whereby the concentration of a chemical in a collecting medium is quantitatively determined.

4 Method of testing

Detailed test methods will be found in the following parts of this standard:

Penetration: EN 374-2

Permeation: EN 374-3

Degradation: Test method in preparation*)



5 Performance requirements



5.1 Penetration

5.1.1 Gloves shall not leak when tested according to the test method in EN 374-2.

5.1.2 Gloves from a single lot or batch shall be sampled and inspected in accordance with ISO 2859. The inspection levels and acceptable quality levels (AQL) shall comply with those given in the table below or as agreed between the purchaser and the seller, if the latter is more stringent.

| Performance level | Acceptable quality level unit | Inspection levels |
|---|---|---|
| Level 3 | 0,65 | G I |
| Level 2 | 1,5 | G I |
| Level 1 | 4,0 | S 4 |

*) The test method will be determined in a further part of EN 374.

## 5.2 Permeation

Each combination of protective gloves/test chemical is classified, in terms of breakthrough time, according to each individual chemical for which the glove prevents permeation.

The index given below is based on breakthrough times determined during constant contact with the test chemical under standard laboratory conditions as described in EN 374-3. The actual duration of protection given in the workplace may vary considerably from this index.

| Time | Protection Index |
|---|---|
| Measured Breakthrough time > 10 min | class 1 |
| > 30 min | class 2 |
| > 60 min | class 3 |
| > 120 min | class 4 |
| > 240 min | class 5 |
| > 480 min | class 6 |



## 5.3 Degradation

Test method in preparation.



## 5.4 Mechanical characteristics

For each glove style recommended for use against chemicals and micro-organisms data shall be reported on the following mechanical tests:

- Abrasion resistance
- Blade cut resistance
- Tearing resistance
- Puncture resistance

according to the test methods described in EN 388:1993, clauses 6.1, 6.2, 6.3, 6.4 respectively.