SLOVENSKI STANDARD
SIST EN 374-2:2003

01-december-2003

Nadomeġļa:
SIST EN 374-2:1996

Varovalne rokavice za zaġļito pred kemikalijami in mikroorganizmi ï 2. del: Ugotavljanje odpornosti proti penetraciji

Protective gloves against chemicals and micro-organisms - Part 2: Determination of resistance to penetration

Schutzhandschuhe gegen Chemikalien und Mikroorganismen - Teil 2: Bestimmung des Widerstandes gegen Penetration

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Gants de protection contre les produits chimiques et les micro-organismes - Partie 2: Détermination de la résistance à la pénétration

SIST EN 374-2:2003
https://standards.iteh.ai/catalog/standards/sist/ab8f8eef-31c5-48b4-87a2-cf757e09428b/sist-en-374-2-2003

Ta slovenski standard je istoveten z: **EN 374-2:2003**

ICS:

13.340.40	Varovanje dlani in rok	Hand and arm protection

SIST EN 374-2:2003 **en**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 374-2:2003
https://standards.iteh.ai/catalog/standards/sist/ab8f8eef-31c5-48b4-87a2-cf757e09428b/sist-en-374-2-2003

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 374-2

September 2003

ICS 13.340.40

Supersedes EN 374-2:1994

English version

Protective gloves against chemicals and micro-organisms - Part 2: Determination of resistance to penetration

Gants de protection contre les produits chimiques et les micro-organismes - Partie 2: Détermination de la résistance à la pénétration

Schutzhandschuhe gegen Chemikalien und Mikroorganismen - Teil 2: Bestimmung des Widerstandes gegen Penetration

This European Standard was approved by CEN on 24 July 2003.

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 Management Centre or to any CEN member.

This European Standard exists 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 Management Centre has the same status as the official versions.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

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

SIST EN 374-2:2003
https://standards.iteh.ai/catalog/standards/sist/ab8f8eef-31c5-48b4-87a2-cf757e09428b/sist-en-374-2-2003

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

© 2003 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. EN 374-2:2003 E

Contents

page

Foreword 3

1 Scope 4

2 Principle of tests 4

3 Sampling 4

4 Apparatus 4
4.1 Air leak test 4
4.2 Water leak test 5

5 Procedure 5
5.1 General 5
5.2 Air leak test 5
5.3 Water leak test 6

6 Test report 6

Annex A (informative) Informative annex to be used for quality assurance during production 10

Annex ZA (informative) Clauses of this European Standard addressing essential requirements or other provisions of EU Directives 11

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 374-2:2003
https://standards.iteh.ai/catalog/standards/sist/ab8f8eef-31c5-48b4-87a2-cf757e09428b/sist-en-374-2-2003

Foreword

This document (EN 374-2:2003) has been prepared by Technical Committee CEN /TC 162, "Protective clothing including hand and arm protection and lifejackets", of which the secretariat is held by DIN.

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 March 2004, and conflicting national standards shall be withdrawn at the latest by March 2004.

This document supersedes EN 374-2:1994.

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

For relationship with EU Directive(s), see informative annex ZA, which is an integral part of this document.

Annex A is informative.

EN 374 consists of the following Parts under the general title, *Protective gloves against chemicals and micro-organisms*:

iTeh STANDARD PREVIEW
(standards.iteh.ai)

– *Part 1: Terminology and performance requirements.*

SIST EN 374-2:2003
https://standards.iteh.ai/catalog/standards/sist/ab8f8eef-31c5-48b4-87a2-cf757e09428b/sist-en-374-2-2003

– *Part 2: Determination of resistance to penetration.*

– *Part 3: Determination of resistance to permeation by chemicals.*

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies a test method for the penetration resistance of gloves that protect against chemicals and/or micro-organisms.

At this time it is believed that gloves which resist penetration, when tested according to this Part of EN 374, will form an effective barrier to micro-biological hazards.

2 Principle of tests

Air leak test:

A glove is immersed in water, and its interior is pressurised with air. A leak is detected by a stream of air bubbles from the surface of the glove.

Water leak test:

A glove is filled with water. A leak is detected by the appearance of water droplets on the outside of the glove.

This air leak procedure is not suitable for all gloves. For example parts of some gloves may be overinflated while other parts of the same gloves can only be partially inflated or not even filled at all with air. If the air leak test proves unsuitable, then only the water penetration test is carried out.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

For both methods disregard leaks within the area of 40 mm from the edge of the liquidproof area.

SIST EN 374-2:2003
https://standards.iteh.ai/catalog/standards/sist/ab8f8eef-31c5-48b4-87a2-cf757e09428b/sist-en-374-2-2003

3 Sampling

For the purpose of type-testing, the test sample will be one glove of each size, with an overall minimum of 4 gloves per performed test.

If one glove fails the penetration test, the glove shall be reported as having failed.

For the purpose of production control, e. g. by the manufacturer or auditing organisation, see annex A.

4 Apparatus

4.1 Air leak test

4.1.1 A circular fixing mandrel, tapered with an appropriate diameter range to effect an airtight seal with the glove to be tested. It should be capable of rotation through 180°.

4.1.2 Means of air inflation.

4.1.3 Water tank

4.1.4 Pressure gauge reading 0 kPa to 10 kPa.

4.1.5 Means of regulating the desired pressure.

Figures 1 and 2 show an example of a suitable apparatus.

4.2 Water leak test

4.2.1 A clear open ended plastic tube is fitted with a hook at the upper end. The tube measures 380 mm in length and has a diameter wide enough to fit the gloves under test. It has a mark 40 mm from the lower end (see figure 3).

4.2.2 Elastic strapping with a "touch and close" fastener or other fastening material.

4.2.3 Stand with horizontal rod for hanging the hook end of the tube (see figure 4). The supported rod shall be capable of taking the weight of the total number of gloves, that will be suspended at any one time.

4.2.4 A device capable of delivering a minimum of 1 000 ml water.

4.2.5 An alternative means of holding the glove may be used. The apparatus shall be capable of securing the glove on a mandrel, with a diameter appropriate to fit the glove, so that it can be filled with water to within 40 mm from the edge of the liquid proof area. It shall be capable of holding water in excess of that required to fill the glove.

5 Procedure

5.1 General

Carefully remove the glove from the wrapper, box or its packaging. Record the identity code, lot number, size and brand of samples. Visually examine for tears, rips and holes. If these are present, the gloves shall be reported as having failed.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

5.2 Air leak test

5.2.1 The glove is fastened to the circular mandrel and is inflated after immersion at ambient temperature, with air, to a gauge pressure of X kPa (see table 1) plus an overpressure of 1 kPa per 100 mm of immersion measured at the fingertips. For example, for 250 mm of immersion at the fingertips, 2,5 kPa shall be added to the air pressure specified in table 1.

SIST EN 374-2:2003
https://standards.iteh.ai/catalog/standards/sist/ab818ee1-31c5-48b4-87a2-cf757c09428b/sist-en-374-2-2003

The inflation pressure shall be reached with a ± 10 % limit deviation within 2 min and the control of possible air bubbles shall take maximum an additional 30 s.

Table 1

Nominal glove thickness (e) mm As provided by the manufacturer	Air pressure (X) kPa
e ≤ 0,3	0,5
0,3 < e ≤ 0,5	2,0
0,5 < e ≤ 1,0	5,0
e > 1,0	6,0

5.2.2 For gloves up to 250 mm in length the immersion shall be carried out with the hand vertically downwards so that the water covers the maximum possible surface of the glove.

For gloves over 250 mm in length the immersion is to be carried out, with the hand at a downward angle, to a vertical depth of (250 ± 10) mm above the tip of the middle finger and so that the water covers the maximum possible surface of the glove. Rotate the mandrel and examine the whole glove surface for the emergence of air bubbles (see figure 2).

5.3 Water leak test

5.3.1 The glove is attached to open-ended plastic tube by bringing the edge of the cuff to the 40 mm mark (see figure 3) and fastening it with the elastic strap to make a watertight seal.

5.3.2 A minimum of 1 000 ml of water is added through the tube to fill the glove completely and to reach at least the 40 mm mark level of the liquidproof area of the glove. The water shall be at ambient temperature.

NOTE 1 Some of the 1 000 ml of water may remain in the fill tube depending on the glove being tested.

NOTE 2 If it is required, the glove can be supported by some suitable means in order to avoid excessive distortion from the weight of water.

5.3.3 The gloves are examined immediately for water leaks. The glove should not be squeezed. Only minimal handling is required to detect leaks. Water droplets may be blotted to confirm leakage, or talcum powder may be used to enhance droplet visibility.

5.3.4 If the glove does not leak immediately, the tube with the glove attached is suspended vertically (see figure 4) and re-examined 2 min after the initial addition of water. Again, using minimum handling, the glove surface is checked for leaks.

6 Test report

The test report shall include:

iTeh STANDARD PREVIEW
(standards.iteh.ai)

— Full identity of the tested glove;

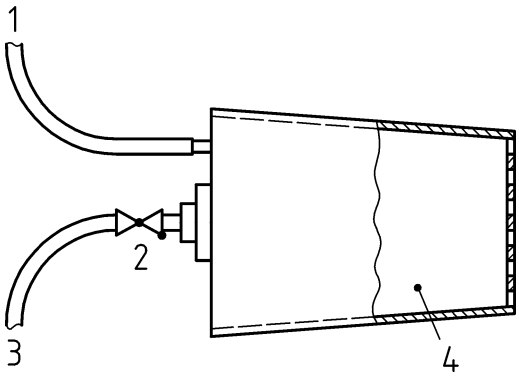
— Visual inspection: pass or fail;

SIST EN 374-2:2003
https://standards.iteh.ai/catalog/standards/sist/ab8f8eef-31c5-48b4-87a2-cf757e09428b/sist-en-374-2-2003

— Air leak test and water leak test: pass or fail;

— For the air leak test: air pressure used;

— Reason of non testing of any of the penetration tests.

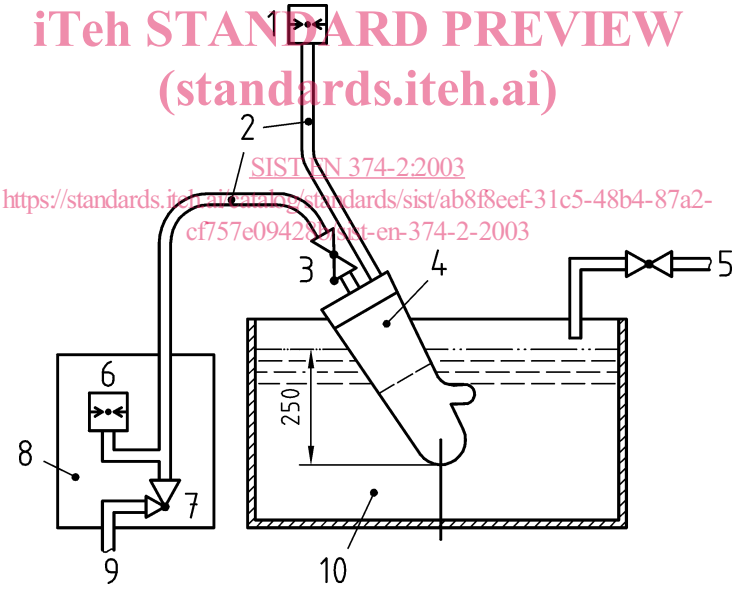


Key

1 To pressure gauge
2 Non-return valve
3 To instrument panel
4 Circular fixing mandrel

Figure 1 — Enlarged detail of the circular fixing mandrel

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 374-2:2003
https://standards.iteh.ai/catalog/standards/sist/ab8f8eef-31c5-48b4-87a2-cf757e09428d/sist-en-374-2-2003



Key

1 Pressure gauge
2 Flexible pipes
3 Non return valve
4 Circular fixing mandrel
5 Water supply
6 Pressure gauge
7 Pressure regulator
8 Instrument panel
9 Compressed air supply
10 Tank

Figure 2 — Typical arrangement of air pressure testing apparatus