EN Standards Guide

Ansell summary guide to EN Standards that govern EU certified hand protection.

Version 1.0 | 2016

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Contents

About the PPE Legislation

During 1989 and 1990 the European Council of Ministers approved a proposal made by the European Commission to outline a framework for a new Directive on health and safety. The Directive included a specific and important pledge: to improve health and safe conditions for all European workers. This commitment to best practices is part of a legally binding Framework Directive known as 89/391/EEC, which defines broad guidelines for health and safety in the workplace. Directive 89/391/EE places responsibility on employers to ensure the well being of their company's workforce. In order to comply, employers must prove they are providing their workers with protective gloves for their intended tasks that are of the highest quality, adhere to the Directive, and meet all relevant safety standards.

89/391/EEC is supported by several daughter Directives. Directive 89/656/EEC, otherwise referred to as, "The Use of Personal Protective Equipment Directive" directly governs the use of protective equipment.

Working with Ansell

All The Support You Need to Make the Safest Choice

No glove manufacturer is better equipped than Ansell to help employers understand the legislative PPE requirements and support the safest choice for their workforce. As the global leader in hand protection, we offer a comprehensive portfolio of gloves that match the spirit and the letter of the European Regulations.

You can be confident that any Ansell safety product will be compliant with the most state of the art PPE standards, as well as manufactured, tested, packaged, and documented strictly in accordance with current European legislations.

Ansell frequently defines quality control requirements for its own gloves that go beyond the regulations required by law. Ansell also provides documentation that includes highly detailed glove descriptions and material compositions to help guide your choices. If you would like any further help in confirming your glove selection or determining the best-suited glove for a specific task, contact your Ansell representative. Your representative can schedule a visit by a hand safety expert to observe your gloves in action and recommend the optimum gloves for your specific workplace.

For more information, visit us at **www.ansell.com**

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Provision of PPE 89/656/EEC

Four articles in the Directive merit particular attention, as they place substantial responsibilities on employers:

ARTICLE 3

Article 3 states that Personal Protective Equipment (PPE) shall be used when risks cannot be avoided. Basic risk assessments are required, and must be conducted at all workplaces to identify and evaluate risk levels.

ARTICLE 4

Under Article 4, the employer must inform his workers of the evaluated risks in the workplace, supply appropriate and correctly fitting PPE in compliance with EU standards, and give adequate instruction on the use of PPE. Employers must ensure that all PPE is used only for the purpose intended by the manufacturer, and in accordance with the manufacturer's instructions.

ARTICLE 5

Article 5 requires the employer to:

1. Audit workplace hazards and assess the level of risk to employees.
2. Define the properties necessary in the gloves to protect the employees.
3. Ensure that all gloves used in the workplace conform to the PPE Directive.
4. Compare the merits of the various types of protection available.
5. Keep full records of assessments and reasons for selecting a particular type of glove. If the risk should change in any way, for example, by the introduction of a new chemical or industrial process, the assessment and selection process must be repeated.

ARTICLE 6

Finally, Article 6 requires Member States to introduce written rules for workplace situations in which the use of PPE shall be considered compulsory. Employers will have to be aware of the rules and comply with them fully.

To remain in accordance with the regulations, employers must select Personal Protective Equipment that not only adheres to the applicable PPE legislation and relevant safety standards, but is also of demonstrably of good quality and best suited for the intended task.

Complying with New PPE Regulation

In February 2016, the European Council and European Parliament amended and approved a new PPE Regulation proposed by the European Commission. This New PPE Regulation will replace the original PPE Directive 89/686/EEC that was introduced in 1992.

The new Regulation will now apply to private use as protection against heat (e.g., oven gloves) and to distributors selling PPE products. It provides additional conformity assessment requirements, such as the need for an internal production control system and valid Type-examination certificates for a maximum of 5 years. The Regulation also provides specific requirements for every economic operator involved in the supply chain, as well as additional documentation requirements linked to the Instructions for Use and Conformity Declarations.

The new PPE regulation now specifies three classes based on risk definitions.

CE

Category I:

Minimal Risk

For gloves of simple design offering protection from low level risks, (e.g., janitorial gloves) manufacturers are permitted to test and certify gloves themselves.

Category II:

Risks other than those listed in Categories I and III

PPE designed to protect against intermediate risk (e.g., general handling gloves which require cut, puncture, and abrasion protection) must be subjected to independent testing and certification by a notified body. Only these approved bodies may issue a CE mark. Without a proper CE mark the gloves may not be sold or used. Each notified body has its own identification number. The name and address of the notified body that certifies the product must appear on the Instructions for Use wthat will accompany the gloves.

CE 0493

Category III:

Very serious risks, which may cause death or irreversible damage to health

PPE designed to protect against the highest levels of risk (e.g., chemicals, biological agents, electric shock and live working) must also be tested and certified by a notified body. In addition, the quality assurance system used by the manufacturer to guarantee homogeneity of production must be independently checked. The body carrying out this evaluation must also appear on the Instructions for Use and be identified by a number that appears alongside the CE mark, in this case the number is 0493.


HyFlex

General Requirements for Protective Gloves

Ansell is the glove safety expert. You can be assured that each of our products meets and often exceeds the general requirements, construction, comfort, efficiency, and marking.

Standard EN420: 2003

General requirements for protective gloves

Scope

This standard defines the general requirements for glove design and construction, innocuousness, comfort, efficiency, marking, and information applicable to all protective gloves. This standard can also apply to arm guards.

The key points are given below. Some gloves designed for very specialized applications, such as electrician's or surgical gloves, are governed by other stringent job-specific standards. (Details are available on request.)

Definition

A **glove** is an item of personal protective equipment that protects the hand or any part of the hand from hazards. It may also cover part of the forearm and arm.

Performance levels show how a glove has performed in a specific test, and by which the results of that testing may be graded. Level 0 indicates that the glove is either untested or falls below the minimum performance level. Higher numbers indicate higher levels of performance. A performance level X means that the test method is not suitable for the glove sample.

Requirements

Glove construction and design

- Gloves have to offer the greatest possible degree of protection in the foreseeable conditions of end use.
- When seams are included, the strength of these seams should not reduce the overall performance of the glove.

Innocuousness

- The gloves themselves shouldn't cause any harm to the user.
- pH of the glove should be between 3.5 and 9.5.
- Chromium (VI) content should be below detection (< 3 ppm).
- Natural rubber gloves shall be tested on extractable proteins as per EN 455-3.

Cleaning Instructions

If care instructions are provided, the levels of performance should not be reduced after the maximum recommended number of cleaning cycles.

Electrostatic Properties

- Anti-static gloves that are designed to reduce the risk of electrostatic discharges shall be tested as per EN 1149.
- Obtained test values are to be reported on the instructions for use.
- An electrostatic pictogram shall NOT be used.

Water Vapour Transmission and Absorption

- If required, gloves shall allow water vapour transmission (5mg/cm2.h).
- If a glove excludes water vapour transmission, it should be at least 8 mg/cm2 for 8 hours.

Marking & Information

Marking of the glove

- Each glove should be marked with:
  - Name of manufacturer
  - Glove and size designation
  - CE mark
  - Appropriate pictograms accompanied by the relevant performance levels and the reference of the EN standard
- The marking should be legible throughout the life of the glove. Where marking of the glove is not possible in view of the characteristics of the glove, it should be mentioned on the first packaging enclosure.

Marking of the packaging immediately containing the gloves

- Name and address of the manufacturer or representative
- Glove and size designation
- CE mark
- Usage info
  - simple design: 'For minimal risks only'
  - intermediate design or complex design: relevant pictograms
- When protection is limited to part of the hand, this shall be mentioned (e.g., 'palm protection style only').
- Reference to where information can be obtained

Standard EN420: 2003

General requirements for protective gloves

Instructions for use
(to be supplied when the glove is placed on the market)

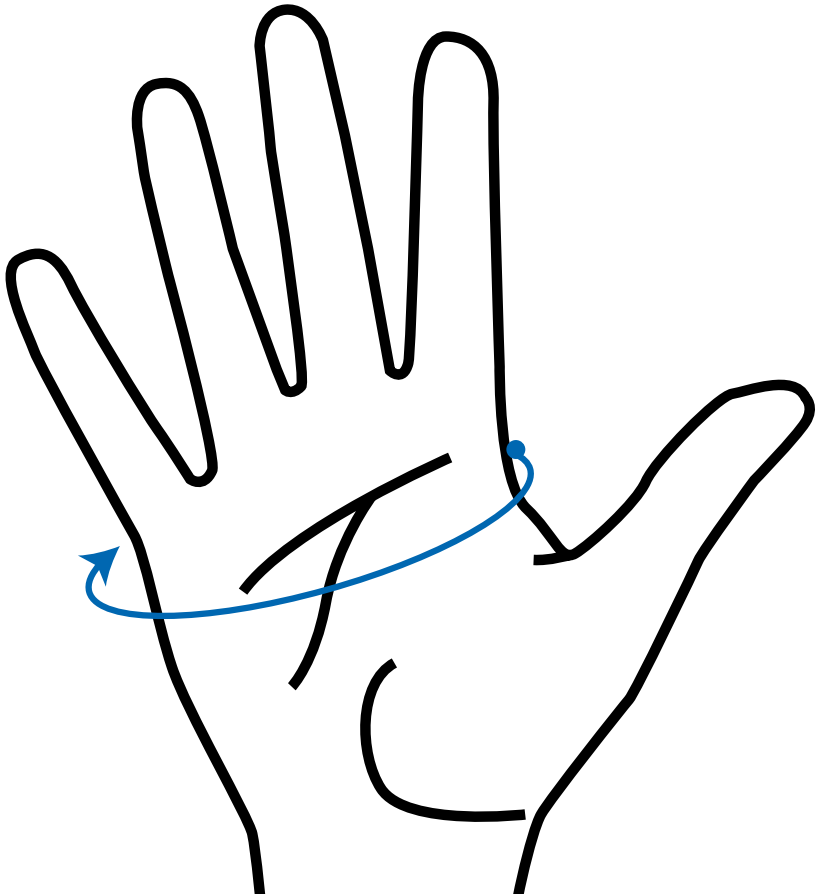
- Name and address of the manufacturer or representative
- Glove designation
- Size range available
- CE mark
- Care & storage instructions
- Instructions and limitations of use
- A list of substances used in the glove that are known to cause allergies
- A list of all substances in the glove will be made available upon request
- Name and address of notified body that certified the product

Glove Sizing Chart

Correct sizing is essential for ensuring glove comfort. The ideal way to determine glove size is with a dressmaker's cloth tape. Use it to measure the circumference of the palm of the hand at its widest point (in mm or in inches). Cross reference that measurement against the table provided here.

Measuring hands in this manner will not account for all possible variations in hand size. For instance, the length of a worker's fingers may be longer or shorter than average. In that case, gloves that are one-half or even a full size larger or smaller than the measured hand size may fit more comfortably.

	XS	S	M	L	XL	XXL
SIZE	**6**	**7**	**8**	**9**	**10**	**11**
CUFF COLOR	**Purple**	**Red**	**Yellow**	**Brown**	**Black**	**Lt. Blue**
HAND CIRCUMFERENCE	152 mm	178 mm	203 mm	229 mm	254 mm	279 mm

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Mechanical Protection

Guidelines for gloves worn by workers who require protection against objects that can abrade, cut, or puncture the skin, without sacrificing comfort or dexterity on the job.

Standard EN388: 2016

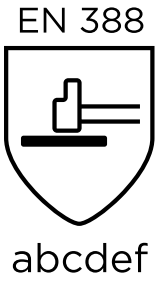
Gloves giving protection from mechanical risks

Scope

This standard applies to all kinds of protective gloves in respect of physical and mechanical aggressions caused by abrasion, blade cut, puncture, and tearing.

Defintion & Requirements

Protection against mechanical hazards is expressed by a pictogram followed by four numbers (performance levels), each representing test performance against a specific hazard, and two letters. The letter in the fifth position corresponds to an ISO Cut Resistance level. A letter “P” in the sixth position is for gloves certified to provide impact protection.



The ‘mechanical risks’ pictogram is accompanied by a 6-unit code (a-f).

a. Abrasion Resistance
Based on the number of cycles required to abrade through the sample glove.

b. Blade Cut Resistance
Based on the number of cycles required to cut through the sample at a constant speed.

c. Tear Resistance
Based on the amount of force required to tear the sample.

d. Puncture Resistance
Based on the amount of force required to pierce the sample with a standard-sized point.

e. ISO Cut Resistance
Based on the force required to cut through a sample using a specified cut test machine (i.e., Tomodynamometer) under specified conditions.

f. EN Impact Protection
Based on the measured transmission of energy and force when the sample experiences a dropped load.

Performance Level Rating

	1	2	3	4	5
a Abrasion Resistance *(cycles)*	100	500	2000	8000	–
b Blade Cut Resistance *(number)*	1.2	2.5	5.0	10.0	20.0
c Tear Resistance *(Newtons)*	10	25	50	75	–
d Puncture Resistance *(Newtons)*	20	60	100	150	–

	a	b	c	d	e	f
e ISO Cut Resistance *(Newtons)*	2	5	10	15	22	30
f EN Impact Protection	**PASS** (P) **or FAIL** (no marking)					

Level X can also be applied for a – f above, which means "not tested" or "not applicable"

These performance levels must be prominently displayed alongside the pictogram on the gloves and on the packaging that immediately contains the gloves.

Chemical & Micro-Organism Protection

Guidelines for gloves worn by workers who require protection from chemicals and/or micro-organisms that could irritate the skin.

Standard prEN ISO 374: 2016

Gloves giving protection from chemicals and micro-organisms

Scope

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

Defintions

Penetration

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

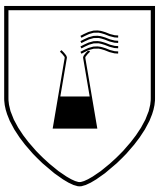
Permeation

The rubber and plastic films in gloves are the barriers to chemicals. It is therefore necessary to measure breakthrough times, or the time taken for the hazardous liquid to come in contact with the skin. Each chemical tested is classified in terms of breakthrough time performance level 0 to 6.

BREAKTHROUGH TIME	PROTECTION INDEX	BREAKTHROUGH TIME	PROTECTION INDEX
> 10 minutes	Level 1	> 120 minutes	Level 4
> 30 minutes	Level 2	> 240 minutes	Level 5
> 60 minutes	Level 3	> 480 minutes	Level 6

Degradation

Sometimes chemical protective gloves can act as sponges, soaking up the liquids and holding them against the skin. This degrades the glove. Degradation is the deleterious change in one or more properties of a protective glove material due to contact with a chemical. Indications of degradation are flaking, swelling, disintegration, embrittlement, colour change, dimensional change, change in appearance, hardening, softening, etc.



Requirements

Chemical protective gloves:

Penetration: A glove shall not leak when tested with an air and water leak test, and shall be tested and inspected in compliance with the acceptable quality level.

Permeation: A glove shall pass the minimum requirements of Type C, at least Level 1 (more than 10 min) against one chemical on the list of chemicals defined in part 1.

Degradation: The change of puncture resistance after chemical contact shall be tested for all claimed chemicals on the glove and the result mentioned in the instructions for use.

Long gloves: If the length of the chemical protective glove is ≥ 40 cm, the cuff area must also be tested for permeation.

Micro-organism protective gloves:

Penetration: These gloves have the same requirements as for chemical gloves, if protection against bacteria and fungi is claimed.

Virus protection: These gloves have an additional test as per ISO 16604, if virus protection is claimed.

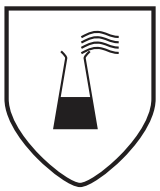
Long gloves: If the length of the chemical protective glove is ≥ 40 cm, the cuff area must also be tested for virus penetration.

⚠ **WARNING:**
The chemical data information does not necessarily reflect the actual duration in the workplace.

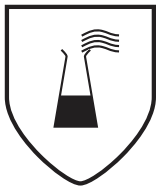
Standard prEN ISO 374: 2016

Gloves giving protection from chemicals and micro-organisms

EN ISO 374-1/Type C

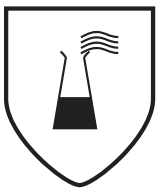


EN ISO 374-1/Type B



XYZ

EN ISO 374-1/Type A



UVWXYZ

Marking Chemical Protective Gloves

The 'chemical resistant' glove pictogram must be accompanied by digit code letters for Type A and Type B gloves. Type C marked gloves are without any digit code letter.

These codes letters refer to a list of chemicals defined by the standard (see next page). The minimum breakthrough time for a Type C glove is 10 mins for one chemical, for a Type B it is 30 mins for at least 3 chemicals, and for Type A it is 30 mins for at least 6 chemicals on the list.

Marking & Information

- CE mark
- Care & storage instruction
- Instructions and limitations of use
- Degradation results on claimed chemicals
- A list of substances used in the glove which are known to cause allergies
- A list of all substances in the glove shall be made available upon request
- Name and address of notified body that certified the product

Check the chemical tool
on Ansell's website at http://industrialcatalogue.ansell.eu/en/chemicalagents

Defined Chemicals

CODE LETTER	CHEMICAL	CAS NUMBER	CLASS
A	Methanol	67-56-1	Primary alcohol
B	Acetone	67-64-1	Ketone
C	Acetonitrile	75-05-8	Nitrile compound
D	Dichloromethane	75-09-2	Chlorinated hydrocarbon
E	Carbon disulphide	75-15-0	Sulphur containing organic compound
F	Toluene	108-88-3	Aromatic hydrocarbon
G	Diethylamine	109-89-7	Amine
H	Tetrahydrofuran	109-99-9	Heterocyclic and ether compound
I	Ethyl acetate	141-78-6	Ester
J	n-Heptane	142-82-5	Saturated hydrocarbon
K	Sodium hydroxide 40%	1310-73-2	Inorganic base
L	Sulphuric acid 96%	7664-93-9	Inorganic mineral acid, oxidizing
M	Nitric acid 65%	7697-37-2	Inorganic mineral acid, oxidizing
N	Acetic acid 99%	64-19-7	Organic acid
O	Ammonia 25%	1336-21-6	Organic base
P	Hydrogen peroxide 30%	7722-84-1	Peroxide
S	Hydrofluoric acid 40%	7664-39-3	Inorganic mineral acid
T	Formaldehyde 37%	50-00-0	Aldehyde

Standard EN374: 2016

Gloves giving protection from chemicals and micro-organisms

EN ISO 374-5

EN ISO 374-5

VIRUS

Marking Gloves Protective Against Micro-Organisms

For gloves protective against bacteria and fungi, the biohazard pictogram is applied. For this the protective glove must be tested according to EN374-2:2013 for leakage proofness.

For protection against bacteria, fungi, and virus, the biohazard pictogram is accompanied with the term “VIRUS“, underneath. For this protective standard, the glove must be tested according to EN374-2:2013 for bacteria and fungi and tested according to ISO16604: 2004 (Method B) using the bacteriophage penetration test.

Note:
With this standard, protective gloves against micro-organisms can be claimed with or without chemical protection and vice versa.

Standard EN16778: 2016

For measuring dimethylforamide (DMF or DMFa) in gloves

Scope

This standard specifies a test method for the determination of dimethylformamide (CAS 68-12-2) in glove materials.

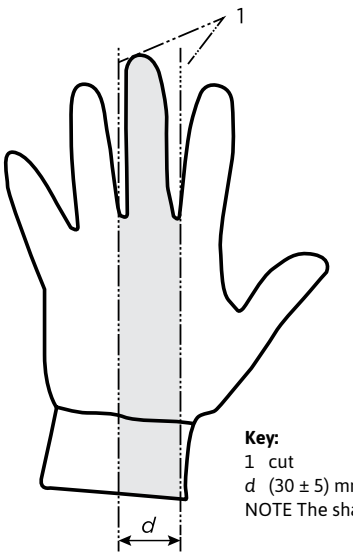
Defintion

Dimethylformamide, also often abbreviated as DMF, DMFa, or DMFo, is a volatile solvent that is hazardous by inhalation and can also penetrate the skin. No specific regulatory guidance currently exists related to dermal contact exposure.

This EN 16778 Standard defines a harmonized test method (NOT a requirement nor a limit) to measure DMFa content in glove materials.

Testing Methodology

Two test samples – as shown per below illustration below – from one pair of gloves are tested under specific conditions defined in this standard.



Key:
1 cut
d (30 ± 5) mm
NOTE The shaded area is the test piece

Figure 1 — Cutting of the test piece

Extraction is carried out during 30 minutes at 70°C, using methanol as the extraction medium. The DMFa is then analysed and measured by gas chromatograph/mass spectrometry. Result is based on the average of two obtained values and can be made available upon request.

Thermal Protection

Guidelines for gloves worn by workers who require protection from heat, cold, or fire and, other thermal conditions.

Standard EN407: 2004

Gloves giving protection from heat and/or fire hazards

EN 407

abcdef

Scope

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

Definitions & Requirements

The 'heat and flame' pictogram is accompanied by a 6-digit number:

a. Resistance to Flammability *(performance level 0–4)*
Based on the length of time the material continues to burn and glow after the source of ignition is removed. The seams of the glove shall not come apart after an ignition time of 15 seconds.

b. Contact Heat Resistance *(performance level 0–4)*
Based on the temperature range (100–500°C) at which the user will feel no pain for at least 15 seconds. If an EN level 3 or higher is obtained, the product shall record at least EN level 3 in the flammability test. Otherwise, the maximum contact heat level shall be reported as level 2.

c. Convective Heat Resistance *(performance level 0–4)*
Based on the length of time the glove is able to delay the transfer of heat from a flame. A level of performance shall only be mentioned if a performance level 3 or 4 is obtained in the flammability test.

d. Radiant Heat Resistance *(performance level 0–4)*
Based on the length of time the glove is able to delay the transfer of heat when exposed to a radiant heat source. A performance level shall only be mentioned if a performance level 3 or 4 is obtained in the flammability test.

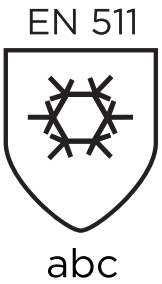
e. Resistance to Small Splashes of Molten Metal *(performance level 0–4)*
The number of molten metal drops required to heat the glove sample to a given level. A performance level shall only be mentioned if a performance level 3 or 4 is obtained in the flammability test.

f. Resistance to Large Quantities of Molten Metal *(performance level 0–4)*
The weight of molten metal required to cause smoothing or pinholing across a simulated skin placed directly behind the glove sample. The test is failed if metal droplets remain stuck to the glove material or if the specimen ignites.

All EN407-rated gloves must also achieve at least performance level 1 for abrasion and tear.

Standard EN511: 2006

Gloves giving protection from cold



Scope

This standard applies to any gloves that protect, against convective and contact cold down to -50°C.

Definitions & Requirements

Protection against cold is expressed by a pictogram followed by a series of three performance levels, relating to specific protective qualities.

The 'cold hazard' pictogram is accompanied by a 3-digit number:

a. Resistance to Convective Cold *(performance level 0–4)*
Based on the thermal insulation properties of the glove, which are obtained by measuring the transfer of cold via convection.

b. Resistance to Contact Cold *(performance level 0–4)*
Based on the thermal resistance of the glove material when exposed to contact with a cold object.

c. Penetration by Water *(0 or 1)*
0 = water penetration
1 = no water penetration

All EN511-rated gloves must achieve at least performance level 1 for abrasion and tear.

Radioactive Contamination & Ionising Radiation Protection

Guidelines for gloves worn by workers who require protection from the dangers of radioactive contamination and ionising radiation.

Standard EN421: 2010

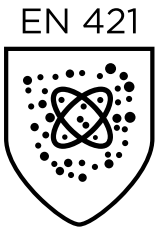
Gloves giving protection from radioactive contamination and ionising radiation

Scope

This standard applies to gloves that protect from ionising radiation and radioactive contamination.

Defintions & Requirements

The nature of protection is shown by a pictogram relating to the specific protective qualities.

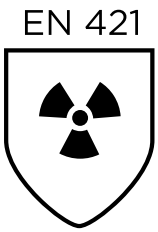


Radioactive Contamination

To protect from radioactive contamination, the glove has to be **liquid proof** and needs to pass the penetration test defined in EN374.

For gloves used in containment enclosures, the glove shall pass an additional specific air pressure leak test.

Materials may be mottled by their behaviour to ozone cracking. This test is optional and can be used as an aid to selecting gloves.



Ionising Radiation

To protect from ionising radiation, the glove has to contain a certain **amount of lead or equivalent metal**, quoted as lead equivalence. This lead equivalence must be marked on each glove.


11-101
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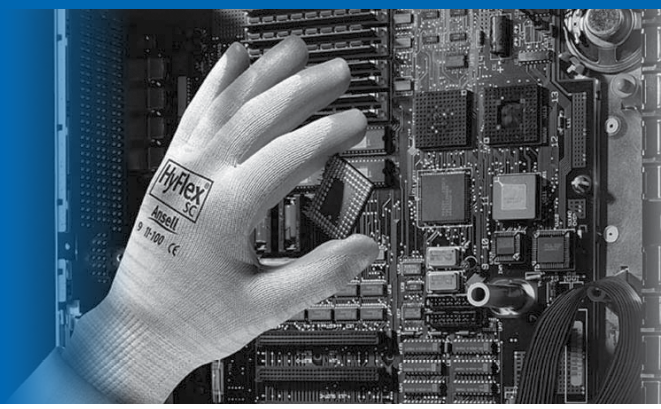
EN388

Electrostatic Protection

Guidelines for gloves worn by workers who require protection in explosive (ATEX) environments or settings that increase the risk of electrostatic charges.

Standard EN1149

Electrostatic Properties



Scope

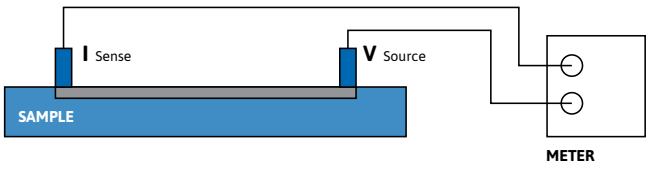
This standard specifies the requirements and test methods for materials used in the manufacturing of electrostatic dissipative protective clothing (gloves) to avoid electrostatic discharges.

Definition & Requirements

As per EN420: 2003, it is defined that the electrostatic properties shall be tested as per the test methods described in EN1149.

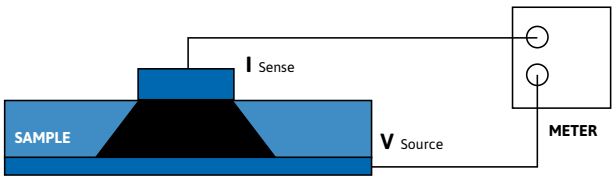
EN1149-1: 2006

Part 1 defines the test to measure surface resistivity/ resistance (Ω) = resistance in ohms along the surface of the material, between two specified electrodes (resting on the test specimen) and a potential of 100±5V.



EN1149-2: 1997

Part 2 defines the test to measure vertical resistance (Ω) = resistance in ohms through a material, between two electrodes placed on opposite surfaces of the test specimen and a potential of 100±5V.



EN1149-3: 2004

Part 3 defines the test to measure the half decay time T_{50} (s) = the time it takes for a material to achieve a 50% decay of a charge induced on the material via an electrode.

EN1149-5: 2007

Part 5 defines the criteria to claim antistaticity for gloves:

- Surface resistance < 2.5×10^9 Ω (or Surface resistivity < 5×10^{10} Ω) or
- Charge decay time T_{50} < 4s
- For vertical resistance (Ω), there are no set criteria defined.

As per the EN420 standard, no anti-static pictogram shall be used.

Standard EN16350

Electrostatic Properties for protective gloves to be used in explosive (ATEX) environments

Scope

This standard requires each material in the glove to have a low vertical resistance, defined to be < 10^8 ohms. It is for use in explosive environments where EN1149 may not always be appropriate.

Defintions & Requirements

- Vertical resistance for each material < 1.0 X 10^8 ohm (in case of unbonded materials, they shall be tested together)
- Test to be carried out according EN1149-2 (temperature 23°C and R.H. 25%)

Markings

Glove markings should match those of EN420: 2003.


Marigold Industrial
STYLE: M60605
CLASS "0"
GLOVE PROTECTOR
WEAR OVER SIZE 10
10" O.A.L.

Electrical Insulation Protection

Guidelines for insulating gloves and mitts, which are worn in conjunction with leather protective gloves for workers who require protection from mechanical and thermal hazards.

Standard EN60903: 2003

Live working – electrical insulating gloves

Scope

This standard applies to insulating gloves and mitts (both lined and unlined) designed to protect the wearer from electrical shock in live working conditions. Rubber insulating gloves should normally be used in conjunction with leather protector gloves, which are worn over the insulating gloves to provide mechanical protection.

Requirements

An insulating glove for live working is a Category III product as defined by the PPE regulation. A certified glove for live working needs to be compliant with the EN420 requirements, pass all required tests and meet several requirements as per EN60903 including mechanical, thermal (for low temperature), flame retardancy, and ageing.

Depending on their application specific properties (= resistance), **rubber insulating gloves** can be additionally tested:

Acid: satisfactory mechanical and di-electrical performance after immersion in high concentrated sulfuric acid.

Oil: satisfactory mechanical and di-electrical performance after immersion in oil.

Ozone: satisfactory surface quality (cracking) and di-electrical performance after contact with a high concentration of ozone.

Very low temperature: satisfactory if no tearing, breaking or cracking when folded after 24h at -40°C.

Harmful physical irregularities are not allowed and each single glove must be individually inspected and **di-electrically** tested.

The insulating gloves can cover six different protection classes from 500 to 36,000 Volts AC depending on their single wall thickness.

CLASS OF GLOVE	MAXIMUM USE VOLTAGE (V AC)	AC PROOF TEST VOLTAGE (V AC)	SINGLE WALL THICKNESS IN MM
00	500	2.500	0.5
0	1000	5.000	1.0
1	7500	10.000	1.5
2	17000	20.000	2.3
3	26500	30.000	2.9
4	36000	40.000	3.6

Periodic inspection and electrical retesting

Classes 1, 2, 3, and 4, even those held in storage, should be visually and di-electrically re-tested every 6 months.
For classes 0 and 00, the visual inspection is sufficient.

CE 0493

Marking and Information

In addition to the identity of the manufacturer, product, and size designation, the relevant standards (EN60903 and EN420: "CE"-mark), and the relevant pictogram (double triangle and open book pictogram), the marking can include — if applicable — a category that denotes the gloves' resistance to these specific hazards:

CATEGORY H: Oil resistance

CATEGORY A: Resistance to acid

CATEGORY Z: Resistance to ozone

CATEGORY C: Resistance to very low temperatures

CATEGORY R: Categories H + A + Z (above)

Note:

Composite Gloves

For insulating gloves made of specific material (non-natural rubber) additional tests in abrasion (weight reduction) and cut (minimum level 2) are required. Electrical insulating gloves are provided with additional integrated mechanical protection. Composite gloves are identified with an additional mechanical symbol (hammer) and they are usually worn without over-gloves.

CLASS	THICKNESS (MM)	
	GLOVES	COMPOSITE GLOVES
00	.50	1.8
0	1.0	2.3
1	1.5	2.8
2	2.3	3.3
3	2.9	3.6
4	3.6	4.2

Welding Protection

Guidelines for gloves worn by workers who require protection from heat and flame during manual welding, cutting, and allied processes.

Standard EN12477: 2001

Gloves giving protection from manual metal welding

Scope

This standard applies to protective gloves for use in manual metal welding, cutting, and allied processes.

Requirements

EN12477: Protective gloves for welders

Standard for manual metal welding

Compliance with EN420 except for lengths:

- 300 mm: Size 6
- 310 mm: Size 7
- 320 mm: Size 8
- 330 mm: Size 9
- 340 mm: Size 10
- 350 mm: Size 11

REQUIREMENTS (EN LEVELS)	**TYPE A**	**TYPE B** (HIGH DEXTERITY, TIG, WELDING)
Abrasion	2	1
Cut	1	1
Tear	2	1
Puncture	2	1
Burning Behaviour	3	2
Contact Heat	1	1
Convective Heat	2	-
Small Splashes	3	2
Dexterity	1	4

Type B gloves are recommended when high dexterity is required (e.g., TIG welding), while Type A gloves are recommended for other welding processes. Type A or B is to be marked on the product, its packaging, and in the instructions for use.

Other Regulations

TR CU 019/2011 Customs Union Russian Federation

Scope

This new standard was developed in response to the now-outdated design of the GOST R standards and the challenge of harmonizing them with international norms.

Defintions

There are now four harmonized standards for hand protection in use in Russia, Belarus, and Kazakhstan:

GOST EN388-2012: Gloves giving protection from mechanical risks.
Technical requirements and test methods identical to EN388: 2003.

GOST R EN374-2009: Gloves giving protection from chemicals and micro-organisms.
General technical requirements and methods of testing identical to EN374-1,2,3: 2003.

GOST EN407-2012: Gloves giving protection from heat and fire.
Technical requirements and test methods identical to EN407: 2004.

GOST EN511-2012: Gloves giving protection from cold.
General technical requirements and test methods identical to EN511: 2006.

EAC
ТРТС019/2011

Marking and Information

Each glove that will be used in Russia, Belarus, or Kazakhstan should be marked with EAC, which stands for “Eurasian Conformity” (Eurasian Compliance), as well as the identification of the manufacturer, product and size designation, the number of the regulation, any other relevant pictograms, and an instructions for use in the Russian language.

REACH

Registration, Evaluation, Authorisation and Restrictions of Chemicals

What is REACH?

Workers in the European Union are reporting an increasing incidence of allergies, asthma, and certain forms of cancer that are suspected to be a result of exposure to workplace chemicals. In 2003 the European Commission responded with a proposal to create a new regulatory agency for workplace chemical exposure called REACH, which stands for Registration, Evaluation, Authorisation & Restriction of Chemicals. The REACH program, based on that proposal, was enacted on June 1, 2007. It has improved the protection of human health for EU workers by prioritising dangerous substances, increasing the responsibility of employers to provide protection from identified chemical risks, and educating them about how to comply.

The Purpose of REACH

The goal of REACH is to protect both human health and the environment by eventually eliminating, or severely restricting, Substances of Very High Concern (SVHC) from the EU market. Currently more than 900 chemicals have been identified as SVHC. REACH encourages manufacturers to search for safer alternatives and solutions.

Flow

1. Specify the most concerning properties of chemicals
2. Identify and prioritize chemicals with these properties
3. Define restriction criteria for these properties
4. Restrict and/or ban chemicals with these profiles

Substances of Very High Concern (SVHC) Used in Articles

In 2008 REACH published the first official Candidate List of SVHC chemicals. Every 6 months the list is amended to incorporate updated information. Companies that manufacture articles containing over .01% of any of these chemicals have an obligation to inform all those involved in their supply chain. Companies are also required to inform the European Chemicals Agency (ECHA) if they import more than 1 ton per year of any chemical on the list for manufacturing use. Companies who comply with these regulations have permission to continue using SVHCs until an official restriction or ban is in place.

Ansell and REACH

All Ansell products fully comply with the legal requirements of REACH and its amendments. We ensure the pre-registration of all required chemicals used in our gloves and are actively looking for ways to replace SVHC chemicals subject to regulation, prior to their restriction or ban.

The Ansell REACH statement can be found on our website and more information is available through the Ansell customer service or regulatory department.

www.ansell.com/enresourcecenter

Ansell is committed to providing the safest and highest quality hand protection available. We guarantee that by choosing our gloves you are meeting EN Standards and offering the best in protection for your workers.

WARNING: No glove completely prevents or eliminates the potential for cuts or abrasions. These gloves are not intended or tested to provide protection against powered blades, serrated, or other sharp or rotating equipment, nor will they completely prevent or eliminate the potential for abrasion-related injuries. Users are encouraged to always use caution and care when handling sharp materials. Product users should conduct all appropriate testing or other evaluations to determine the suitability of Ansell products for a particular purpose or use within a particular environment. ANSELL DISCLAIMS ALL WARRANTIES OTHER THAN AS EXPRESSLY PROVIDED.

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