Glove Standards Explained

EN21420:2020 - All protective gloves must comply with the Standard 'EN21420'. This defines the general requirements for protective gloves, in terms of construction, fitness of purpose, dexterity, size and PH values, along with the comfort, practicality, labelling and information given by the supplier. All gloves should bare the CE Marking for sale in the EU market and the UKCA Marking for sale in the UK.

EN388:2016 + A1:2018 - Protective Gloves Against Mechanical Hazards

ABCDEF

This standard applies to gloves protecting from a mechanical risk, incorporating Abrasion, Cut, Tear and Puncture. All of the tests are carried out under strict laboratory conditions. Although this test allows you to make comparisons between gloves it does not replace the test under real conditions.

A - Abrasion resistance (1 to 4)
B - Cut resistance (1 to 5)
C - Tear resistance (1 to 4)
D - Puncture resistance (1 to 4)
E - Cut performance - ISO13997 (A - F)
F - Impact Protection - (P if applicable)

Where an X is displayed, the test has not been performed or has been superseded.

	1	2	3	4	5	
Abrasion (cycles)	100	500	2000	8000		
Blade Cut (coupe)	1.2	2.5	5	10	20	
Tear (newtons)	10	25	50	75		
Puncture (newtons)	20	60	100	150		
	A	**B**	**C**	**D**	**E**	**F**
ISO13997 (newtons)	2<4.9	5<9.9	10<14.9	15<21.9	22<22.9	>30

EN407 - Protective Gloves Against Thermal Risks

ABCDEF

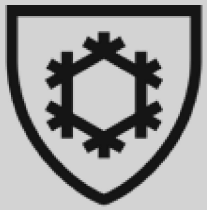
This standard represents a glove's thermal performance when working with heat/fire. The test incorporates Burning Behaviour, Contact Heat, Convective Heat, Radiant Heat, Small Molten Splash and Large Molten Splash. Scores from 1 - 4 (4 being best).

A - Burning behaviour
B - Contact heat
C - Convective heat
D - Radiant heat
E - Small molten splash
F - Large molten splash

Where an X is displayed, the test has not been performed.

	1	2	3	4
After Burn Time (seconds)	≥20	≥10	≥3	≥2
Contact Heat (temp in °C ≥ 15 seconds)	100	250	350	500
Convective Heat (seconds)	≥4	≥7	≥10	≥18
Radiant Heat (seconds)	≥7	≥20	≥50	≥95
Small Molten Splash (no of drops)	≥10	≥15	≥25	≥35
Large Molten Splash (grams)	30	60	120	200

EN511 - Protective Gloves Against Cold



ABC

This standard applies to gloves which protect against Convective and Contact Cold, as well as testing for Water Permeability. To achieve PASS on Water Permeability the glove must show no signs of water penetration for a minimum of 30 minutes. A and C scored from 1 - 4 (4 being best).

A - Convective cold
B - Contact cold
C - Water permeability

Where an X is displayed, the test has not been performed.

	0	1	2	3	4
Convective Cold	>0.10	0.10	0.15	0.22	0.30
Contact Cold	>0.025	0.025	0.050	0.100	0.150
Water Permeability	FAIL	PASS			

EN1186 - Food Safety

Gloves which bare this symbol have been tested and certified for use/contact with food substances or related stuffs (i.e. containers).

Quality is remembered long after price has been forgotten

EN374-1:2016 - Protective Gloves Against Chemicals and Micro-Organisms

This test specifies the requirements for protective gloves intended for use with chemicals and stipulates requirements for permeation, penetration, and degradation.

Gloves are classified as 'Type A', 'Type B', or 'Type C', depending on performance level and the number of chemicals which they protect against.

TYPE A: Achieves level 2 or greater against a minimum of 6 chemicals within the below table.
TYPE B: Achieves level 2 or greater against a minimum of 3 chemicals within the below table.
TYPE C: Achieves level 2 or greater against a minimum of 1 chemicals within the below table.

Please refer to the chemical table below - where codes are noted below the standard shield, they have been certified for use with the product.

Code	Chemical	CAS No	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 Paraffin
E	Carbon Disulphate	75-15-0	Organic Compound Containing Sulphur
F	Toluene	108-88-3	Aromatic Hydrocarbon
G	Diethylamine	109-89-7	Amine
H	Tetrahydrofuran	109-99-9	Heterocyclic & Ether Compound
I	Ethyl Acetate	141-78-6	Ester
J	n-Heptane	142-82-5	Saturated Hydrocarbon
K	40% Sodium Hydroxide	1310-73-2	Inorganic Base
L	96% Sulphuric Acid	7664-93-9	Inorganic Mineral Acid
M	65% Nitric Acid	7697-37-2	Inorganic Mineral Acid
N	99% Acetic Acid	64-19-7	Organic Acid
O	25% Ammonium Hydroxide	1336-21-6	Organic Base
P	30% Hydrogen Peroxide	7722-84-1	Peroxide
S	40% Hydrofolric Acid	7664-39-3	Inorganic Mineral Acid
T	37% Formaldehyde	50-00-0	Aldehyde

EN374-5 - Micro-biological/Virus Protection

VIRUS

This standard specifies performance requirements for gloves that protect against micro-organisms, such as bacteria, viruses, or fungi. Gloves offering protection against Viruses must pass additional penetration tests according to ISO16604:2004 - resistance of protective clothing materials to penetration by blood-borne pathogens.

Gloves longer than 400mm must also have a sample from the cuff area tested (in addition to the palm) to claim protection against this standard.

AQL - Acceptable Quality Level

AQL is an International Quality Standard; Medical or Non-Medical. AQL denotes a statistical measure of the consistency or quality predictor of manufactured goods. Within the context of disposable gloves this specifically refers to the prevalence of pinholes and the barrier protection confidence level. The lower the AQL number, the higher the quality of the glove: An AQL of 1.5 or lower refers to a glove that is fit for medical purposes. An AQL of 4.0 refers to a glove that is fit for non-medical or industrial purposes.

Glove Categories

Safety gloves are split into 3 categories, based on their design and the level of protection they offer.

Category I - Simple Design:
Gloves in this category are self-certified, and suitable for areas of 'minimal risk', where the effects of wearing a glove are easily reversible or superficial. Examples of applications could include: Packing, Lightweight Gardening, or handling objects below 50ºC.

Category II - Intermediate Design:
Gloves in this category will have been EU type tested against applicable European Standards, and certified by a Notified Body. These gloves are for areas of specific risk (i.e. mechanical hazards), and will be of intermediate design - for risks which are neither classified as minimal or irreversible.

Category III - Complex Design:
Gloves in this category are to protect against the highest levels of risk (i.e. irreversible or mortal risks), and are of a complex design. The gloves will have been EU type tested against applicable European Standards, and certified by a Notified Body. Gloves in this category must either be manufactured under an approved quality system or, be subjected to type testing on an annual basis.

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