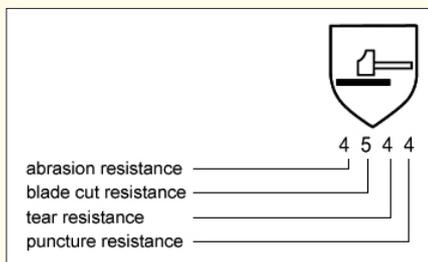


HAND PROTECTION

EN388:2003 Protective gloves against mechanical risks

EN388 is a European standard designed to assess the performance of a fabric or layers of fabric for their ability to resist heavy rubbing, cutting by a blade or sharp object, tearing, and/or puncture by a pointed object. The test procedure includes a separate test for each of these properties, and a performance level is awarded according to each test result.

The diagram below details the testing categories for EN388:2003. A tested item is given a performance rating. All tests are ranked 1-4 (4 being the highest level), except for the blade cut category which is ranked from 1-5 (5 being the highest level).



Abrasion resistance

Based on the number of cycles required to abrade through the sample glove (abrasion by sandpaper under a stipulated pressure). The protection factor is then indicated on a scale from 1 to 4 depending on how many revolutions are required to make a hole in the material.

Blade cut resistance

Based on the number of cycles required to cut through the sample at a constant speed. The protection factor is then indicated on a scale from 1 to 5.

Tear resistance

Based on the amount of force required to tear the sample. The protection factor is then indicated on a scale from 1 to 4.

Puncture resistance

Based on the amount of force required to pierce the sample with a standard sized point. The protection factor is then indicated on a scale from 1 to 4.

The minimum test results required to achieve the various performance levels are listed in this table:

TEST/PROPERTY	PERFORMANCE LEVEL				
	1	2	3	4	5
Abrasion Resistance (cycles)	100	500	5000	8000	-
Blade Cut Resistance (factor)	1.2	2.5	5.0	10.0	20.0
Tear Resistance (newtons)	10	25	50	70	-
Puncture Resistance (newtons)	20	60	100	150	-

EN455 Medical Gloves for Single Use

Comfortable and manufactured from the highest quality materials, our range of disposable gloves are the perfect cost-effective choice for medical, dental, food services, and general industrial use. All gloves in this range have passed the EN455 parts 1, 2, 3 standard.

- **Part 1**
Requirements and Testing for Freedom From Holes
- **Part 2**
Requirements and Testing for Physical Properties
- **Part 3**
Requirements and Testing for Biological Evaluation

EYE PROTECTION

EN166:2001 Personal eye protection

Our products are stamped with the CE mark and EN166 followed by a series of numbers and letters. For example "EN166 1F KN"

Optical class

The number refers to the optical quality of the ocular, ranging between 1 - 3 (class 1 being the highest).

- **Class 1**
is recommended for permanent usage or close up work
- **Class 2**
is usable or intermittent usage
- **Class 3**
only usable for very short duration

Mechanical strength

The letter following the number denotes its strength against impact:

- **S** – increased robustness (oculars only)
- **F** – high speed particles, low energy impact (any type)
- **B** – high speed particles, medium energy impact (goggles and faceshields only)
- **A** – high speed particles, high energy impact (faceshields only)

They may also carry additional letters such as:

- **K** – which denotes they are resistant to surface damage by fine particles (scratch resistant coating)
- **N** – which denotes resistance to fogging (anti-fog coating)

In the given example, **EN166 1F KN**, the product has the highest Optical Class (1), is designed to protect against high speed particles at low energy impact (any type) (F), and has the additional quality of being scratch resistant (K) and anti-fog (N).

HEARING PROTECTION

EN352:2002

Hearing problems occur when you are exposed to hazardous working conditions without wearing the correct protective equipment.

EN352:2002

This standard stipulates that persons working in noise levels between 80dBA (lower action level) and 85dBA must be provided with suitable hearing protection on request. Where noise levels are at or above 85dBA (upper action level), suitable hearing protection **must be** supplied and worn.

All of our hearing protection conforms to one of the following classes:

- EN352-1:2002** Hearing protectors – Ear muffs
- EN352-2:2002** Hearing protectors – Ear-plugs
- EN352-3:2002** Hearing protectors – Helmet mounted earmuffs

All products are marked with a SNR (single number rating) level

SNR is the number of potential decibels the hearing protection will reduce the noise level by once you have established the total noise level if fitted correctly. The aim is to find a suitable product that brings the users noise level down to between 70 and 80 decibels. Over protection can be hazardous as wearers may not be able to hear important every day sounds such as moving vehicles. SNR is only a general means of comparing different sound protection levels for different hearing protection.

FOOTWEAR

EN ISO 20345:2011 Safety Footwear

What you wear on your feet really matters. Getting the right footwear will make life safer and easier. EN ISO 20345:2011 is the latest standard for footwear designed or retested after 2011.

The EN ISO 20345:2011 standard sets out minimum requirements that safety footwear must be successfully tested against.

The standard specifies **all safety footwear must have toe protection against a 200 Joule impact**. (The toecap or midsole will be made of steel unless otherwise stated, as they may be composite, kevlar, or aluminium). In addition, the different protective features of footwear are represented by a combination of letters:

Rating	Features	Key	Description
SB	TC	TC	200 Joule toecap (steel, composite/aluminium)
SB-P	TC + P	A	Antistatic footwear
S1	TC + A + FO + E	E	Energy absorption of heel region
S1-P	TC + A + FO + E + P	FO	Resistance to fuel oil of outsole
S2	TC + A + FO + E + WRU	P	Midsole penetration resistance
S3	TC + A + FO + E + WRU + P	WRU	Water resistant upper
S4	TC + A + FO + E + WP	WP	Waterproof (whole)
S5	TC + A + FO + E + WP + P		

BREATHING PROTECTION

EN149:2001 + A1: 2009 Respiratory protective devices

Selecting and specifying the appropriate respiratory equipment for most people will be a difficult decision. There are multiple factors to consider, as the equipment not only needs to provide the appropriate protection for the job, but must also be comfortable enough for the individual worker to wear during the whole period of the exposure.

4-step method for selecting the right equipment:

1. Identify the hazard; dust, fumes, metal fumes, gas, vapour etc.,
2. Assess the risk; i.e. assess the hazard levels against safety standards and consider any other protection required, e.g. for skin and eyes,
3. Select the correct respirator for the required exposure,
4. Consider training in fitting and proper use to optimise the respiratory protection.

FFP Classification

FFP1, FFP2 and FFP3 are different classes of respirator: they offer different levels of wearer protection, FFP3 being the highest level of protection.

	FFP1 Respirators	FFP2 Respirators	FFP3 Respirators
Protection Factor	APF = 4	APF = 10	APF = 20
Typical application	Low levels of fine dust (up to 4 times Workplace Exposure Limit -WEL), oil and water based mists typically found during hand sanding, drilling and cutting.	Moderate levels of fine dust (up to 10 times WEL), oil and water based mists typically found during plastering, cementing, sanding and wood dust.	Higher levels of fine dusts (up to 20 times WEL), oil and water based mists typically found when handling hazardous powders found in pharmaceutical industry or when working with biological agents and fibres.

When correctly used by a wearer who has passed a face fit test, an FFP1 respirator should reduce the exposure to airborne particles by a factor of 4; an FFP2 respirator by a factor of 10; and a FFP3 respirator by a factor of 20. Filtering face masks will be classified as either single use/single shift (NR), or reusable/more than 1 shift (R).

Slip Resistance

Depending on the test conditions chosen, footwear tested according to the EN standard is now marked with one of the following codes; **SRA, SRB, SRC**.

The codes indicate that the footwear has met the specified resistance requirements when tested as follows:

SRA – tested on ceramic tile floor wetted with sodium Laurel sulphate lubricant,

SRB – tested on smooth steel with glycerol,

SRC – tested under both the above conditions.