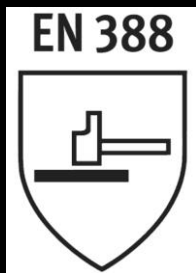


BS EN 388 Information:



To assist the users in the selection of products for a particular application, the EN 388 standard gives an indication as to the performance of the glove in 4 related criteria, by assigning them scores. The criteria are abrasion resistance (1-4), cut resistance (1-5), tear resistance (1-4) and puncture resistance (1-4). The scores for each criteria are then displayed below a pictogram as shown below - this can be found on the back of gloves or on the packaging. (See right)

To assign EN 388 mechanical resistance scores to work gloves, they are tested by an external body in a controlled test environment. The tests are as follows:



Abrasion Resistance (1-4)

Abrasion testing is performed by using samples from key areas of the gloves, such as the palm or fingertips. The glove samples are then rubbed backwards and forwards over an abrasive material, noting the number of cycles completed before breakthrough occurs. The number of cycles completed is what determines a gloves score in this area and thus how resistant it is to abrasions. Please see the table below for an indication of what performance is required to attain each level, 1 is the lowest level, 4 is the highest.

Cut Resistance (1-5)



The cut resistance of a work glove is determined by using a sample of the gloves, a control sample, and a hardened tungsten steel carbide blade. The blade is run back & forth over the sample of the gloves and the control sample with a constant pressure. The cut performance value gives a relative performance of the glove material against a standard or reference material (ascertained by the control sample). The cut resistance performance scale is the only one that goes up to a maximum of 5, level 1 is the lowest, 5 is the highest. To achieve Level 5 cut resistance the glove must be at least 20 times more resistant than the control sample.

Tear Resistance (1-4)

The tear resistance is a relative measure of the force required to tear samples of the gloves. Samples of the gloves are taken and precut to facilitate the tearing test. The level of protection which a glove offers is a reflection of the force required to tear both along and across the direction that the material is oriented in the sample, measured in newtons. Level 1 is the lowest level of protection, level 4 is the highest.

Puncture Resistance (1-4)

To determine puncture resistance, a 4.5mm diameter steel pin stylus with a 30 deg point is pushed through a sample of the glove material. The greater the pressure in newtons required to puncture the surface of the sample, the greater the resistance and thus the higher the score. Level 1 is the lowest level of protection, level 4 is the highest.

Relative Performance Table

The below table gives the rough values required for different levels of each separate test. These values and the tests in their entirety are designed to enable customers to make judge a specific gloves suitability for a specific task or application.

Test	Performance level				
	1	2	3	4	5
Abrasion resistance (cycles)	100	500	2000	8000	-
Blade cut resistance	1.2	2.5	5	10	20
Tear resistance (newtons)	10	25	50	75	-
Puncture resistance (newtons)	20	60	100	150	-