

Hand Protection Test Methods



EUROPEAN DIRECTIVES FOR PERSONAL PROTECTIVE EQUIPMENT

A European Directive establishing harmonized standards for all PPE items used in the European Union went into effect during 2004. Many of our hand protection offerings reflect the CE logo and a 4 digit performance rating that measure abrasion, cut, tear, and puncture resistance (ACTP). Listed below are the four physical tests that are required for protective gloves under European Standard EN388 and the results necessary to obtain each performance level rating.


Criteria		Performance Guide for EN 388: Mechanical Hazards					
	Performance Level	0	1	2	3	4	5
A	Abrasion Resistance (Cycles)	< 100	100+	500+	2000+	8000+	N/A
C	Blade Cut Resistance (Index)	< 1.2	1.2+	2.5+	5.0+	10.0+	20.0+
T	Tear Resistance (Newtons)	< 10	10+	25+	50+	75+	N/A
P	Puncture Resistance (Newtons)	< 20	20+	60+	100+	150+	N/A

A glove's overall performance score is indicated by a series of four numbers (0-4). Note cut resistant scores can reflect 5 as their highest ranking. These four numbers represent (in order) the four test criteria listed above. The higher the numbers, the better the performance. Manufacturers may use an "X" to indicate not tested.

CPPT

ANSI/ISEA 105



In effort for our hand protection industry to have a standard performance level analysis, the International Safety Equipment Association (ISEA) in conjunction with American National Standards Institute (ANSI) created test protocol known as ASTM F1790-97. Many of our cut resistant products reflect scores  based on the portion of this standard for cut resistance which was developed in 1997. This cut protection performance test is often referred to as CPPT. Changes to the cut resistant protocol are pending at this time and may be adopted. The pending test protocol may require revisions to our advertised scores.

This test method is significantly different than the CE cut resistant method. Cut resistance with a weighted gram load is measured in relation to distance to cut. A total of fifteen cuts (each with a new blade) are conducted. Five cuts each are made at three different gram loads. Test values are scaled based on the blade performance with a neoprene rubber material.

Recognize performance levels for CE and ANSI/ISEA 105 are different test methods and are calculated differently. Grams are used for the ANSI/ISEA 105 and the EN388 uses an "index" with a different scale for scoring. Test methods cannot be directly related. Different standards mean different performance at the same "level".

	Level 0	Level 1	Level 2	Level 3	Level 4	Level 5
ANSI/ISEA 105						
Cut	Grams	< 200	> 200	> 500	> 1000	> 1500 > 3500

