

Cut resistant gloves and sleeves are designed to protect hands from direct contact with sharp objects such as glass and metal. The level of cut resistance provided is a combination of material composition and weight. Performance of a glove can also be affected by coatings applied to the surface which can also offer enhanced grip.

Common cut resistant fibers include:

HPPE: High performance polyethylene fibers offer maximum strength with minimum weight. HPPE is 10 times stronger than steel by weight as well as 40% stronger than aramid fibers offering a softer, cooler alternative.

Aramid: The most common brand name is Kevlar®. It is 5 times stronger than steel and provides great tensile strength. Due to its inherently flame resistant nature it will not melt and offers heat protection up to 320° F based on product design.

Spectra: A polyethylene fiber that is 10 times tougher than steel per unit weight offering high cut resistance even when wet. Its low lint and flexible nature make it ideal for use in food processing.

Taeki5: A blended yarn made of Taeki5®, fiberglass and synthetic fibers that delivers high cut resistance without sacrificing dexterity and tactile sensitivity.

Blended Shells: The introduction of steel and glass to HPPE and aramid help to significantly increase levels of cut protection while helping maintain comfort and fit.

***WARNING: Remember, no product is cut proof.**

There are two different standards to measure cut performance: the European Standard EN 388 and the ANSI/ISEA 105 standard for the U.S.

EN 388

EN 388 uses the coup test method based on a circular blade moving back and forth across the sample under a fixed load of 500 grams. In other words, it simulates the number of repetitive cuts needed to cut through the fabric using a constant load. The results are then compared to the cut results of a cotton canvas. For example, a cut level of 5 means that it is five times more cut resistant than the reference cotton. Performance levels are determined using the chart below.

Performance Level	Average Cut Index
0	< 1.2
1	1.2 - 2.4
2	2.5 - 4.9
3	5.0 - 9.9
4	10.0 - 19.9
5	> 20

ANSI/ISEA 105

ASTM F1790-97 and ASTM F1790-05 standard test methods for measuring cut resistance of materials used in protective clothing. These test measure the pressure (in grams) necessary to cut through a certain length of material while the material is held in a fixed position. The higher the value received, the better the cut performance. Performance levels are determined using the chart below.

Physical Properties	Weight in grams needed to cut through material 1 inch (25 mm) of blade travel - ASTM F1790-97 0.8 inch (20 mm) of blade travel - ASTM F1790-05
0	< 200
1	200 - 499
2	500 - 999
3	1,000 - 1,499
4	1,500 - 3,499
5	< 3,500

It is important to know that cut levels and scores are not interchangeable. A glove with an EN cut level of 4 may not be as cut resistant as a glove with an ANSI cut level of 4. Even when comparing ANSI cut test scores, it is important to know which test method has been used.

The gloves featured in this catalog are cut resistant, not cut proof. There is no such thing as a cut proof glove. Use care when working with or around sharp objects.



KNOW THE DIFFERENCE

	EN 388	ASTM F1970-97	ASTM F1970-05
Machine Type	Coup test tester	CPP tester Mounting tape	TDM/ CPP tester Copper wire
What it Measures	Measures number of times it takes to cut fabric vs. cotton canvas	Measures the amount of gram weight it takes to cut through fabrics	Measures the amount of weight it takes to cut through fabrics
Reports Measurements In	Levels and index	Levels and gram weight	Levels and gram weight
Test Length	Back and forth until cut through	25mm linear (@ inch)	20mm linear (@ ¾ inch)
Weight Used	500 grams constant	Increasing gram weight	Increasing gram weight
Other Info	Should not be used on high cut because blade dulls between tests	Higher ratings than 05	Lower ratings than 97
Are Tests Comparable?	No comparison to any other test	No comparison to any other method	Comparable to ISO13997