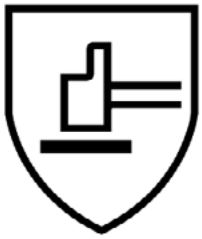
UPDATED EN 388 STANDARD

for Protective Gloves Against Mechanical Risks 2016 Edition



The EN 388, similar to ANSI/ISEA 105, is the European standard used to evaluate mechanical risks for hand protection. Gloves with a EN 388 rating are third party tested, and rated for abrasion, cut, tear, and puncture resistance. Cut resistance is rated 1-5, while all other physical performance factors are rated 1-4. Up until now, the EN 388 standard used only the “Coup Test” to test for cut resistance. The **New EN 388 2016** standard uses both the “Coup Test” and the “TDM-100 Test” to measure cut resistance for a more accurate score. Also included in the updated standard is a new Impact Protection test.

OLD MARKING

	Rating
Abrasion	1 2 3 4
Cut (Coup Test)	1 2 3 4 5
Tear	1 2 3 4
Puncture	1 2 3 4

4 4 3 4

NEW MARKING

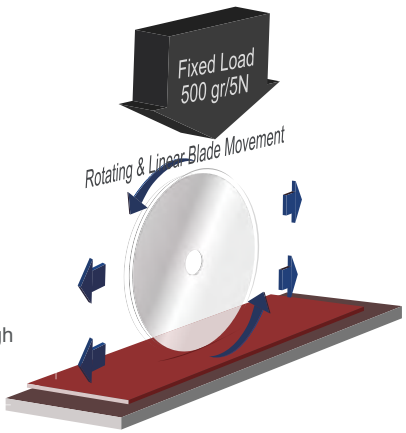
	Rating
Abrasion	1 2 3 4
Cut (Coup Test)	1 2 3 4 5
Tear	1 2 3 4
Puncture	1 2 3 4
Cut (TDM-100 Test)	A-F
Impact Protection	P,F,X

4 4 3 4 D P

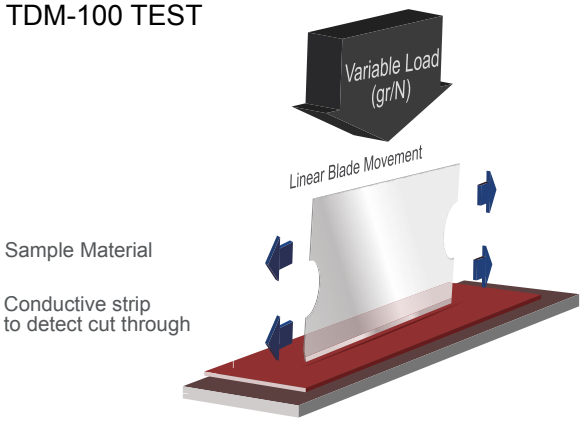
TWO TESTING METHODS FOR CUT PROTECTION

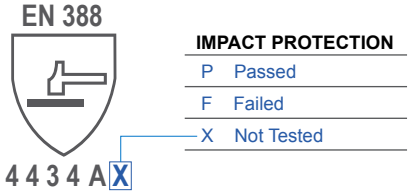
The most significant change to the EN 388 2016 standard is the formal inclusion of the ISO 13997cut test method. ISO 13997, also known as the “TDM-100 Test”, is similar to the ASTM F2992-15 test method used in the ANSI 105 standard. Both standards will now make use of the TDM machine with the sliding blade and weights. After many years with differing testing methods it was found that the blade usedin the “Coup Test” would dull quickly when testing yarns with high levels of glass and steel fibers. This resulted in unreliablecut scores, so the need for including the “TDM-100 Test”to the new EN 388 2016 standard was strongly supported.

COUP TEST



TDM-100 TEST





NEW IMPACT PROTECTION TEST

The updated EN 388 2016 standard will also include an impact protection test. This test is intended for gloves designed for protection against impact. Gloves that do not offer impact protection will not be subjected to this test. For that reason, there are three potential ratings that will be given, based on this test.

ISO 13997 TEST METHOD (TDM-100 TEST)

To differentiate between the two cut scores that will be generated under the new EN 388 2016 standard, the cut score achieved using the ISO 13997 test method will have a letter added to the end of the first four digits. The letter assigned will depend on the result of the test, which will be given in Newtons. The table below outlines the new alpha scale used to calculate the results from the ISO 13997 test method.

PERFORMANCE					
Test	Level 1	Level 2	Level 3	Level 4	Level 5
Abrasion resistance (cycles)	100	500	2000	8000	-
Cut resistance - Coup test (index)	1.2	2.5	5.0	10.0	20.0
Tear resistance (Newton)	10	25	50	75	-
Puncture resistance (Newton	20	60	100	150	-

	Level A	Level B	Level C	Level D	Level E	Level F
Cut resistance according to EN ISO 13997 (Newton)	2	5	10	15	22	30

**Values greater than or equal to..*

A EN388
2 newtons =
203 grams to cut
Light material handling, small parts assembly without sharp edges

B EN388
5 newtons =
509 grams to cut
Packaging, warehouse, light duty general purpose

C EN388
10 newtons =
1019 grams to cut
Light duty metal handling, metal stamping, HVAC, light duty glass handling, plastics, material handling

D EN388
15 newtons =
1529 grams to cut
Light duty metal handling, appliance manufacturing, bottle and light glass handling, canning, dry walling, electrical, carpet installation, HVAC

E EN388
22 newtons =
2243 grams to cut
Metal stamping, sheet metal handling, glass handling, automotive assembly

F EN388
30 newtons =
3059 grams to cut
Heavy duty metal stamping, metal recycling, food processing, pulp and paper