

WHAT YOU NEED TO KNOW ABOUT THE NEW GLOBAL CUT STANDARDS

ANSI/ISEA 105-16 (ASTM F2992-15)

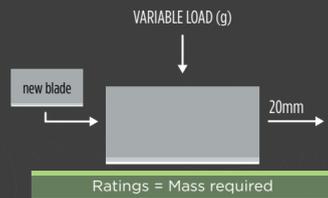
- Uses TDM-100 cut machine to test cut level
- Measures in GRAMS of force up to 6000g (previously 3500 g)
- Reporting is in 9 levels instead of previously 5 to accommodate stronger cut-protective fibres.
- Tests under the new standard have an "A" before the cut level

EN 388: 2016 (ISO 13997)

- Uses Coup Test as well as the TDM-100 cut machine (ISO 13997) to test cut level to accommodate limitations (dulling of the blade) in the Coup Test when testing strong cut-resistant fabrics
- Coup Test measures number of cycles required to cut through the glove
- TDM-100 measures NEWTONS of force up to 30+N

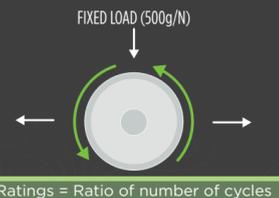
THE NEW NORM STATES THAT IF BLADE DULLING OCCURS DURING THE COUP TEST, THE ISO 13997 TEST METHOD USING TDM-100 MUST BE PERFORMED.

TDM-100 CUT MACHINE



The Tomodynamometer (TDM-100) is used to determine the load required to cut through a glove sample using a straight-edge blade that moves along a straight path within a distance of 20mm. The sample is cut 5x each at three different loads.

COUP TEST CUT MACHINE



Using a circular blade that moves back-and-forth and under a fixed load of 500 grams, the Coup test machine measures the ratio of the number of cycles required to cut through the test sample vs. the reference material.

UNDERSTANDING YOUR CUT GLOVE

IDENTIFYING YOUR PROTECTION: REPORTING & MARKINGS

ANSI/ISEA 105-16 (ASTM F2992-15)

Abrasion: 0 - 4
Puncture: 0 - 4

Cut Resistance
F2992-15(TDM-100): A1 - A9



The updated standards allow for more precise and accurate measuring of cut protection levels, which are easy to read on your glove.

For example, ANSI cut level 4 used to range from 1500 up to 2199 grams. This categorized a glove with ANSI A4 cut level as being suitable for both manufacturing as well as metal stamping - two applications with very different cut resistance requirements.

EN 388: 2016 (ISO 13997)

Abrasion: 0 - 4
Blade cut resistance (Coup Test): 0 - 5 / X
Tear: 0 - 4
Puncture: 0 - 4

NEW Cut Resistance - also ISO 13997 (TDM-100): A - F / X
Impact: P / blank



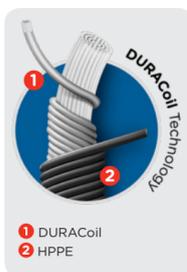
EN 388's testing method using only the Coup Test would at times result in two different gloves both having a cut level 5. However, after being tested with the ISO 13997 method where the TDM machine is used, the same gloves could score a cut level 5/C while the other an 5/E-a difference of up to 2000 grams of force! The new levels make it much easier to identify the different cut protection levels.

SHOWA CUT INNOVATIONS FOR PROTECTION & COMFORT

DURACoil SERIES

MULTI-PURPOSE CUT PROTECTION FOR CUT LEVEL C/A3

The liner of every DURACoil glove is engineered by tightly wrapping multifilament polyester around a cut resistant fiber, then reinforcing it with High-Performance Polyethylene (HPPE). The soft properties of HPPE combined with the unique coating styles of each model provides ultra-comfortable multi-purpose gloves with durable cut resistant properties for precision handling.



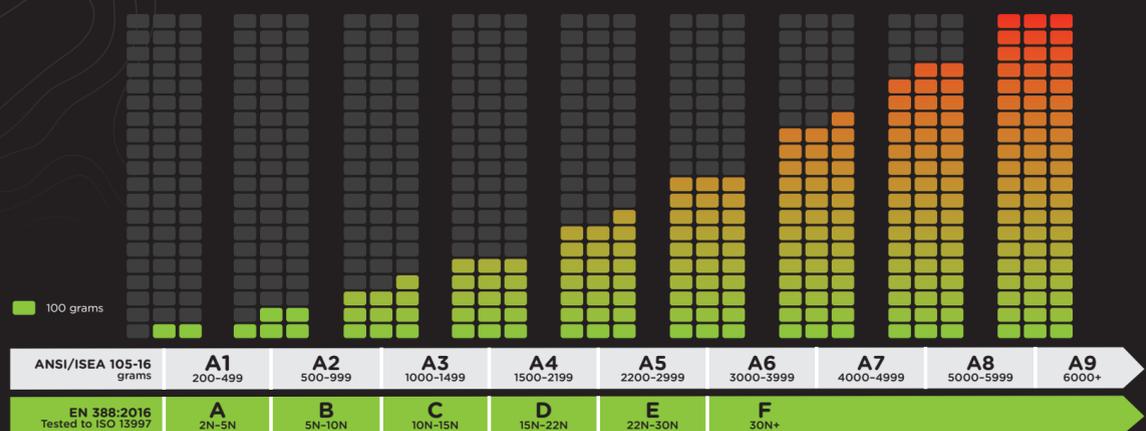
S-TEX SERIES

STAINLESS STEEL PROTECTION FOR CUT LEVEL D/A4 AND UP

Hagane Coil® technology enables us to provide high levels of cut resistance without sacrificing comfort. The key ingredient in each S-TEX glove is the unique coiling technique that binds an attending yarn to a stainless steel core. This provides better protection than any natural or synthetic fibre, yet is thin enough to allow flexibility and free movement as the hand bends and flexes.



RATING SCALES



APPLICATIONS

3N Light material handling Small parts assembly (without sharp edges) Cardboard packaging General purpose Shipping & receiving	5N Aircraft engine building & assembly White goods manufacturing Carbon fiber handling Recycling component dismantling	10N Metal panels Small parts assembly (with sharp edges) Light automotive body assembly Sheet glass handling in production Electrical wire & component assembly	15N Steel fixing & erecting Medium pressing oily metal parts Canning & bottling Food preparation & processing Automotive maintenance & repairs	25N Cable trunking Food deboning Glass & window handling Heavy pressing oily metal parts Metal cut-off recycling	30N Meat processing Heavy duty glass & bottling Pulp & paper Heavy metal sheet handling Canning	35N	40N
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USE THIS SCALE TO FIND OUT WHICH CUT LEVEL YOU NEED FOR THE APPLICATION AT HAND!

INCREASE OF RISK SEVERITY

$$N = g \times 0.00981$$

force = mass x 0.00981

ANSI vs. EN

ANSI/ISEA 105: measures MASS using grams

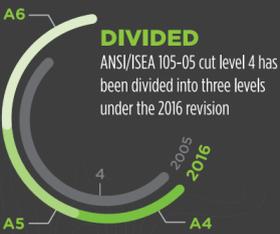
EN 388: measures FORCE using newtons

EN 388 tested to ISO 13997

	newtons	grams
A	2-5	204-508
B	5-10	509-1019
C	10-15	1020-1529
D	15-22	1530-2242
E	22-30	2243-3058
F	30+	3059+

ANSI/ISEA 105-16

	grams
A1	200-499
A2	500-999
A3	1000-1499
A4	1500-2199
A5	2200-2999
A6	3000-3999
A7	4000-4999
A8	5000-5999
A9	6000+



ACROSS THE SCALE, SHOWA HAS YOU COVERED

	LOW CUT LEVEL NEEDED	MEDIUM CUT LEVEL NEEDED	HIGH CUT LEVEL NEEDED						
ANSI/ISEA 105-16	A1	A2	A3	A4	A5	A6	A7	A8	A9
EN 388: 2016	A	B	C	D	E	F			
	KV660	NEW 546X	S-TEX 300	8110	8127	NEW 257	S-TEX 303		
	541	NEW 546	S-TEX 350	250					
	540D	NEW 546W	S-TEX 377	S-TEX 581					
	545	NEW 346	S-TEX 541	3416					
		NEW 386	NEW 234						
		NEW 576	240						
		NEW 577	4561						
			8115						

THESE PRODUCTS ARE AVAILABLE GLOBALLY!

SEVERITY OF INJURY RISK