

NEW PERSONAL PROTECTIVE EQUIPMENT REGULATION 2016/425

CATEGORISATION

Category I Minimal risks  
e.g., gardening gloves

Category II Risks other than those listed in Categories I and III  
e.g., general handling gloves which require cut, puncture, and abrasion protection

Category III Risks that may cause very serious consequences such as death or irreversible damage to health  
e.g., chemicals, biological agents, electric shock and live working

EUROPEAN STANDARDS AND CE MARKING

EN 420: 2003+A1:2009  
General requirements for protective gloves

EN 388: 2016  
Mechanical protection

Performance level rating	1	2	3	4	5	
a Abrasion Resistance (Cycles)	100	500	2000	8000	-	
b Blade Cut Resistance (Coupe Test/Index)	1.2	2.5	5.0	10.0	20.0	
c Tear Resistance (Newton)	10	25	50	75	-	
d Puncture Resistance (Newton)	20	60	100	150	-	
Performance level rating	A	B	C	D	E	F
e EN ISO Cut Resistance (Newton)	2	5	10	15	22	30
f EN Impact Protection	PASS or FAIL					

Note: Level X can also be applied for a through e above, which means "not tested " or "not applicable"  
If the glove has an impact protection, this information is given by the letter P as the 6th and last sign. If no P sign, no impact protection is claimed.

EN 407:2004  
Heat protection

Performance levels	1	2	3	4
a Burning behaviour (after flame and after glowtime)	< 20 secs no requirement	< 10 secs < 120 secs	< 3 secs < 25 secs	< 2 secs < 5 secs
b Contact heat (contact temperature and threshold time)	100°C > 15 secs	250°C > 15 secs	350°C > 15 secs	500°C > 15 secs
c Convective heat (heat transfer delay)	> 4 secs	> 7 secs	> 10 secs	> 18 secs
d Radiant heat (heat transfer delay)	> 7 secs	> 20 secs	> 50 secs	> 95 secs
e Small drops molten metal (number of drops)	> 10	> 15	> 25	> 35
f Large quantity molten metal (mass)	30 g	60 g	120 g	200 g

EN 511:2006  
Cold protection

Performance levels	0	1	2	3	4
a Convective cold Thermal insulation ITR in m2. °C/W	$I_{TR} < 0,10$	$0,10 \leq I_{TR} < 0,15$	$0,15 \leq I_{TR} < 0,22$	$0,22 \leq I_{TR} < 0,30$	$0,30 \leq I_{TR}$
b Contact cold Thermal resistance R in m2. °C/W	$R < 0,025$	$0,025 \leq R < 0,050$	$0,050 \leq R < 0,100$	$0,100 \leq R < 0,150$	$0,050 \leq R$
c Convective heat (heat transfer delay)	FAIL	PASS	-	-	-

Note: 0 is the lowest rating while 4 is the highest.

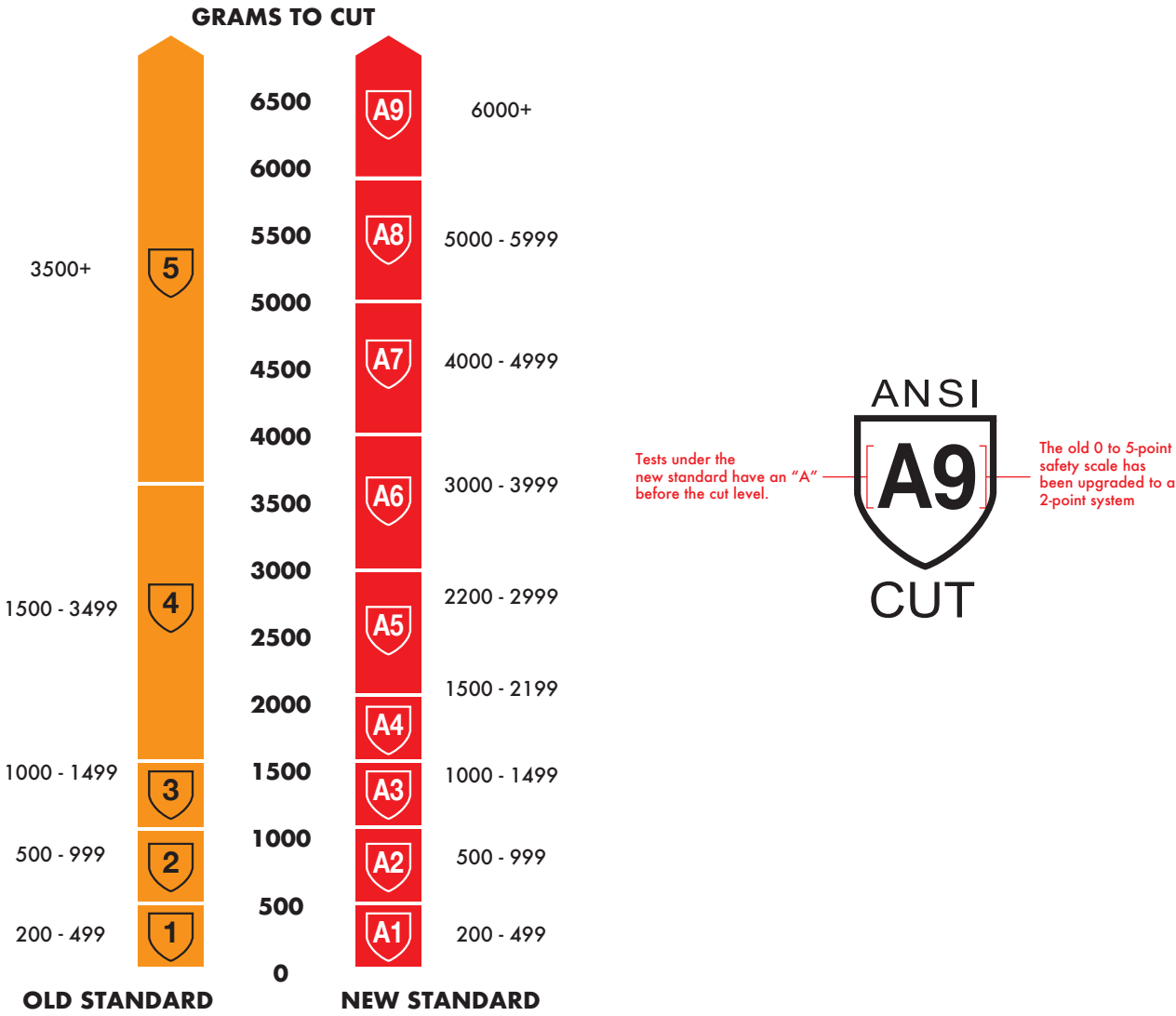
This pictgram indicates that the user has to consult the 'instructions for use'.

ANSI / ISEA 105-2016  
CUT PROTECTION CLASSIFICATION

The American National Standards Institute (ANSI) released a new edition of the ANSI/ISEA 105 standard in March 2016. The changes include the classification levels and the method for testing gloves.

Classification Levels

The new ANSI standard is now divided into nine different protection levels on a progressive scale, offering more detailed indication on cut-resistant gloves.



The old standard measured the weight in grams for a blade to cut material with either a Cut Protection Performance Tester (CPPT) or a Tomodynamometer Test Machine(TDM). The new standard allows only one type of machine, TDM-100, to be used.

Understanding ASTM F2992-15 Test Methods

The sample is cut by a straight-edge blade, under load, that moves along a straight path. The sample is cut five times each at three different loads with a new blade for each cut and the data is used to determine the required load to cut through the sample at a specified reference difference. This is referred to as the cutting force, which is then equated to a cut level.

