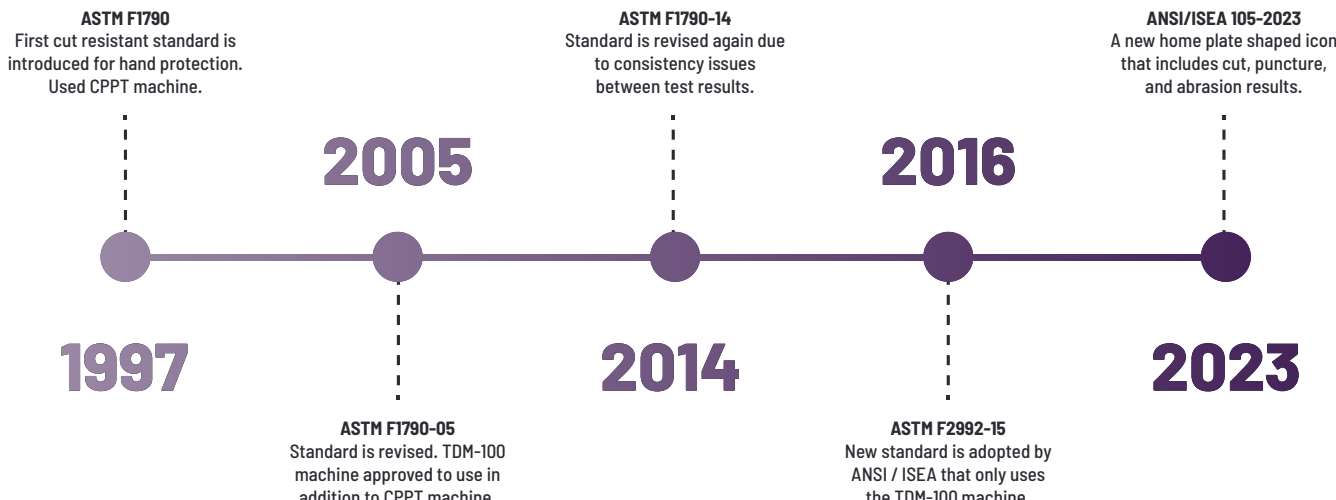


ANSI/ISEA 105-2023 CUT LEVELS



Timeline of Cut Resistance Standards

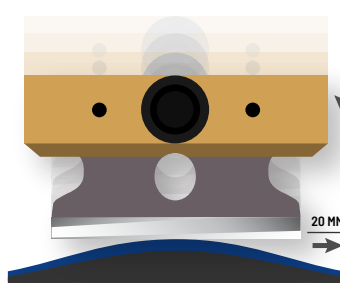


TDM-100 Cut Test on the TDM Machine

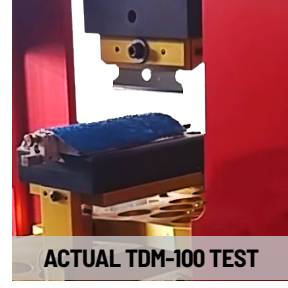
[Click to watch video of TDM Test](#)

The TDM-100 Cut Test

1. Material from the product to be tested is fitted to the base of the TDM-100 testing machine (blue in illustration).
2. A specific weight is applied to the new razor blade, which is lowered to the material. The motor draws the blade with the applied weight across the material until cut through occurs. The number of mm to cut-through is reported for that weight.
3. The weight loads are repeated 5 times to provide 15 data-points for cut-through at short, medium, and long blade travel.
4. A liner regression of all 15 data-points provides the calculated weight in grams where the 20 mm blade travel would occur. Three samples are tested for each material for a total of 45 data-points to determine the weight (grams).
5. ANSI/ISEA 105-2016 Hand Protection Performance Classification is applied to provide the level based on the gram weight of cut through with 20 mm blade travel.



1. BLADE IS LOWERED ONTO TEST MATERIAL
2. BLADE IS MOVED ACROSS TEST MATERIAL



Standard for Cut Testing

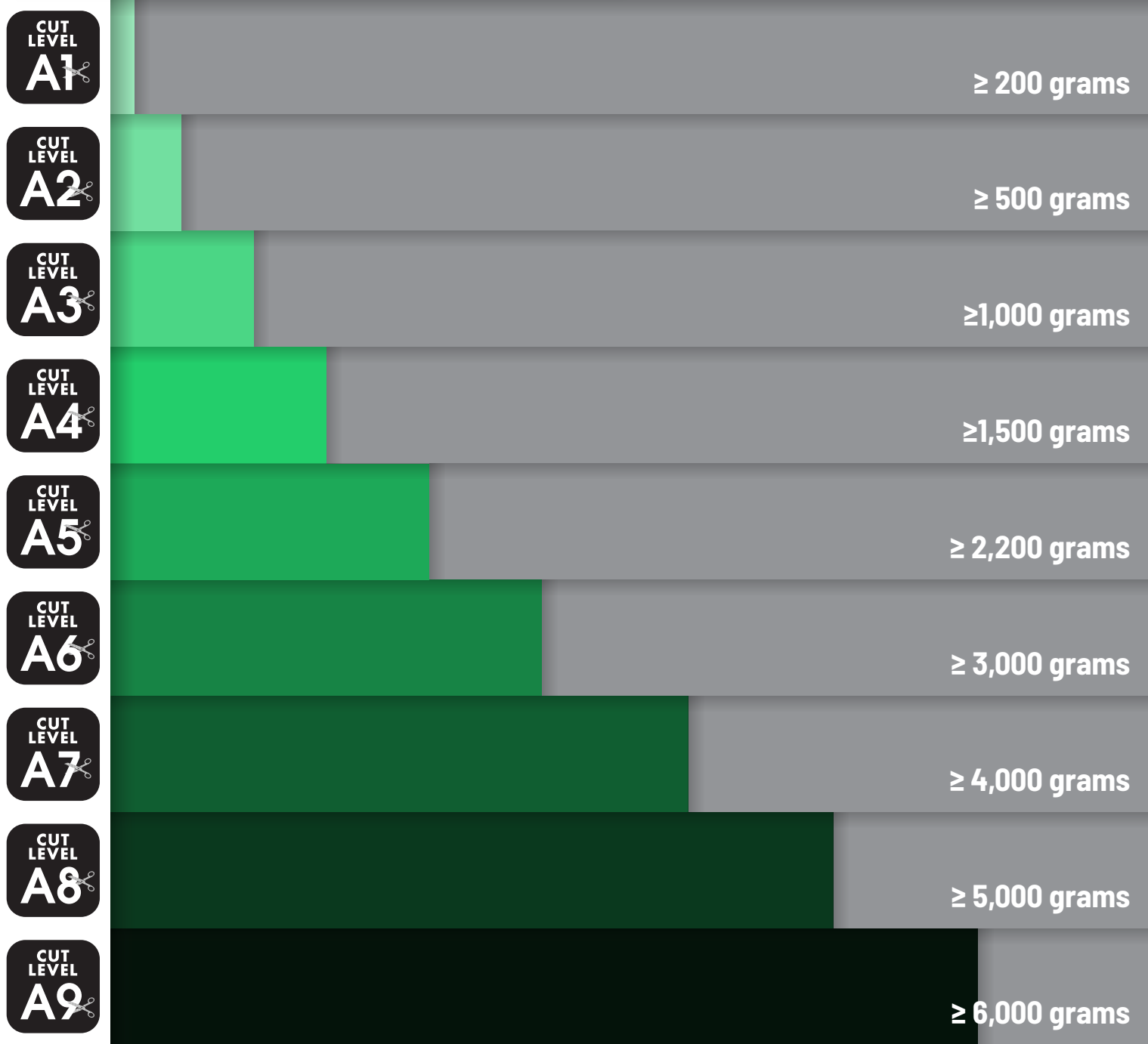
The American National Standards Institute (ANSI) and International Safety Equipment Association (ISEA) current standard for displaying the rating of hand protection against cut risks is ASTM F2992-15.

ASTM F2992-15 Standard

1. 9 levels of cut protection
2. TDM-100 is the only machine acceptable for testing
3. Blade must be changed after each test
4. 5 times at each of 3 weight loads ensure accurate results

ASTM F2992-15 is the standard used to obtain gram results, the ANSI/ISEA 105-2023 standard then interprets what classification level those results will report as. These two standards streamline the process, ensuring predictability and consistency across the hand protection industry.

CURRENT CUT LEVELS

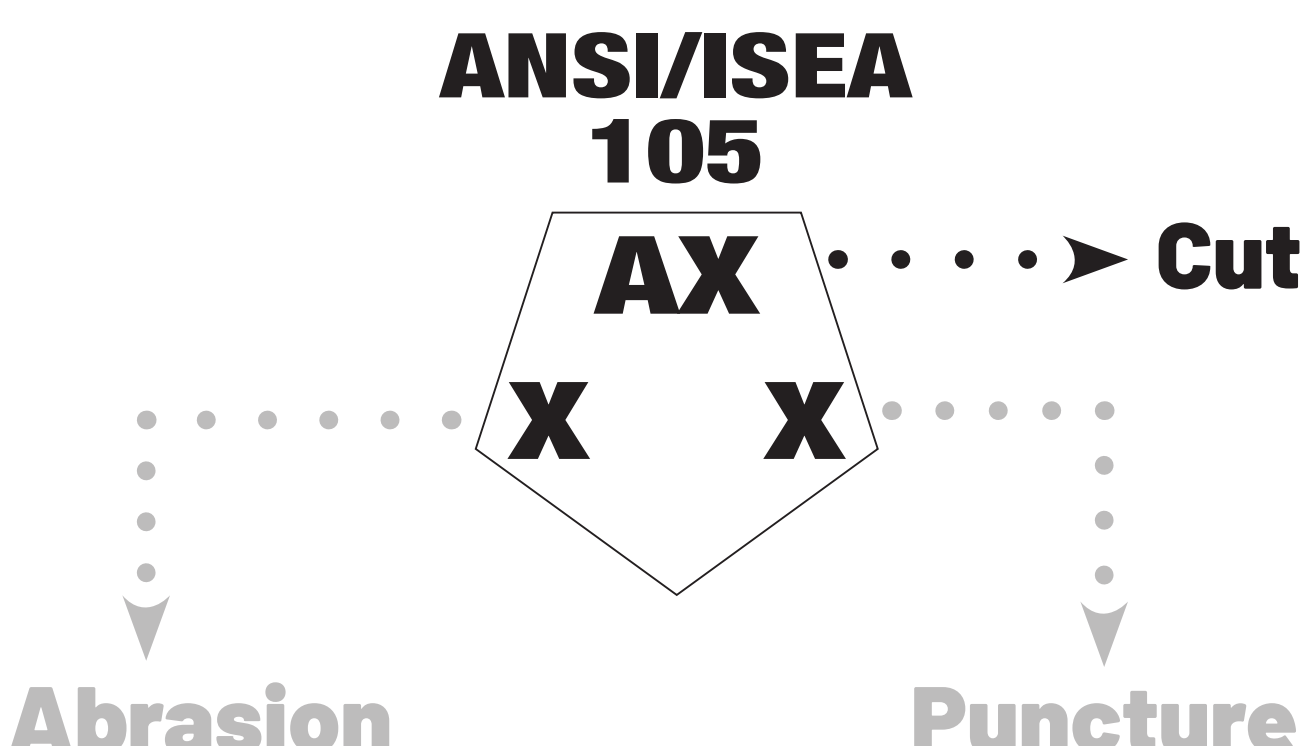


Cut Levels Common Industries

Common industries that may utilize the ANSI/ISEA 105 Cut levels are listed below. Keep in mind that these are not a complete list, but only examples of gloves and sleeves that may work for these applications. You should speak to a safety professional before purchasing PPE to identify appropriate hand and arm protection for the job.

- | | |
|---|---|
| CUT LEVEL A1
Assembly, Warehouse, Material Handling | CUT LEVEL A6
Metal Stamping and Fabrication, Electrical, Construction |
| CUT LEVEL A2
Automotive, Packaging, Metal Handling | CUT LEVEL A7
Aerospace, Window Manufacturing, Recycling |
| CUT LEVEL A3
Construction, Automotive Assembly | CUT LEVEL A8
Very high cut risks, Aerospace, Recycling |
| CUT LEVEL A4
Glass Handling, HVAC, Machining, Metal Fabrication | CUT LEVEL A9
Highest cut risks |
| CUT LEVEL A5
Appliance Manufacturing, Glass Handling, HVAC | |

ANSI/ISEA 105-2023 New Icon Designation



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