

ANSI/ISEA Standards

Cut Resistance

ANSI/ISEA 105: 2011

Two test methods are used for the determination of cut resistance:

ASTM F1790-97 - uses CPP test device

ASTM F1790-05 - uses CPP or TDM test device

The force required for material cut through using these methods is classified in the table below:

Level	Weight (grams) needed to cut through material (25 mm of blade travel - ASTM F1790-97) (20 mm of blade travel - ASTM F1790-05)
0	< 200
1	≥ 200
2	≥ 500
3	≥ 1000
4	≥ 1500
5	≥ 3500

ANSI 105: 2011

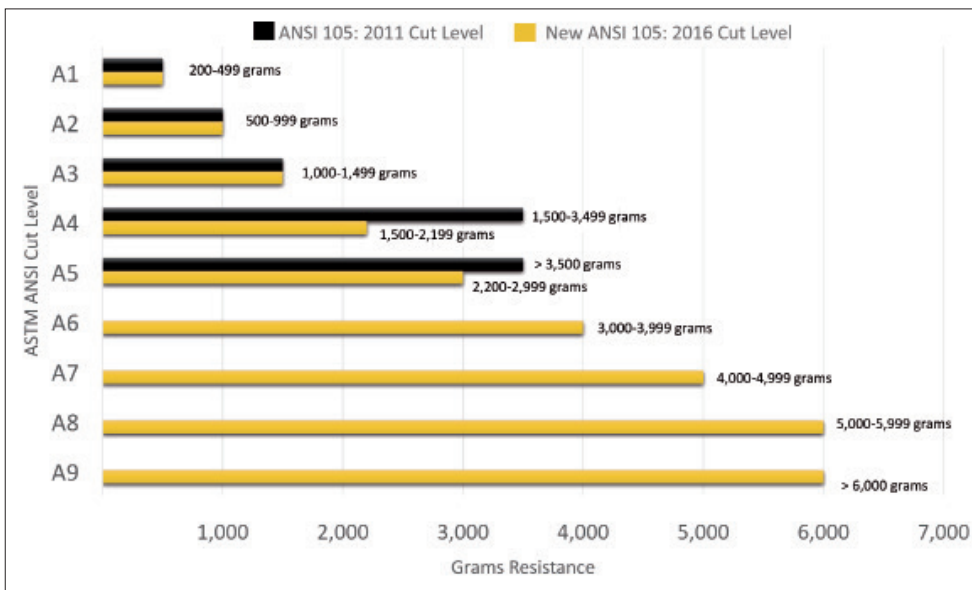


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ANSI/ISEA 105: 2016

A new revision to the standard was published in February 2016 with a new test method F2992-15. This method is similar to ASTM F1790-05 but only specifies use of the TDM test device and requires a larger number of samples to be tested with a modification to the statistical interpretation of results. The classification of cut resistance levels also changes and will now include 9 ANSI levels of cut protection. To enable customers to understand and differentiate between the old and new ANSI cut levels a letter 'A' will be published in front of the new ANSI test results.

A comparison of the old ANSI levels to the new 2016 levels is shown in the table below:



ANSI 105: 2016



CUT

Results obtained using the TDM test device according to ASTM F1790-05 (ANSI/ISEA 105: 2011) and ASTM F2992-15 (ANSI/ISEA 105: 2016) are expected to be similar but are not a direct conversion.

Other Changes

ASTM F2878-10 - Hypodermic Needle Puncture Resistance

As of 2016 the ANSI/ISEA 105 standard has been updated to include this test which uses a 25 gauge needle to determine the force required for a hypodermic needle to penetrate protective clothing/materials.

Level	Puncture (Newtons)
0	≤ 2
1	≥ 2
2	≥ 4
3	≥ 6
4	≥ 8
5	≥ 10