

Cut protection for hands

Critical information for users
and safety professionals

EN 388:2016+A1:2018 explained



The evolution of EN 388 cut resistance testing

The list below shows the changes between the cut tests included in the 2003 edition of EN 388 and those included in the recently revised 2016 edition.

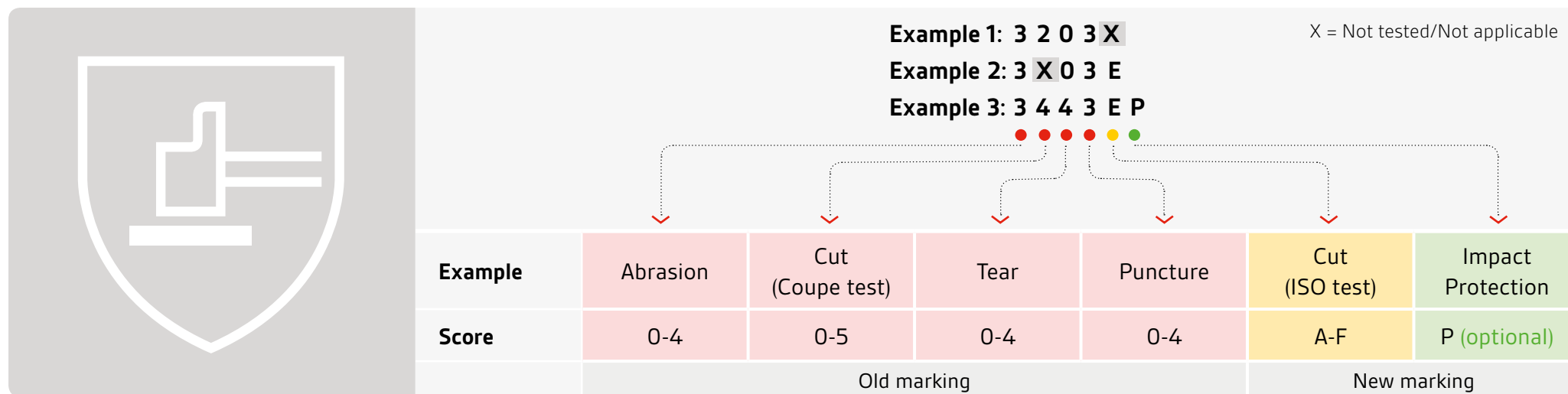
2003

- If the blade is proven to blunt during the test the next cut shall be performed with a new blade. *See Clause 6.2.6 Test method*
- The number of cycles was not limited, which meant the test could continue with a blunt blade
- No independent score to EN ISO 13997:1999 test
- All results were expressed on a scale of 0 to 5 based on the Coupe test
- X means not applicable (for example when the blade blunts)/not tested
- 4 Marking codes must be shown under the pictogram

2016

- If the blade is proven to blunt during the test the EN ISO 13997:1999 test method shall be performed. *See Clause 6.2.3 Test method*
- The number of cycles is limited to 60, at which point a blunting assessment is made. *See Clause 6.2.6 Test method*
- An independent score to EN ISO 13997:1999 test is listed. *See Figure 1*
- Two scales, 0 to 5 and A to F
- X means not applicable (for example when the blade blunts)/not tested
- 5 Marking codes must be shown, the 6th is optional

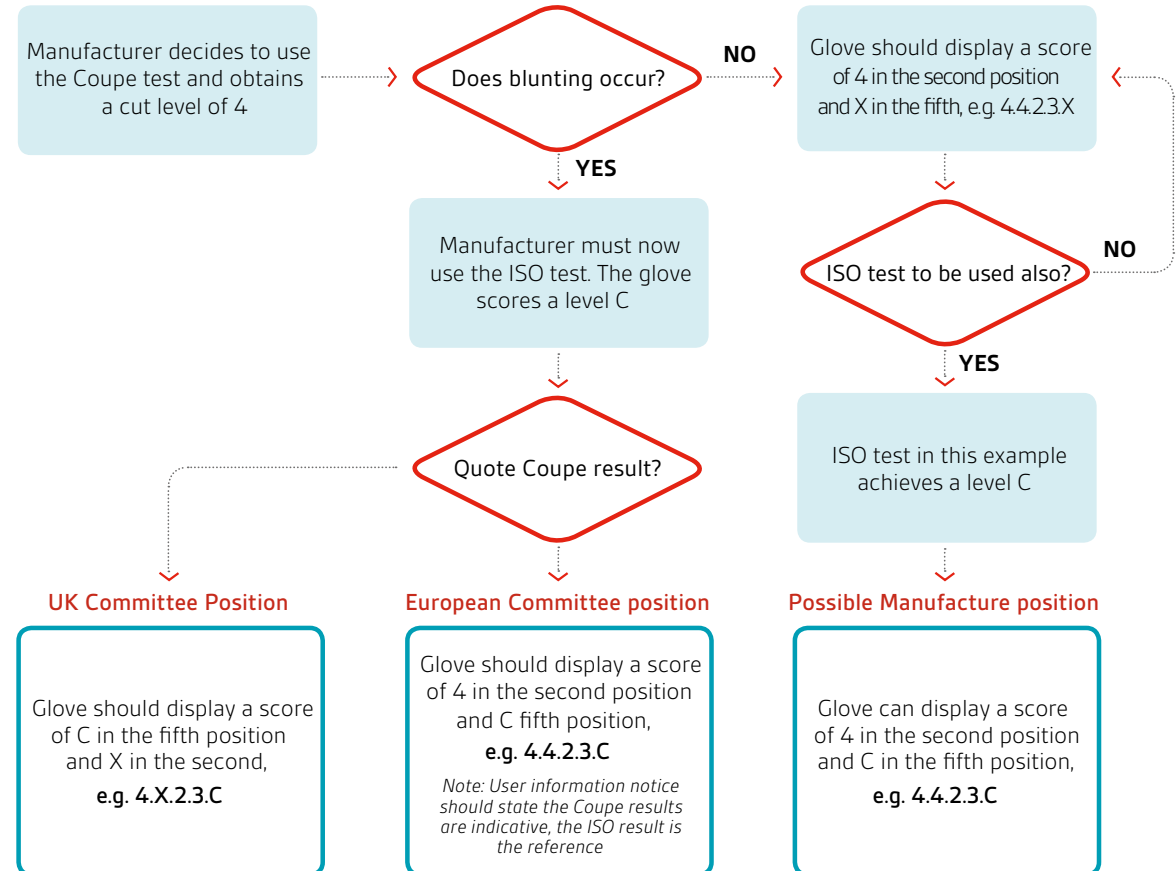
Figure 1



Differences between the two tests

The table below highlights the main differences between the two tests.

Coupe test	ISO test
Counter rotating circular blade passing across the material several times until cut through is achieved, under a fixed 5N force	A straight blade passed across the material once under a predetermined load. The blade is then changed for the next cut and a minimum of 20 cuts must be performed to estimate the average force required to cut the material
Constant force of 5 newtons	Fluctuating force between 2 and 30 newtons (the actual force applied can be anywhere from 1-200N, the performance levels cover 2-30N to reflect current materials being used)
Numerical score index (0-5)	Alphabetical score index (A-F)



NOTE – Both the gloves above would display the same EN388 code, however, one has blunted the Coupe test blade and relies on the user to read the instructions for use and differentiate between the products.

Your questions answered

Q: The glove I previously purchased was a cut 5, it's now labelled a cut C, is it still suitable?

A: Yes, if you have a low cut incident rate. The glove itself has not changed, the evaluation of the glove is different and is represented differently in the marking.

Q: What's the relationship between the two cut scores?

A: There is no relationship between the two. It would be like comparing apples and oranges.

Q: Should I now be changing the glove that I previously specified?

A: The glove has not changed; the marking may have because it's using a different test method.

Q: Which test is more representative of the hazard?

A: The ISO test method represents a blade passing across the glove material and it could be argued that it represents a better measure of higher levels of cut resistance. The coupe test uses a counter rotating circular blade passing multiple times across the glove material.

Q: What is better, a 5 or a C score?

A: There is no correlation between the two test methods, therefore the two scores cannot be compared.

Q: Why has the cut testing changed?

A: To address the limitations of the coupe test in the higher range of cut resistance fabrics.

Q: If a pictogram shows the numerical and alphabetical symbol (A to F for cuts) – what does it mean?

A: It means that the glove was tested under both test methods, ISO and coupe.

Q: What does X mean on the pictogram?

A: Where an X was added it means that either a test was not performed or that the test result was not applicable. For example, where a glove has been tested against the coupe method and it has blunted the blade an X may be added in the second position of the marking to show the test result was not applicable. See Example 2 of Figure 1.

Q: What is a coupe test?

A: Counter rotating circular blade passing across the material several times until cut through is achieved, under a fixed 5N force. Results are represented by a cut score (0-5).

Q: What is the ISO test?

A: A straight blade passed across the material once under a predetermined load. The blade is then changed for the next cut and a minimum of 20 cuts must be performed to estimate the average force required to cut the material.





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