



Over the past couple of years, I have been asked to comment on the differences between CE testing and ANSI testing. To be assured that my thoughts were not going to run too far astray, I contacted a few highly placed people that work for the largest glove manufacturing companies in the world. My question to them was a two-fold one. First, do they perform or have CE and/or ANSI testing done on their cut resistant glove line. Secondly, what was their reasoning for one test over the other.

The comments were the same from everyone. First, all of the major manufactures have their cut resistant gloves independently tested in CE labs, because that is the standard required to sell gloves anywhere else in the world. Second, all of them, including Double D Knitting and Glove Inc., test to the ANSI standard "in house". I am sure that there are some manufacturers that "out-source" the testing, but I am not aware of any major manufacturer that does not do their own testing against the ANSI standard. Due to the extreme costs involved in securing CE certification, in house testing is done to give the manufacture a pretty good idea of where the gloves will score in the testing

The CE certification test is actually two separate tests against two criteria.

1. **EN388** for mechanical testing against, Abrasion (1-4), Cut resistance (1-5), Tear resistance (1-4), and Puncture resistance (1-5). Each of these tests will award a number, I.E. Cut resistance level 1,2,3,4 or 5.
2. **EN420** is a standard for testing pH, Glove length, Comfort & fit, sizing uniformity and Dexterity. Each one of these tests receive a pass or fail result against the criteria. EN420 is important to ensure that all gloves are the same in sizing, chemically safe, etc.

There is a third test done for AZO. This test is to assure that the dyes used in the cut resistant gloves do not leach out and that the colors do not contain any known carcinogenic products.

The reason that all major manufactures test to CE is that it is truly an unbiased test, without any of the politics involved in the testing standards. When the CE standard was developed, it was to make the playing field truly equal for all manufactures. Since there is no high performance yarn manufacturing done overseas, and 95% of the composite high performance cut resistant glove knitting is done in the US, the EU wanted to have some form of comparison. They were looking for a set of standards that the end user could use to determine the level of protection they desired. What the CE certification program accomplished was to assure the customer that what they specified, ordered and expected to receive, was what they received.

While I was an active member on the ASTM committee, there was much discussion and debate as to whether or not to "homogenize" the two standards. While some parts of the CE testing procedure were adopted, the method of testing



and the threshold levels required to reach each level were the subject of many heated discussions.

In the end, politics won out and the current ANSI standards were adopted. **Unfortunately, the single biggest obstacle, the ability to have some correlation between the two test standards, (being able to take the results from one standard and apply it to the other) was never achieved.**

The reason that Double D Knitting and Glove Inc. is so high on CE testing is CE test results are the only, recognized certification, worldwide. I have always been of the opinion that the ANSI Standard, as it applies to cut resistant gloves, was an attempt by the US manufactures of High Performance yarns to control their own destiny. Much of what I believed to be true back then, has become true today. Back then, the standard of the industry in cut resistant yarn was Kevlar. DuPont knew that Dyneema® fiber was just becoming popular in the manufacture of PPE and they needed to narrow the gap that was sure to develop in the levels of protection between these two products. Hence, the introduction of the ANSI standard. Double D Knitting and Glove, like everyone else on the committee was there to protect each of our company's interests. (I worked for Ansell/Golden Needles back then)

You can be assured that because every major manufacture of composite high performance cut resistant gloves must test their gloves in a "Notified Body" lab, for CE, the tests are truly independent, and they will provide you, the customer, with their certifications when requested to do so. A "notified body" is an independent testing lab that is certified as a "Notified Body" by the EU. I am not sure of the number, but there are labs located in Europe and Asia that are certified "Notified Bodies". I do not believe that there are currently any in the US that have the ability to issue a CE certificate.

The problem with current ANSI standards testing is that there is currently no certification process, government authorization or process to certify the ANSI test results. Without a recognized authority (like ASTM) certifying certain labs to conduct the ANSI certification test and issue certification documents, there is no assurance that each lab will conduct the testing in exactly the same manner. This means that some glove manufacturers might be inclined to "shop" for the best results, making a comparison of different gloves almost impossible.

Thank You & Best Regards,
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