A COMPREHENSIVE GUIDE TO CHOOSING THE RIGHT CUT PROTECTION GLOVES

- EN 388 : 2016
- ANSI/ISEA 105-2016

HAND PROTECTION AGAINST CUT INJURIES

In various industries, hand injuries remain a significant concern, especially those related to cuts, punctures, and abrasions. Whether you're working in construction, manufacturing, food processing, or the automotive sector, the right cut protection gloves can make a crucial difference in safety and productivity.

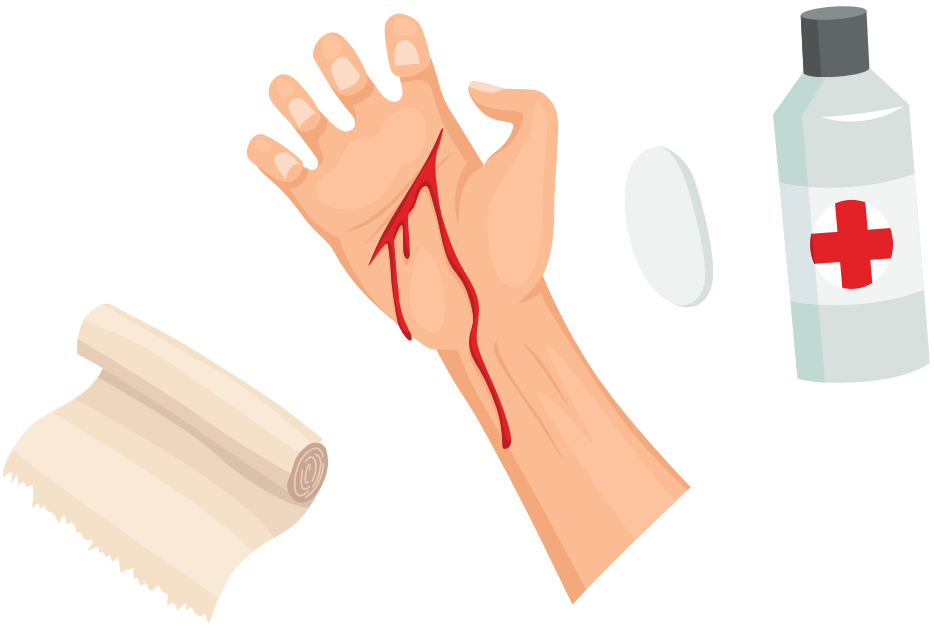
The introduction of various cut levels and testing methods has added layers of complexity, which can lead to confusion, potentially causing non-compliance and exposing workers to unnecessary risks.

The EN 388 standard, and ANSI/ISEA 105-2016 , governing mechanical protection for gloves and sleeves, were revised in 2016 to address these challenges.

It introduced key modifications to help safety managers and professionals more confidently select gloves suited to their specific applications.

Despite these updates being designed to simplify the selection process, the expanded cut rating categories and additional performance levels can still make choosing the right glove for a particular task seem overwhelming.

UNDERSTANDING THE IMPORTANCE OF CUT PROTECTION GLOVES



Cut protection gloves are essential for anyone working with sharp objects, tools, or machinery. These gloves are designed to reduce the risk of cuts and injuries by using specialized materials such as high-performance polyethylene (HPPE), Kevlar, or stainless steel fibers woven into the fabric. Choosing the right pair ensures that workers not only stay safe but also maintain dexterity and comfort for better performance.

The challenge, however, is finding the gloves that suit the specific hazards and work conditions. To make an informed decision, it's essential to understand how gloves are rated for cut resistance under the EN 388 standard

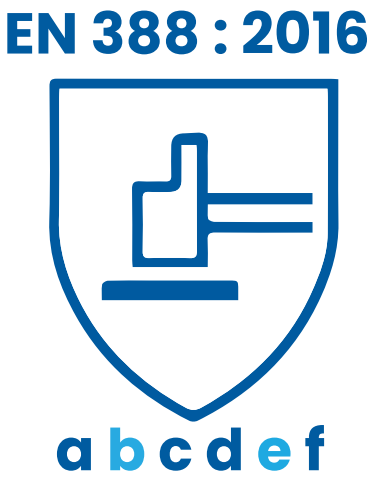
One of the most notable updates in the revision is the inclusion of a more advanced and standardized product testing methodology, specifically for cut resistance. This new testing process offers a more rigorous and repeatable way to measure glove performance under real-world conditions. As a result, gloves now have an expanded range of cut resistance levels, making it essential for safety managers to fully understand these ratings to make informed decisions about workplace safety.

WHAT IS THE EN 388 STANDARD ?

The EN 388 standard is a European regulation that specifies performance requirements for gloves protecting against mechanical risks, including abrasion, cut, tear, and puncture.

This standard provides a way to assess and compare gloves based on their ability to resist these hazards. The ratings are typically shown on the glove through a sequence of four or five numbers/letters, each corresponding to a different risk.

The **most relevant for cut protection** is the **2nd and 5th digit,** which are the Blade cut resistance and the more advanced EN ISO Cut Resistance



a	Abrasion Resistance
b	Cut Resistance
c	Tear Resistance
d	Puncture Resistance
e	EN ISO Cut Resistance
f	Impact Protection

THE LEVELS OF CUT RESISTANT GLOVES

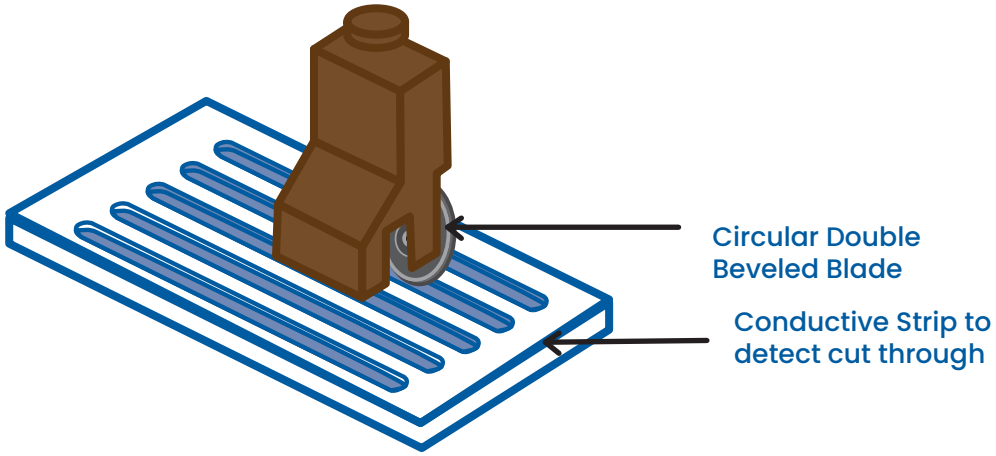
The EN 388 standard was updated in 2016 to incorporate two different methods of testing cut resistance: the Coup test (2nd digit) and the ISO 13997 Cut Resistance test (5th digit).

Understanding these test methods helps in selecting the gloves with the appropriate cut protection level for specific applications.

1. COUP TEST

The Coup test uses a rotating circular blade under constant pressure, measuring how many cycles it takes to cut through the material.

This test is more suitable for lower levels of cut resistance but less accurate for gloves made from tougher, high-performance materials.

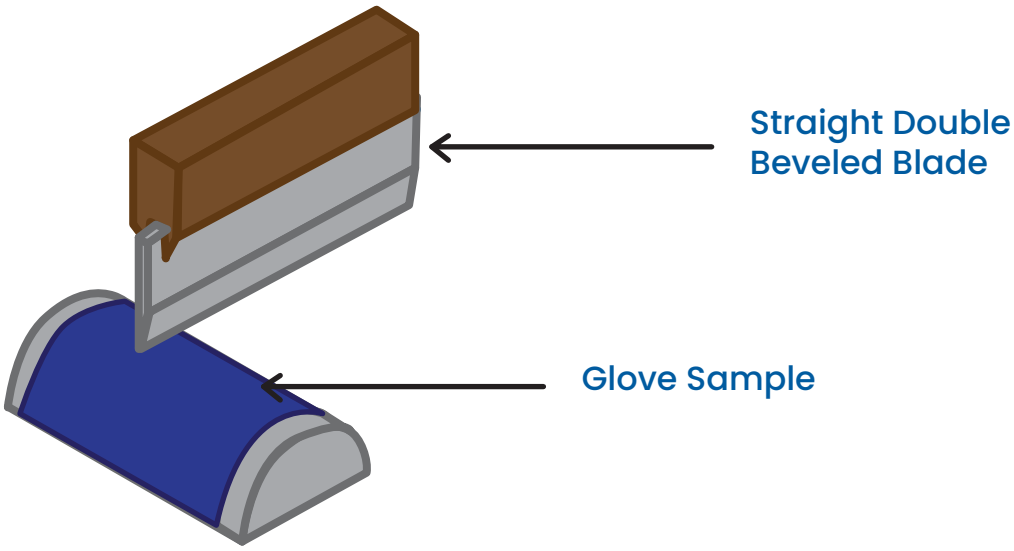


Performance Level	Blade Cut Index
1	1.2
2	2.5
3	5.0
4	10.0
5	20.0

When an X is reported in the Coupe's Test, it means that a dulling effect has occurred and therefore, the EN ISO Cut Resistance is used

2. EN ISO CUT RESISTANCE TEST (TDM TEST)

The TDM test is used to measure higher levels of cut protection, especially for materials that dull the blade during the Coup test. It calculates the force (measured in Newtons) required to cut through the glove material with a straight blade.



Gloves are rated from A to F, with F offering the highest level of cut resistance.

Performance Level	TDM Cut Resistance (Newtons)
A	2
B	5
C	10
D	15
E	22
F	30

The TDM test is more accurate for higher-risk industries where tougher, more resistant materials are used, such as in the automotive, glass handling, or metalworking sectors.

WHAT DOES THE ANSI/ISEA 105-2016 CUT STANDARD MEAN ?

The ANSI/ISEA 105-2016 cut resistance standard became effective in March 2016 in North America. It provides a more precise evaluation of glove cut protection and is based on the ASTM F2992-23 test for industrial work gloves.

The standard measures the **weight (in grams)** required to cut through a glove's material using a straight blade. Gloves are rated from A1 (low protection) to A9 (maximum cut resistance), allowing safety managers to choose gloves that meet the specific cut risks in various industries. This update offers a more refined system for glove selection.

CUT LEVEL	WEIGHT IN GRAMS TO CUT THROUGH	TASKS
A1 CUT	≥ 200	Small Part Assembly,General Purpose, Quality control inspections
A2 CUT	≥ 500	General Purpose, Light material handling, Warehousing, General Labor
A3 CUT	≥ 1000	General Purpose, Light material handling, Warehousing, General Labor
A4 CUT	≥ 1500	Light metal stamping, Sheet metal hanling, Construction framing
A5 CUT	≥ 2200	Metal Stamping, Glass Sheet handling , Automotive assembly
A6 CUT	≥ 3000	Metal fabrication, Glass handling, Metal Stamping
A7 CUT	≥ 4000	Glass Manufacturing, Metal Stamping, Meat Processing
A8 CUT	≥ 5000	Heavy Assembly, Metal Stamping
A9 CUT	≥ 6000	Sharp metal stamping, Sorting metal fabrication

Cut resistance levels in the ANSI/ISEA 105-2016 standard vary depending on the risk of cuts in different work environments:

- **A3 and below:** Offer good protection for **low-risk applications** such as hardware assembly, warehouse work, and general handling.
- **A4 and above:** Provide higher protection, ideal for **high-risk tasks** like handling glass sheets, metal press work, or heavy assembly, where there is a significant risk of cuts and lacerations.

This tiered approach helps ensure that workers have the right gloves for their specific tasks.

FACTORS TO CONSIDER WHEN CHOOSING THE RIGHT CUT PROTECTION

When choosing the right cut-resistant gloves for your work environment, it's essential to look beyond just the EN 388 cut rating.

Some additional factors to consider are listed as follows :

1. Workplace Hazards

Identify the specific hazards present in your work environment and ask,
Am I handling sharp metal, glass, or blades? Do I also need protection against other risks like punctures or abrasions?
Understanding your workplace risks will help in selecting a glove that offers adequate protection.

2. Dexterity and Comfort

High cut resistance often comes with bulkier materials, which can reduce flexibility. Gloves with higher dexterity allow workers to handle small tools or parts more effectively. One will need to balance protection with the need for comfort and mobility.

3. Grip

Cut-resistant gloves come in various coatings such as nitrile, polyurethane, or latex to enhance grip. The right coating, textures can provide better control when handling oily, wet, or dry surfaces.

4. Durability and Cost
Some gloves offer great cut protection but may wear out faster in high-abrasion environments. Investing in gloves that combine both durability and protection ensures better value in the long run.

5. Compliance with Industry Standards
Make sure the gloves meet the necessary regulatory requirements for your industry. Beyond the EN 388 standard, other factors like chemical resistance, heat resistance, or electrical insulation may also be relevant.

SAFETY IS IN THE DETAILS

Selecting the right cut protection gloves goes beyond just picking a pair off the shelf. Understanding the EN 388 standard and its cut resistance levels helps you make an **informed choice** tailored to the specific risks in your workplace.

Consider the type of cut hazards you face, the balance between protection and dexterity, and any additional workplace requirements.

> **“By choosing the right gloves, you're not only safeguarding your workers but also improving their comfort and productivity.”**

DPL

Handling you with care