

Understanding Impact Protection

ANSI/ISEA 138 VS EN 388:2016+A1

When it comes to selecting hand protection in industrial environments, understanding the standards behind glove certification is essential to ensuring worker safety.

Two globally recognised benchmarks, EN 388:2016+A1 and ANSI/ISEA 138, provide guidance on impact resistance, but they take notably different approaches. While both aim to minimise hand injuries, particularly to the back of the hand, the depth and precision of their testing methods vary.

EN388:2016+A1



A B C D E F

EN388:2016+A1:2018 is the European standard for mechanical risks, assessing resistance to abrasion, cuts, tearing and punctures.

It also includes an optional impact protection test derived from motorcycle glove standards (EN 13594:2015). This test uses a 5-joule impact to the covered area. There is no specific requirement to assess the fingers or thumb area.

A glove passes if the average transmitted force remains below 7 kN and no individual result exceeds 9 kN. The outcome is pass/fail, indicated with a "P" for pass. There is no performance grading.

ANSI/ISEA 138



In contrast, **ANSI/ISEA 138**, widely adopted across North America, is a dedicated standard focused solely on impact protection. It mandates testing across knuckles, fingers, and thumbs, recognising the full range of high-risk

areas across the back of the hand. Like EN 388, it applies 5-joule impacts, but offers a graded system of three performance levels:

Level 1 (≤ 9 kN): Suited to low-risk applications such as general maintenance or warehouse duties, where occasional knocks may occur.

Level 2 (≤ 6.5 kN): Appropriate for moderate-risk environments such as light fabrication, infrastructure work, or vehicle assembly.

Level 3 (≤ 4 kN): Engineered for high-risk sectors including oil and gas, mining, demolition, and heavy construction, where regular, high-energy impacts are expected.



This tiered approach provides greater clarity and allows safety professionals to match gloves more accurately to specific tasks and risks. It supports better safety outcomes by ensuring that gloves are neither under-specified nor unnecessarily bulky for the job at hand.

A key benefit of the ANSI/ISEA 138 system is the ability to tailor the level of protection without compromising on comfort or dexterity. Because users can select gloves with the exact level of impact resistance required, they avoid the drawbacks of over-specification, such as reduced flexibility, hand fatigue, or diminished tactile sensitivity.

While EN 388 remains an important standard, especially for broader mechanical protection, ANSI/ISEA 138 excels in delivering more targeted, transparent and practical information for impact-related risks. For environments where back-of-hand injuries are a major concern, particularly to fingers and thumbs, ANSI/ISEA 138-certified gloves provide greater confidence that the protection provided is fit for the purpose.