



EN 511 : 2006

PERFORMANCE STANDARD FOR COLD WEATHER GLOVES

Many cold weather gloves offered in the market meet similar features whether it be the same coating, liner material or gauge. However, these core features don't effectively showcase the performance of the glove against hazardous cold weather environments. **The EN 511 Standard** helps differentiate cold weather gloves by testing their performance against convective cold, contact cold and water permeation resistance.



Caiman® product 2991

EN 511:2006



231

Understanding EN 511:2006 Markings

WATER PERMEATION RESISTANCE

Ability to resist water permeation

CONTACT COLD RESISTANCE

Insulation performance when touching a cold surface

CONVECTIVE COLD RESISTANCE

Prevention of heat loss based on air movement

Performance Level Classifications

CONVECTIVE/CONTACT COLD RESISTANCE SCALE

Level 0

No Measurable
Protection

Level 1

Light
Protection

Level 2

Moderate
Protection

Level 3

Heavy
Protection

Level 4

Extreme
Protection

Note: The EN 511 standard does not explicitly define specific temperature ranges for each performance level. This is because wearer's activity level, duration of exposure, and environmental conditions can vary.

The combination of water and cold air can cause the skin temperature to drop rapidly, leading to numbness, tissue damage, or, in extreme cases, frostbite. EN 511 has two classifications of water permeation resistant levels.



Level 0

Water permeates the glove within 30 minutes

PIP® product 41-1425



Level 1

The glove resists water permeation for at least 30 minutes

G-Tek® PolyKor®
product 41-8035

Note: If a glove manufacturer shows “X” as a level classification, it means the glove was not tested to that EN 511 criteria

Frequently Asked Questions

What specifications does the EN 511:2006 formal outline for protective gloves against cold?

The EN 511:2006 standard specifies requirements and test methods for gloves that protect against convective and contact cold up to -50°C. It includes criteria for resistance to water penetration, essential for maintaining warmth and comfort in cold environments.

How can I decipher the codes and ratings on protective gloves indicated by EN511?

EN511 ratings on protective gloves are displayed as a series of numbers, each representing a specific performance level against different types of cold: convective cold resistance, contact cold resistance, and water penetration. The higher the number, the better the performance.

What differentiates the EN 511 standard from EN 388 regarding glove performance?

The EN 511 standard explicitly measures gloves' performance in extremely cold conditions, whereas EN 388 assesses the resistance of gloves to mechanical risks such as abrasions, blade cuts, tears, and punctures.

How do the performance levels in EN 511 correspond to protection against convective and contact colds?

In the EN 511 standard, the performance level against convective cold is indicated by the first digit in the code, with a higher number showing better insulation. The second digit indicates resistance to contact cold, with a higher rating meaning more excellent protection.

Where can I find a reliable PDF version of the EN 511 standard for reference?

A reliable PDF version of the EN 511 standard can be purchased from official European Standardization organizations such as CEN or national standard bodies. These documents are copyrighted and not freely available.

Why don't all cold weather gloves meet the highest level of convective and contact cold resistance?

Typically, a higher level of convective and contact cold resistance results in more materials required to insulate the glove. This means loss of dexterity and flexibility, making it more difficult to handle small parts in environments that may not need such protection.