

Head Protection – Standards, Risk Assessment & Guidance

MJ Scannell Safety | RG Ireland

The design, materials, and technology of industrial head protection have advanced significantly in recent years. To select the correct safety helmet, a risk assessment should first be carried out so that the chosen headgear complements the working environment. MJ Scannell Safety | RG Ireland offers a comprehensive range of professional head protection. This document outlines the current European standards, classifications, and guidance for head protection.

Risk Assessment

Risk assessment involves identifying potential hazards in the workplace, including falling objects, overhead obstructions, electrical risks, and impact hazards. Modern head protection may include features such as:

- Impact-resistant shells
- Shock-absorbing liners
- Electrical insulation (for low- and high-voltage protection)
- Adjustable suspension systems for comfort and stability
- Integrated face or eye protection compatibility
- Resistance to penetration and lateral impacts

Correct helmet selection should consider the nature of the work, height of potential impact, environmental conditions, and duration of wear.

Care and Maintenance

To ensure optimum performance and service life, helmets should be inspected regularly for cracks, dents, or signs of wear.

- Clean with mild soap and warm water; avoid harsh chemicals or solvents.
- Store in a cool, dry, ventilated area away from direct sunlight and heat sources.
- Do not paint helmets or apply unauthorized stickers, as this may compromise material integrity.
- Replace helmets immediately if they sustain an impact, even if no visible damage is apparent, or as per manufacturer's service life guidelines.

Correct use, storage, and environmental conditions significantly affect service life and protective performance.

Head Protection Standards (European PPE)

Professional Use	Standard	Description
Industrial Helmets	EN 397:2012 + A1:2012	• Protects against impact and penetration • Mandates shock absorption of ≥ 5 kN • Optional features: electrical insulation, chin straps, temperature resistance, lateral deformation testing
Electrical Helmets	EN 50365:2002	• Helmets for low-voltage installations • Provides electrical insulation up to 1,000 V AC or 1,500 V DC

High-Performance Helmets	EN 12492:2012	• Mountaineering and technical helmets • Designed for fall protection, lateral impact, and integration with harness systems
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Head Protection Classification – EN 397 & Related Standards

Class / Marking	Protection Features	Notes
Basic EN 397	• Impact and penetration resistance • Shock absorption ≥ 5 kN	Standard industrial helmet
EN 397 + A	Basic EN 397 + Electrical insulation (AC, 1,000 V)	Suitable for low-voltage electrical work
EN 397 + B	Basic EN 397 + Electrical insulation (DC, 1,500 V)	Suitable for low-voltage DC environments
EN 397 + C	Basic EN 397 + Chin strap	Prevents helmet displacement during movement
EN 397 + WR	Basic EN 397 + Weather-resistant	For outdoor use in rain, snow, or harsh conditions
EN 397 + UV	Basic EN 397 + UV-resistant	Protects helmet materials from degradation due to sunlight
EN 12492	High-performance mountaineering/technical helmet	• Impact, lateral, and penetration protection • Integration with harness and fall arrest systems • Optional chin strap and ventilation
EN 50365	Electrical helmets	• Low-voltage AC/DC insulation • Typically used for live-line electrical work

Head Protection Classification – EN 397 & Related Standards

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Basic EN 397
Impact & Penetration



EN 397 + A
Electrical (AC 1000 V)



EN 397 + B
Electrical (DC 1500 V)



EN 397 + C
Chin Strap



EN 397 + WR / UV
Weather & UV



EN 12492
High-Performance



EN 50365
Electrical Insulating



EN 50365
Electrical Insulating



AC Insulation



DC Insulation



C Chin Strap



WR Weather Resistant



UV Resistant



Temperature Tested
-30°C
+50°C



Certified

Additional Protection Markings

Symbol	Meaning
A	Electrical insulation AC

B	Electrical insulation DC
C	Chin strap provided
WR	Weather-resistant
UV	UV-resistant
- 30°C / +50°C	Tested for extreme temperatures
CE	Certified to relevant EN standard

Risk
Considerations

Risk Considerations

Even certified helmets reduce the risk of head injury but do not eliminate it. Always combine helmets with other protective measures such as:

- Safety glasses or face shields
- Hearing protection when necessary
- Safe working practices around overhead hazards

Helmet Sizing (Guidance Only)

Head Circumference (cm)	Typical Helmet Size
53–54	Small
55–56	Medium
57–58	Large
59–60	Extra Large