

Subject: Technical Rationale for ANSI/ISEA Z89.1:2014 Type 2 Class G Claim

- R5SL Helmet

Date: 31.07.2025

1. Background

The R5SL helmet is fully certified to:

• NFPA 1951:2020 – Standard on Protective Ensembles for Technical Rescue Incidents In addition to its NFPA certification, the R5SL has undergone internal batch testing against the performance requirements of ANSI/ISEA Z89.1:2014 Type 2, Class G. These tests confirm the helmet's ability to meet key elements of the ANSI standard.

2. Summary of Internal Testing to ANSI Z89.1:2014

Testing conducted as part of internal validation included:

A. Impact Protection (Crown) – Clause 10.2

- Crown impact testing using a 3.6 kg hemispherical striker from 1542 mm.
- Tested under ambient, hot, cold, and wet conditions.
- Force transmission remained below 4.45 kN, within the ANSI limit.

B. Impact Attenuation - Clause 10.4

- Drop testing using a 5.0 kg flat anvil from 510 mm.
- Peak acceleration results remained below 150 g.

C. Penetration Resistance - Clause 10.3

- Testing using a 1.0 kg conical striker at 7.0 m/s.
- No contact observed with the headform in all conditions.

D. Flammability - Clause 10.1

- Exposure to a 25 mm blue flame for 5 seconds.
- Flame self-extinguished in less than 1 second.

E. Electrical Insulation (Class G) - Clause 10.7

- Tested at 2.2 kV for 60 seconds.
- Leakage current measured at 1.23 mA, well under the 3.0 mA threshold.

3. Statement of Conformance

Based on the results of internal batch testing, the R5SL helmet demonstrates performance in accordance with the ANSI/ISEA Z89.1:2014 Type 2, Class G standard.

This alignment supports the helmet's suitability for work environments requiring impact protection, flammability resistance, and electrical insulation properties consistent with the requirements of ANSI Z89.1.

If further clarification is required, please do not hesitate to contact us.

Kind regards,

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