

## Chainsaw Boots

### Navigating Chainsaw Safety Standards for Work Boots

Chainsaw-related injuries, especially those affecting the feet, can have severe and lasting consequences. In the U.S. alone, there are over 25,000 chainsaw injuries annually, with 45% targeting the feet and legs. Even minor incidents can lead to lengthy recovery times and permanent damage, emphasising the importance of robust safety measures.

### A Decade of Change:

In the early 2010s, New Zealand saw a spike in chainsaw lacerations, prompting safety managers and manufacturers to collaborate on chap and footwear. Most injuries occurred during delimiting or when creating escape routes before felling a tree. Traditional boots, even those certified with cut protection, often fell short, exposing workers to significant risk.



### Standards to the Rescue:

Understanding safety standards is crucial. EN ISO 17249:2013 and ASTM F1458-04 set the criteria for chainsaw cut resistance in boots and testing. The classification, whether Level or Class, correlates with the materials used, but the testing requirements remain consistent:

- Levels (for rubber and canvas): Level 1 to Level 4
- Classes (for leather): Class 1 to Class 4

### The Force Behind the Test:

The 'official' testing process involves assessing boots against a chainsaw chain at specified speeds and forces. Classes or levels (ranging from 1 to 4) are determined based on chain speed and force applied during testing.

- Class 1 – 20 meters per second (m/s), Class 2 – 24m/s, Class 3 – 28m/s, Class 4 – 32m/s

One aspect often overlooked in chainsaw protection standards is the realistic representation of real-world scenarios. What many don't realise is that the force applied during standard testing conditions is relatively weak. The testing apparatus involves a mounted chainsaw in a controlled laboratory setting, utilising a drop/pivot mechanism. In this setup, the chainsaw's bar and chain are brought down onto the boot in a controlled and deliberate manner. Notably, just before impact, the throttle is released, cutting the power. This standardised testing targets specific areas: the vamp (behind and parallel to the steel toe-cap, where the big toe joins the foot), the tongue (typically the upper shin areas), and the sides of the leg section. So, if you're thinking this testing hardly mimics real-life forestry scenarios, you're correct.





Zero Fatalities  
Zero Lost Time  
Zero Road/Speed Incidents  
Zero Environmental Incidents  
Zero Tolerance of Unsafe Behaviours & Practices



### More Realistic Testing:

Around 2009-10, some manufacturers took the initiative, conducting more true-to-life testing. They designed rigs that simulated crosscutting scenarios, using higher-powered 'forestry' chainsaws (or equivalent chain speeds) to cut into boots with full force. The results were eye-opening! It became evident that operators wearing Class/Level 1 (or boots with no protection) had minimal chances of resisting laceration, whereas opting for Class/Level 3 (or higher) significantly decreased the risk of sustaining a life-changing footcut injury. A select few boots successfully prevented the chainsaw chain from cutting through to the operator's foot. The top-performing boots were typically rated as Class/Level 3, but it very much came down to the materials used and the design of the boot.

### PF Olsen's Stand:

In response to the findings, PF Olsen implemented rules requiring chainsaw operators to wear Level/Class 3 boots or higher. This decision was not universally embraced, as higher-rated boots were costlier and, to some, appeared less 'forestry-like'. However, as trial work demonstrated, the investment proved worthwhile, as workers found these boots comfortable, lighter, and durable. During the intervening years, this higher standard has proven to save workers from serious harm.

### Popular Choices:

Today, Skellerup's Schöen 'Forestry Pro' orange rubber boot is a favourite among silviculture workers. Notably, it remains a preferred choice even when chainsaw protection is not necessary, showcasing its overall comfort and versatility. The investment and variety of imported boots from manufacturers have somewhat diminished due to advancements in mechanised processing and felling. With fewer workers requiring chainsaw protection in their footwear, the demand for such specialized boots has decreased. Nonetheless, an excellent and popular range of Level/Class 3 boots is available in New Zealand. These include the Skellerup Schöen, Andrew Antelao, Lavoro Sherwood, and the Fitwell Chop. See below:

#### Skellerup Schöen

- [Forestry Pro L3](#)
- [Forestry Pro L3 Spiked](#)
- Skellerup no longer advertises its' L3 Schöen 1100 Pro Spiked (leather boot)

#### Andrew Antelao

- [Antelao Chainsaw SPX Class 3](#) (spiked in arch area – replaceable spike kits sold separately)
- [Antelao Spiked SPX Class 3](#) (fully spiked – replaceable spikes)

#### Sherwood (manufactured by Lavoro)

- [Sherwood Class 3 Chainsaw Boot](#) (non-spiked)  
NOTE: These can be worn with aftermarket 'slip-on boot crampons' e.g., the [Protos Crampon](#)

#### Fitwell Chop

- [Fitwell Chop Class 3 Chainsaw Boot](#) (non-spiked, waterproof arborist boot)

### A Note of Caution:

When selecting chainsaw protective boots, ensure they display the required 'Level' or 'Class' information as per EN ISO 17249:2013. See example on the right. Remember, investing in the right chainsaw protective boots is an investment in your safety and well-being. Stay protected, stay safe!

