

THEO LASER WELDING SAFETY CHECKLIST

STAY SAFE, STAY PROTECTED

At THEO, safety comes first! Use this checklist before every welding task to ensure you're properly equipped and working in compliance with European safety standards (EU Regulation 2016/425). A well-prepared welder is a safe and efficient welder!

PERSONAL PROTECTIVE EQUIPMENT (PPE) CHECKLIST

1. Eye protection (EN 207 & EN 208)

- ✓ Safety glasses according to EN 207 for full protection or EN 208 for laser adjustment tasks

The protection level must match the specific laser wavelength and intensity used in welding applications. In Europe, laser safety is classified using LB ratings (e.g. D LB6, IR LB7).

Operating Mode / Tested Protection Levels (based on Laservision standards):

- >1070 - 1075 nm ~ OD9+, D LB6 + IR LB8 + M LB9
- >1075 - 1080 nm ~ OD8+, D LB6 + IRM LB8
- >1080 - 1087 nm ~ OD7+, D LB6 + IRM LB7

2. Laser welding helmet (EN 175)

- ✓ Laser welding helmet, e.g. THEO VIZ-R2, with auto-darkening and adjustable darkening filters, as well as shields specifically designed for laser applications

3. Protective clothing (EN ISO 11611 & DIN EN 12477)

- ✓ Flame-resistant welding jacket, sleeves, and pants covering all exposed skin (EN ISO 11611)
- ✓ Welding gloves with heat resistance - preferably TIG gloves (DIN EN 12477)
- ✓ No synthetic materials that could melt upon contact with sparks
- ✓ Welding collar or hood for additional neck protection
- ✓ Reflective jewelry should be ideally removed or securely covered by IR safe protective material

4. Respiratory protection (EN 149)

- ✓ Respirator mask (FFP2/FFP3) to protect against fine particles and welding fumes (EN 149)
- ✓ Tight-fitting mask with activated carbon filter for additional gas protection
- ✓ Powered Air-Purifying Respirator (PAPR) for longer welding sessions

Final safety checks before welding

The best PPE is only effective if used correctly and maintained regularly. Always make sure that:

- ✓ PPE is worn correctly and fits securely
- ✓ Eye protection and helmet are free from scratches or cracks
- ✓ Protective clothing fully covers the skin and is undamaged
- ✓ Respiratory protection is suitable for the materials being welded
- ✓ Clean PPE components, especially safety glass lenses and helmet filters after welding