

Safe Operation of a Belt Linisher / Belt Grinder

Standard Operating Procedure (SOP)

1. Purpose

To prevent burns, eye injuries, entanglement, and serious lacerations when using a belt linisher (belt sander/grinder) for metal or timber.

2. Scope

Applies to all pedestal, bench, or floor-mounted belt linishers in the workplace (e.g., Linishall, Multitool, Industrial Belt Grinder, Hare & Forbes, Steelmaster, etc.).

3. Responsibilities

Operator: Must be trained, authorised, and never remove or bypass guards.

Supervisor/PCBU: Ensure only authorised operators use the machine and that extraction and guarding are maintained.

4. Major Hazards

- Entanglement (hair, clothing, gloves)
- Eye injury from sparks or particles
- Burns from hot work or belt
- Inhalation of metal/timber dust (especially MDF, stainless, aluminium, or treated timber)
- “Grab and throw” if workpiece catches
- Belt breakage

5. Mandatory Personal Protective Equipment (PPE)

- Safety glasses or full face shield (AS/NZS 1337.1 medium impact)
- Hearing protection (Class 5 if >85 dB(A))
- Dust mask or respirator:
 - P2 minimum for general metal/timber
 - P3 or powered air for stainless, MDF, or painted surfaces
- NO GLOVES, rings, watches, loose sleeves, hoodies, or long hair (must be tied back and tucked in or under cap)
- Steel-cap boots
- Close-fitting clothing only

6. Training & Authorisation

Only persons who have:

- Completed specific linisher training
- Been assessed competent on this machine
- Current authorisation recorded in the training register

may operate unsupervised.

7. Pre-Operation Checks

- Belt condition – no tears, fraying, or missing sections; correct grit for job
- Belt tracking correct and tensioned properly
- All guards in place:
 - – Top wheel guard
 - – Side guards
 - – Spark shield / eye shield (polycarbonate, undamaged)
 - – Table or platen guard (gap ≤ 3 mm)
- Dust extraction turned on and functioning (bag not more than $\frac{2}{3}$ full)
- Emergency stop button (if fitted) tested
- Work rest gap ≤ 3 mm and square
- Floor area clean and dry – no trip hazards

8. Safe Operating Procedure

- Put on all required PPE – NO GLOVES and NO LOOSE CLOTHING.
- Adjust work rest so gap to belt is ≤ 3 mm and square to belt.
- Start dust extraction first, then start linisher.
- Let belt reach full speed before contacting work.
- Hold workpiece firmly with both hands and use the work rest whenever possible.
- Apply light, even pressure – let the belt do the work.
- Move workpiece side-to-side to prevent grooves and overheating.
- For small parts use pliers, finishing jigs, or push blocks – never hold with fingers near belt.
- Grind on the downward-moving side of the belt (usually the front face).
- Never finish round bar or tube without a proper V-block jig.
- Stop machine completely before adjusting belt or changing grit.

9. Shut-Down & Cleaning

- Turn off machine and wait until belt stops completely.
- Turn off dust extraction.
- Vacuum or brush dust – never blow with compressed air while people are nearby.
- Empty dust bag when $\frac{2}{3}$ full (outside or in designated area wearing P2/P3 mask).

10. Absolutely Prohibited Actions (Zero Tolerance)

- Wearing gloves while the belt is moving
- Removing or adjusting any guard while machine is plugged in
- Long hair not tied back and secured
- Linishing without dust extraction running
- Holding small pieces with fingers close to belt
- Wearing loose clothing, hoodies, or jewellery
- Grinding magnesium or titanium without specific written approval and water suppression

11. Emergency Procedures

- Hit emergency stop (if fitted) or switch off at wall
- If clothing/hair becomes entangled: DO NOT pull – use the isolation switch immediately
- Treat burns immediately with cold running water for 20 minutes
- Call 111 for serious injury

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Position: Director

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