

Safe Operation of a Cold-Cut Saw (Metal Chop Saw / Dry-Cut Saw)

Standard Operating Procedure (SOP)

1. Purpose

To prevent serious injury (amputation, eye injury, burns, fire, and projectile hazards) when using a cold-cut metal saw fitted with a TCT (tungsten-carbide-tipped) or cermet blade that does NOT use flood coolant.

2. Scope

Applies to all manual-pull, pivot, and semi-automatic cold-cut saws used for cutting steel, stainless, aluminium, and other metals without liquid coolant.

3. Responsibilities

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

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

4. Major Hazards

- Blade breakage and flying fragments
- Workpiece or off-cut being thrown
- Sparks igniting flammable materials
- Contact with hot blade or hot cut piece
- Hand/finger amputation in blade zone
- Dust inhalation (especially stainless steel)

5. Mandatory Personal Protective Equipment (PPE)

- Safety glasses or full face shield (AS/NZS 1337.1 medium impact)
- Hearing protection (Class 5 – these saws are very loud)
- P2 or higher respirator when cutting stainless, aluminium, or painted/galvanised material
- Steel-cap safety boots
- Close-fitting clothing – NO GLOVES while operating (use heat-resistant gloves only to remove hot off-cuts after blade has stopped)
- No loose sleeves, jewellery, or long hair

6. Training & Authorisation

Only persons who have:

- Completed specific cold-cut saw training (Competenz Unit 29642 or in-house equivalent)
- Been assessed competent on this exact model
- Current authorisation recorded in the training register

may operate unsupervised.

7. Pre-Operation Checks

- Blade condition – no missing or cracked teeth, no wobble, correct for material
- Blade guard fully functional and returns automatically
- Vise clamp secure and jaws parallel/serrated as required
- All handles and trigger lock-off working
- Spark deflector and lower blade guard in place
- Emergency stop (if fitted) tested
- Extraction system (if fitted) connected and working
- Fire extinguisher (dry chemical or CO₂) within 5 m and in-date
- Floor area clear of off-cuts and trip hazards

8. Safe Operating Procedure

Set-Up

1. Select correct blade for material (refer manufacturer chart).
2. Clamp material firmly in the vise – at least two points of contact, no overhang that can vibrate.
3. For bundles or irregular shapes use proper packing or bundling clamps.
4. Ensure off-cut will fall safely into a bin or enclosed area.

Cutting

1. Put on all PPE – NO GLOVES while cutting.
2. Stand to one side of the blade line – never directly in front.
3. Lower blade slowly and steadily – do not force or drop the head.
4. Keep hands clear of the blade path and vise area while blade is moving.
5. Allow the blade to stop completely before lifting the head or removing off-cuts.
6. Use tongs or heat-resistant gloves to remove hot pieces.

9. Shut-Down & Cleaning

1. Let blade come to a complete stop.
2. Unclamp and remove material.
3. Brush or vacuum hot swarf (never use compressed air near people).

4. Empty swarf bin regularly (outside if stainless).
5. Isolate at wall if leaving the area for extended time.

10. Absolutely Prohibited Actions (Zero Tolerance)

- Removing or modifying the blade guard
- Wearing gloves while the blade is turning
- Cutting material the saw is not rated for (e.g., timber, concrete, magnesium)
- Leaving the saw running unattended
- Cutting short lengths (<50 mm) without a proper stop or fixture
- Standing in line with the blade plane
- Using a damaged or incorrect blade

11. Emergency Procedures

- Release trigger immediately and let blade stop
- Hit emergency stop (if fitted)
- If someone is cut: apply direct pressure and call 111
- If fire starts: use extinguisher and evacuate if necessary

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