

Arc (Stick) Welders

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | Welding & Thermal Cutting



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Arc (stick) welding uses a flux-coated consumable electrode that melts to form the weld and its shield, working on steel outdoors, in draughts and on dirty or rusty material where other processes struggle. The basic, robust process for heavy steelwork.

Key Features

- Outputs 140-250 A typical
- AC or DC inverter units
- Electrode ranges 2.5-6 mm
- Arc force and hot start controls
- Simple rugged construction

Typical Uses in the Workshop

- Weld frames, gates and structural steel
- Repair heavy and rusty components
- Weld outdoors and in draughts
- Teach the fundamentals of arc welding

Safe Operation

1. Select the electrode type and current
2. Clean the joint and set the polarity
3. Strike the arc and hold the correct arc length
4. Move at a steady travel speed
5. Chip slag and inspect the weld after cooling

SAFETY NOTES

- Arc flash can burn retinas - full shade protection always
- Stick welding sparks fly far - clear the area
- Work in a ventilated space and use extraction
- Keep the electrode holder insulated when idle
- Disconnect before changing electrodes

Maintenance & Consumables

- Check cables and holders for damage
- Keep the machine vents clear
- Inspect the electrode storage for damp
- Check the thermal cut-out works
- Store electrodes dry

Specification & Buying Notes

A 200 A inverter stick welder is light, quiet and cheap to run, ideal for teaching the process. Buy quality electrodes (6013 for learners, 7018 for structure) and dry storage. Arc-only suits steel curriculum.