

# Hot Gas Welding Best Practice



1. Prepare Welding Record Sheet.
2. Check that weld rod and sheet/pipe are the same material type.
3. Ensure material to be welded is clean.



4. Apply suitable prep to weld area, typically 90° inclusive for butt weld with single-V  $\leq$  6mm thick sheet and double-V  $>$  7mm thick sheet. Apply suitable prep to pipes, considering pipe configuration, to enable root penetration.



5. Scrape area to be welded, creating a smooth surface, removing just enough for the weld to cover. Do not over-scrape.

6. Check temperature of welding torch, using suitable temperature-measuring device, ensuring that the temperature stabilises to the recommended value for the material to be welded, before starting to weld. Note temperature on Welding Record Sheet.

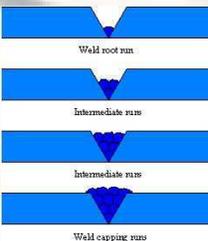


7. Check alignment of parts, clamp or tack as required.

8. After tacking, allow area to cool to approx. 30-40°C naturally. Never cool rapidly using blown air or water.

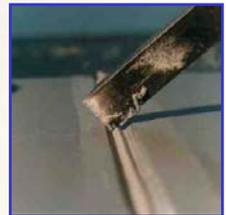


9. Scrape gloss at side on tack and any undercut to smooth surface finish.
10. Weld root bead using either 3 or 4mm weld rod as required and allow to cool as before.
11. On material over 6mm thick using double-V prep, turn part over if possible and scrape melt-through back to a smooth surface finish. Weld root bead on opposing side and allow to cool naturally.



12. Fill the weld prep, building the runs up in a pyramid shape, allowing each run to cool naturally and employing inter-run scraping. Turn after each run, if possible, to allow for stress relief on opposite side to minimise distortion.

13. If the weld needs to be smooth, sand carefully using a 4½" grinderette, finishing off with a metal scraper.



14. In the case of fillet welds, always start each new layer from the bottom of the joint, building the runs up in a triangular fashion, again ensuring inter-run scraping and cooling.

15. Complete Welding Record Sheet.

N.B. Triangular weld rod can be used where appearance is important and there is only a single pass weld. This rod should never be used as a root run or in pressure systems.



## Daily Routine

- a) Check welding torch for airflow, against recommended values. Check hoses for leaks and repair as required.
- b) Set air temperature to material manufacturers recommended value and check using suitable device and digital thermometer, allowing 2-3 minutes for the temperature to stabilise.
- c) Check welding nozzles for damage and burnt material. Clean and file using needle files to retain shape as necessary.