

WELD DEFECTS AND POSSIBLE CAUSES

The following check-list identifies possible causes of common surface conditions:

Deep Electrode Indentation:

- Long weld time
- Electrode force too high or too low
- Weld current too high
- Poor part fit up
- Poor follow up
- Scaly or dirty metal
- Insufficient water cooling

Irregular Shaped Welds:

- Misalignment of electrodes
- Excessive electrode wear
- Improper electrode contact on metal
- Improper heat balance

Expulsion at Weld:

- Short squeeze time
- Low or high electrode force
- Excessive weld current
- Dirty or scaly material
- Poor fit up
- Insufficient edge distance
- Poor follow up

Cracks in Weld Nugget:

- Long weld time
- Short or no hold time
- Low electrode force
- Dirty or scaly metal
- Poor follow up
- Poor fit up
- Metallurgy of metal welded

Cracks in Parent Metal:

- Short or no hold time
- High electrode force
- Small electrode face area
- Insufficient water cooling
- Metallurgy of metal welded

Poor Weld Nugget Quality:

- Short weld time
- High or low electrode pressure
- Low weld current
- Improper electrode face area
- Poor heat balance
- Dirty or scaly metal
- Poor part fit up
- Insufficient edge distance
- Metallurgy of metal welded

Electrode Mushrooming:

- Weld time too long
- Weld force too high
- Weld current too high
- Insufficient water cooling
- Electrode area too small
- Electrode alloy too soft

Weld not Holding:

- Weld force too high
- Weld force too low
- Poor fit up of parts
- Poor follow up
- Incorrect weld projections
- Weld current too low
- Poor set-up of tooling
- Weld time too low

Electrode Sticking:

- Short weld time
- High or low electrode pressure
- Low weld current
- Improper electrode face area
- Poor heat balance
- Dirty or scaly metal
- Insufficient edge distance
- Metallurgy of metal welded