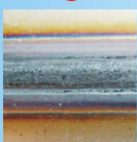
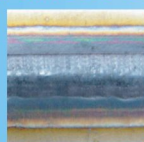




### Welding zones description

Zone 0	Zone 0: zone not affected by welding.
Zone 1	Zone 1: gas protection zone.
Zone 2	Zone 2: heated zone (metal colored by heating temperature).
Zone 3	Zone 3: welding line
Zone 2	Zone 2: heated zone (metal colored by heating temperature).
Zone 1	Zone 1: gas protection zone.
Zone 0	Zone 0: zone not affected by welding.

### Perfect welding with good protection gas adjustment.



Outside



Inside

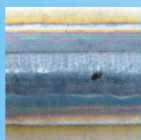


Ending and starting current adjusted correctly

### Wrong welding appearance, external side :



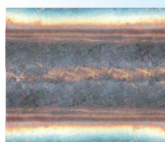
-Bubbles or many tiny pin holes in zone 3: parts not cleaned correctly, welders hands dirty (other defects in zone 3, see herunder)



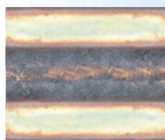
-Single pin hole in zone 3: welding current decrease parameters not correctly adjusted (other defects in zone 3, see herunder)



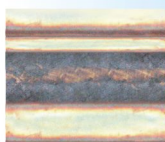
-Dark brown or black in zone 3 and 2: not enough protection gas (argon) or wrong gas used.



-Brown or black in zone 1, light brown or white in zone 2, brown or black in zone 3: protection gas flow must be increased.



-Dark brown or black in zone 3 and 2, very large zone 2: welding speed too low.

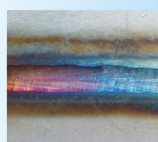


-Brown or black in zone 1, light brown or white in zone 2, brown or black in zone 3, both zones 1 do not have the same size protection gas flow blow away by room ventilation or fan .

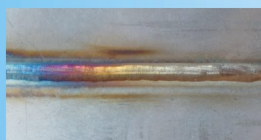
### Wrong welding appearance, internal side :



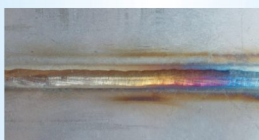
- Red color on zone 2, dark color in zone 1: not enough protection gas, protection gas injection time parameters not correctly adjusted, gas bottle empty.



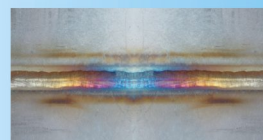
- Black color on zone 2 and 1: wrong protection gas used (no hydrogen in protection gas) or gas bottle empty.



- Black or red color or dark color in zone 1,2,3 at the beginning of the welding: pre injection time too short

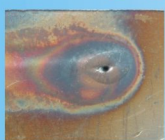


- Black or red color or dark color in zone 1,2,3 at the end of the welding: air penetration inside the tank.



- Black or red color or dark color in zone 1,2,3 in the medium part of the welding: orifices closing plugs missing or leaking.

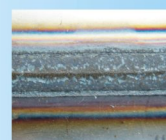
### Welding appearance, outside, welding current wrong parameters



-Ending current too high: pin holes



-Starting current too high: burn through



- Welding current too high: oxide peels