

Applications

MIG welding of 18%Cr-8%Ni steel for chemical industries such as oil, medical, fertilizer and textile industries and for nuclear reactors.

Characteristics on Usage

Though SM-308 is austenitic type stainless steel wire, the weld metal contains ferrite and resistance to crack is extremely good. The usability, such as arc stability and assimilability of welds to base metal is extremely good.

Resistance to corrosion and the mechanical properties of the weld metal are good.

Typical Chemical Composition of Wire (%)

| C | Si | Mn | Cr | Ni |
|------|------|------|------|-----|
| 0.04 | 0.41 | 1.65 | 19.9 | 9.8 |

Typical Mechanical Properties of All-Weld Metal

| TS MPa(lbs/in ²) | EL (%) | Temp. °C (°F) | CVN-Impact Value J (ft · lbs) |
|---------------------------------|-----------|------------------|----------------------------------|
| 590 (85,600) | 40 | 0 (32) | 100 (74) |
| | | -20 (-4) | 50 (37) |

Typical Welding Conditions (DC+)

| Size mm(in) | A | V | Speed (cm/min.) | Gas Flow (ℓ /min.) | Remarks |
|----------------|-----|----|--------------------|-----------------------|-------------------------------|
| 1.2 (.045) | 260 | 27 | 30 | 25 | Shielding gas |
| 1.6 (1/16) | 300 | 29 | 34 | 25 | 100%Ar or Ar+2%O ₂ |