

SM-316L

Classification

**AWS** A5.9/ASME SFA-5.9 ER316L  
**JIS** Z 3321 YS316L  
**EN** ISO 14343-A-G 19 12 3L

Welding Positions



Features

- Excellent corrosion resistance
- Excellent resistance to heat
- Excellent Arc stability and bead wetting

Polarity

DC +

Application Areas

- Steel structures
- Chemical industries and nuclear reactors

Shielding Gas

Ar + 2% O2

Approvals

|     |    |
|-----|----|
| ABS | CE |
| ✓   | ✓  |

Typical Chemical Composition of the Wire (wt%)

|      |      |     |      |      |      |      |      |     |
|------|------|-----|------|------|------|------|------|-----|
| C    | Si   | Mn  | P    | S    | Cu   | Ni   | Cr   | Mo  |
| 0.02 | 0.46 | 1.8 | 0.02 | 0.01 | 0.12 | 11.5 | 18.5 | 2.2 |

Typical Mechanical Properties of All-Weld Metal

|               |                              |                   |                        |                                |
|---------------|------------------------------|-------------------|------------------------|--------------------------------|
| Shielding Gas | Tensile Strength<br>MPa(ksi) | Elongation<br>(%) | Temperature<br>°C (°F) | Impact Toughness<br>J (ft·lbs) |
| Ar + 2% O2    | 555 (80)                     | 45                | 0 (32)<br>-196 (-320)  | 105 (77)<br>50 (37)            |

Diameter / Welding Parameters / Packaging

|                                                                |                                            |
|----------------------------------------------------------------|--------------------------------------------|
| Wire Diameter<br>mm(in)                                        | Packaging                                  |
| 0.9 (0.035), 1.0 (0.039), 1.2 (0.045), 1.4 (0.052), 1.6 (1/16) | Spool 12.5kg(28lbs)<br>Drum 250kg (551lbs) |

SMW

GMW

GTW

FCW

Metal-cored Wire

SAW Wire

SAW Flux