

SM-70

Classification

**AWS** A5.18/ASME SFA-5.18 ER70S-6  
**JIS** Z 3312 YGW12  
**EN** ISO 14341-A G 42 2 C1 3Si1 / 14341-A G 42 5 M21 3Si1

Welding Positions



Features

- All position welding by short-circuiting type transfer
- Stable arc and low spatter
- Good Bead Appearance

Polarity

DC +

Application Areas

- Structural fabrication
- Automotive
- Machinery

Shielding Gas

100% CO2  
Ar + 20% CO2

Approvals

|     |    |     |    |    |    |      |    |     |    |    |     |
|-----|----|-----|----|----|----|------|----|-----|----|----|-----|
| ABS | BV | DNV | KR | LR | NK | RINA | RS | CWB | CE | DB | TUV |
| ✓   | ✓  | ✓   | ✓  | ✓  | ✓  | ✓    | ✓  | ✓   | ✓  | ✓  | ✓   |

Typical Chemical Composition of the Wire (wt%)

|      |      |      |       |       |      |      |      |      |      |
|------|------|------|-------|-------|------|------|------|------|------|
| C    | Si   | Mn   | P     | S     | Cu   | Ni   | Cr   | Mo   | V    |
| 0.08 | 0.85 | 1.52 | 0.019 | 0.009 | 0.21 | 0.02 | 0.03 | 0.01 | 0.01 |

Typical Mechanical Properties of All-Weld Metal

| Shielding Gas | Yield Strength<br>MPa(ksi) | Tensile Strength<br>MPa(ksi) | Elongation<br>(%) | Temperature<br>°C (°F) | Impact Toughness<br>J (ft · lbs) |
|---------------|----------------------------|------------------------------|-------------------|------------------------|----------------------------------|
| 100% CO2      | 460 (67)                   | 560 (81)                     | 28                | 0 (32)<br>-30 (-20)    | 120 (89)<br>70 (52)              |
| Ar + 20% CO2  | 470 (68)                   | 570 (83)                     | 26                | 0 (32)<br>-30 (-20)    | 140 (103)<br>90 (66)             |

Diameter / Welding Parameters / Packaging

| Wire Diameter<br>mm(in)                                                     | Packaging                                                                              |
|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 0.8 (0.030), 0.9 (0.035), 1.0 (0.039), 1.2 (0.045), 1.4 (0.052), 1.6 (1/16) | Spool 15kg(33lbs), 20kg (44lbs)<br>Drum 250kg (551lbs), 300kg (661lbs), 350kg (771lbs) |

SMW

GMAW

GTAW

FCAW

Metal-cored Wire

SAW Wire

SAW Flux