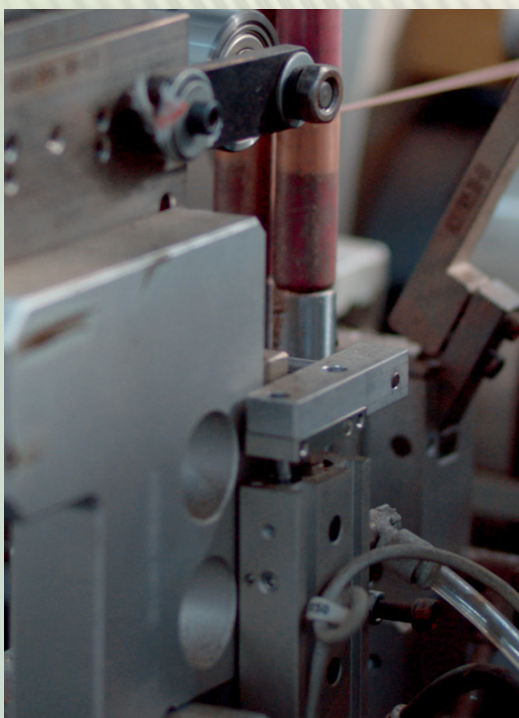
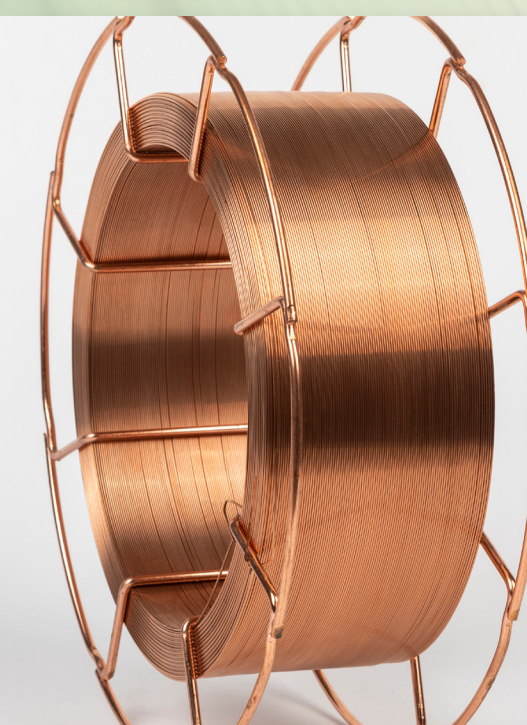




**LONGTENG**  
SPECIAL STEEL  
**WELDING MATERIAL**  
**CATALOGUE**



Jiangsu Longteng Special Steel Group Co., Ltd., is a steel joint enterprise that integrates traditional steel industry and metal deep processing, founded in 1993. Longteng has total assets of more than 20 billion yuan, with more than 6,000 employees, the annual output of 4.5 million tons of special steels products and 5 million tons of deep-processing metal products.

The welding material project combines the advantages of Longteng Special Steel, fully integrated production process. Achieving the coverage of the whole industrial chain. The products cover three main series of 200 varieties such as gas-shield solid welding wire, flux-cored welding wire and welding rods, which would be widely used for steel structures, shipbuilding, pressure vessels, oil pipelines, rail transit and offshore engineering, nuclear industry and etc.

Longteng special steel welding technology has made extraordinary achievements in a short period of time. Our products and business have spread to more than 40 countries and regions around the world, and set up subsidiaries or joint ventures in overseas regions.

**Africa, Latin America** - Export business focus markets

**Brazil, Indonesia** - with subsidiaries and joint ventures

**Europe** - Key market for high-end auto parts

**Far East** - Key markets for export business

**Middle East** - Key export markets

**North America** - Key export markets





Fully integrated production process, with the support of upstream world class steel making facilities in house from same group company.



Newly developed production process with latest technology and know-how, i.e., fully automatic production which will be the assurance of constant quality.



High efficiency, fully automatic production line make us achieve 1.5 million tons capacity.

# Solid Welding Wire



|                                    |                     |                       |    |
|------------------------------------|---------------------|-----------------------|----|
| Carbon Steel Solid Welding Wire    | Mild Steel          | ER70S-3               | 5  |
|                                    |                     | ER70S-4               | 5  |
|                                    |                     | ER70S-6               | 6  |
|                                    |                     | ER70S-6 (Copper Free) | 6  |
|                                    |                     | ER70S-G               | 7  |
|                                    | Weathering Steel    | ER80S-G               | 7  |
|                                    | High Strength Steel | ER90S-G               | 8  |
|                                    |                     | ER100S-G              | 8  |
|                                    |                     | ER110S-G              | 9  |
| Stainless Steel Solid Welding Wire |                     | ER308L                | 10 |
|                                    |                     | ER316L                | 10 |

## ER70S-3

### Conformance

ISO 14341-B-GS3  
AWS A5.18 ER70S-3

### Typical Application

- Used for welding low-carbon steel and thin plates
- Used for welding low-carbon steel parts with thorough surface treatment

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 525                    | 430                  | 28             | 103, 97, 100      | -20                     |

### Chemical Composition %

| C     | Mn   | Si   | S     | P     | Cr    | Ni    | Mo    | V     | Cu   |
|-------|------|------|-------|-------|-------|-------|-------|-------|------|
| 0.074 | 1.15 | 0.63 | 0.021 | 0.020 | 0.021 | 0.023 | 0.023 | 0.004 | 0.12 |

### Reference

| Shielding Gas              | CO <sub>2</sub> |        |        |         |
|----------------------------|-----------------|--------|--------|---------|
| Gas Flow Rate (L/min)      | 15              | 15~20  | 15~25  | 20~25   |
| Diameter (mm)              | 0.8             | 1.0    | 1.2    | 1.6     |
| Current(A) DC <sup>+</sup> | 50~100          | 50~220 | 80~350 | 170~550 |

## ER70S-4

### Conformance

ISO 14341-B-GS4  
AWS A5.18 ER40S-6

### Typical Application

- Used for welding low-carbon steel and thin plates
- Used for welding low-carbon steel parts with thorough surface treatment

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 540                    | 450                  | 30             | 93, 87, 95        | -30                     |

### Chemical Composition %

| C     | Mn   | Si    | S     | P     | Ni    | Cr    | Mo    | V     | Cu    |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.085 | 1.05 | 0.718 | 0.014 | 0.014 | 0.005 | 0.018 | 0.006 | 0.003 | 0.106 |

### Reference

| Shielding Gas              | CO <sub>2</sub> / Ar+CO <sub>2</sub> 5~20% |        |        |         |
|----------------------------|--------------------------------------------|--------|--------|---------|
| Gas Flow Rate (L/min)      | 15                                         | 15~20  | 15~25  | 20~25   |
| Diameter (mm)              | 0.8                                        | 1.0    | 1.2    | 1.6     |
| Current(A) DC <sup>+</sup> | 50~100                                     | 50~220 | 80~350 | 170~550 |

## ER70S-6

### Conformance

ISO 14341-4-G424C13Si1

AWS A5.18 ER70S-6

### Typical Application

- Used for welding all kinds of 500MPa structural steel parts
- Used for welding all kinds of 500MPa plates and pipes

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 555                    | 450                  | 29             | 77, 95, 83        | -40                     |

### Chemical Composition %

| C     | Mn   | Si   | S     | P     | Cr    | Ni    | Mo    | V     | Cu    |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 0.077 | 1.45 | 0.87 | 0.013 | 0.012 | 0.031 | 0.017 | 0.002 | 0.004 | 0.125 |

### Reference

| Shielding Gas              | 100%CO <sub>2</sub> / 80%Ar+20%CO <sub>2</sub> |        |        |         |
|----------------------------|------------------------------------------------|--------|--------|---------|
| Gas Flow Rate (L/min)      | 15                                             | 15~20  | 15~25  | 20~25   |
| Diameter (mm)              | 0.8                                            | 1.0    | 1.2    | 1.6     |
| Current(A) DC <sup>+</sup> | 50~100                                         | 50~220 | 80~350 | 170~550 |

## ER70S-6 (Copper Free)

### Conformance

ISO 14341-4-G424C13Si1

AWS A5.18 ER70S-6

### Typical Application

- Used for welding low-carbon steel and all kinds of 500MPa structural steel parts

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 555                    | 450                  | 29             | 77, 95, 83        | -40                     |

### Chemical Composition %

| C     | Mn   | Si   | S     | P     | Cr    | Ni    | Mo    | V     | Cu   |
|-------|------|------|-------|-------|-------|-------|-------|-------|------|
| 0.007 | 1.54 | 0.88 | 0.011 | 0.012 | 0.011 | 0.008 | 0.010 | 0.002 | 0.15 |

### Reference

| Shielding Gas              | 100%CO <sub>2</sub> / 80%Ar+20%CO <sub>2</sub> |        |        |         |
|----------------------------|------------------------------------------------|--------|--------|---------|
| Gas Flow Rate (L/min)      | 15                                             | 15~20  | 15~25  | 20~25   |
| Diameter (mm)              | 0.8                                            | 1.0    | 1.2    | 1.6     |
| Current(A) DC <sup>+</sup> | 50~100                                         | 50~220 | 80~350 | 170~550 |

## ER70S-G

### Conformance

ISO 14341-B-GS1  
AWS A5.18 ER70S-3

### Typical Application

- Used for welding all kinds of 500MPa structural steel parts
- Applied for high-speed welding steel plate of 500MPa

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 545                    | 455                  | 29             | 114, 131, 127     | -40                     |

### Chemical Composition %

| C     | Mn   | Si   | S     | P     | Ti+Zr | Cu    |
|-------|------|------|-------|-------|-------|-------|
| 0.061 | 1.44 | 0.73 | 0.012 | 0.009 | 0.16  | 0.124 |

### Reference

| Shielding Gas              | CO <sub>2</sub> |        |        |         |
|----------------------------|-----------------|--------|--------|---------|
| Gas Flow Rate (L/min)      | 15              | 15~20  | 15~25  | 20~25   |
| Diameter (mm)              | 0.8             | 1.0    | 1.2    | 1.6     |
| Current(A) DC <sup>+</sup> | 50~100          | 50~220 | 80~350 | 170~550 |

## ER80S-G

### Conformance

AWS A5.18 ER80S-G

### Typical Application

- Suitable for welding 550MPa high strength weathering steel, such as vehicles, offshore projects, bridges, etc

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 590                    | 495                  | 28             | 112, 120, 118     | -40                     |

### Chemical Composition %

| C     | Mn  | Si   | S     | P     | Ni   | Cr   | Cu  |
|-------|-----|------|-------|-------|------|------|-----|
| 0.057 | 1.4 | 0.46 | 0.008 | 0.016 | 0.33 | 0.48 | 0.3 |

### Reference

| Shielding Gas              | CO <sub>2</sub> / Ar+CO <sub>2</sub> 5~20% |        |        |         |
|----------------------------|--------------------------------------------|--------|--------|---------|
| Gas Flow Rate (L/min)      | 15                                         | 15~20  | 15~25  | 20~25   |
| Diameter (mm)              | 0.8                                        | 1.0    | 1.2    | 1.6     |
| Current(A) DC <sup>+</sup> | 50~100                                     | 50~220 | 80~350 | 170~550 |

## ER90S-G

### Conformance

AWS A5.28 ER90S-G

### Typical Application

• Suitable for welding 620MPa high strength steel structures, such as construction machinery, pipelines, ships, pressure vessels, etc.

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 660                    | 545                  | 25             | 103, 111, 121     | -20                     |

### Chemical Composition %

| C     | Mn        | Si        | S      | P      | Mo        | Ti    | Cu    |
|-------|-----------|-----------|--------|--------|-----------|-------|-------|
| ≤0.10 | 1.40~1.90 | 0.50~0.95 | ≤0.025 | ≤0.025 | 0.20~0.60 | ≤0.12 | ≤0.50 |

### Reference

| Shielding Gas              | Ar+CO <sub>2</sub> |        |        |         |
|----------------------------|--------------------|--------|--------|---------|
| Gas Flow Rate (L/min)      | 15                 | 15~20  | 15~25  | 20~25   |
| Diameter (mm)              | 0.8                | 1.0    | 1.2    | 1.6     |
| Current(A) DC <sup>+</sup> | 50~100             | 50~220 | 80~350 | 170~550 |

## ER100S-G

### Conformance

AWS A5.28 ER100S-G

### Typical Application

• Suitable for welding 690MPa high strength steel structures, such as construction machinery, hoisting machinery, bridges, pipelines, shipbuilding, pressure vessels, etc

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 660                    | 545                  | 25             | 103, 111, 121     | -20                     |

### Chemical Composition %

| C     | Mn        | Si    | S      | P      | Cr    | Ni        | Mo    | Ti    | Cu    |
|-------|-----------|-------|--------|--------|-------|-----------|-------|-------|-------|
| ≤0.11 | 1.40~1.90 | ≤0.80 | ≤0.025 | ≤0.025 | ≤0.30 | 0.20~0.60 | 0.010 | ≤0.16 | ≤0.50 |

### Reference

| Shielding Gas              | Ar+20%CO <sub>2</sub> |        |        |         |
|----------------------------|-----------------------|--------|--------|---------|
| Gas Flow Rate (L/min)      | 15                    | 15~20  | 15~25  | 20~25   |
| Diameter (mm)              | 0.8                   | 1.0    | 1.2    | 1.6     |
| Current(A) DC <sup>+</sup> | 50~100                | 50~220 | 80~350 | 170~550 |

## ER110S-G

### Conformance

AWS A5.28 ER110S-G

### Typical Application

• Suitable for welding 790MPa high strength weathering steel, such as pressure vessels, construction machinery, and hosting machinery

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 840                    | 730                  | 24.5           | 85, 93, 75        | -40                     |

### Chemical Composition %

| C     | Mn        | Si        | S      | P      | Ni        | Mo        | Cr        | Cu    | Ti    |
|-------|-----------|-----------|--------|--------|-----------|-----------|-----------|-------|-------|
| ≤0.10 | 1.40~1.85 | 0.40~1.00 | ≤0.025 | ≤0.025 | 1.20~2.40 | 0.20~0.60 | 0.25~0.60 | ≤0.50 | ≤0.16 |

### Reference

| Shielding Gas              | Ar+20%CO <sub>2</sub> |        |        |         |
|----------------------------|-----------------------|--------|--------|---------|
| Gas Flow Rate (L/min)      | 15                    | 15~20  | 15~25  | 20~25   |
| Diameter (mm)              | 0.8                   | 1.0    | 1.2    | 1.6     |
| Current(A) DC <sup>+</sup> | 50~100                | 50~220 | 80~350 | 170~550 |

## ER308L

### Conformance

AWS A5.9 ER308L

### Typical Application

• Used in petrochemical, pressure vessel, food processing machinery, medical equipment, chemical fertilizer

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 840                    | 730                  | 24.5           | 85, 93, 75        | -40                     |

### Chemical Composition %

| C     | Mn   | Si   | Cr    | Ni    | Mo   | P     | S     | Cu   |
|-------|------|------|-------|-------|------|-------|-------|------|
| 0.023 | 1.63 | 0.40 | 20.12 | 10.35 | 0.37 | 0.013 | 0.009 | 0.16 |

### Reference

| Shielding Gas              | Ar+20%CO <sub>2</sub> |         |         |
|----------------------------|-----------------------|---------|---------|
| Gas Flow Rate (L/min)      | 20~25                 | 20~25   | 20~25   |
| Diameter (mm)              | 0.8                   | 1.0     | 1.2     |
| Current(A) DC <sup>+</sup> | 70~150                | 100~200 | 140~220 |

## ER316L

### Conformance

AWS A5.9 ER316L

### Typical Application

• Applied in petrochemical, chemical fertilizer equipment such as SUS316L and other materials of welding

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 840                    | 730                  | 24.5           | 85, 93, 75        | -40                     |

### Chemical Composition %

| C     | Mn   | Si   | Cr    | Ni    | Mo   | P     | S     | Cu   |
|-------|------|------|-------|-------|------|-------|-------|------|
| 0.023 | 1.90 | 0.42 | 19.12 | 12.59 | 2.59 | 0.009 | 0.008 | 0.28 |

### Reference

| Shielding Gas              | Ar+20%CO <sub>2</sub> |         |         |
|----------------------------|-----------------------|---------|---------|
| Gas Flow Rate (L/min)      | 20~25                 | 20~25   | 20~25   |
| Diameter (mm)              | 0.8                   | 1.0     | 1.2     |
| Current(A) DC <sup>+</sup> | 70~150                | 100~200 | 140~220 |

# Welding Electrode



|                                   |         |    |
|-----------------------------------|---------|----|
| Carbon Steel Welding Electrode    | E6013   | 12 |
|                                   | E7018   | 12 |
|                                   | E7015   | 13 |
|                                   | E7016   | 13 |
| Stainless Steel Welding Electrode | E308-16 | 14 |
|                                   | E309-16 | 14 |

## E6013

### Conformance

AWS A5.1 E6013

### Typical Application

• Suitable for welding structures made of low carbon steel, such as small size steel plates

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 485                    | 380                  | 28.5           | 86                | 0                       |

### Chemical Composition %

| C     | Mn   | Si   | S     | P     | Ni    | Mo    | Cr    | V     |
|-------|------|------|-------|-------|-------|-------|-------|-------|
| 0.079 | 0.38 | 0.21 | 0.018 | 0.024 | 0.020 | 0.005 | 0.032 | 0.010 |

### Reference

| Diameter (mm)   | 2.0                | 2.5    | 3.2    | 4.0     | 5.0     |
|-----------------|--------------------|--------|--------|---------|---------|
| Type of Current | AC/DC <sup>+</sup> |        |        |         |         |
| Current(A)      | 40~70              | 60~100 | 80~140 | 140~220 | 180~230 |

## E7018

### Conformance

AWS A5.1 E7018

### Typical Application

• Applied in low alloy steel and carbon steel welding structure

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 550                    | 450                  | 28             | 145, 149, 150     | -30                     |

### Chemical Composition %

| C    | Mn   | Si   | S     | P     | Cr   | Ni   | Mo    | V     |
|------|------|------|-------|-------|------|------|-------|-------|
| 0.07 | 1.05 | 0.46 | 0.015 | 0.011 | 0.01 | 0.02 | 0.031 | 0.017 |

### Reference

| Diameter (mm)   | 2.0                | 2.5   | 3.2    | 4.0     | 5.0     |
|-----------------|--------------------|-------|--------|---------|---------|
| Type of Current | AC/DC <sup>+</sup> |       |        |         |         |
| Current(A)      | 40~70              | 50~90 | 80~140 | 110~210 | 160~230 |

## E7015

### Conformance

AWS A5.1 E7015

### Typical Application

- Applied in welding medium-carbon steel and low-alloy structures
- Used in shipbuilding such as A, B, D, E. It is also used in thick steel plates and the carbon steel structures

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 550                    | 440                  | 30             | 140               | -30                     |

### Chemical Composition %

| C     | Mn   | Si   | S     | P     | Ni    | Mo    | Cr    | V     |
|-------|------|------|-------|-------|-------|-------|-------|-------|
| 0.087 | 1.12 | 0.58 | 0.012 | 0.021 | 0.011 | 0.007 | 0.028 | 0.016 |

### Reference

| Diameter (mm)   | 2.0             | 2.5    | 3.2    | 4.0     | 5.0     |
|-----------------|-----------------|--------|--------|---------|---------|
| Type of Current | DC <sup>+</sup> |        |        |         |         |
| Current(A)      | 50~80           | 60~100 | 80~140 | 110~220 | 160~230 |

## E7016

### Conformance

AWS A5.1 E7016

### Typical Application

- Mainly for welding carbon steel or low alloy steel
- Welding ships which used A, B, C, D E grade steel, and the important frame for the relative strength grade vehicles, construction and bridges.

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 550                    | 450                  | 31             | 170               | -30                     |

### Chemical Composition %

| C     | Mn   | Si   | S     | P     | Cr    | Ni    | Mo    | V     |
|-------|------|------|-------|-------|-------|-------|-------|-------|
| 0.069 | 1.11 | 0.53 | 0.009 | 0.020 | 0.037 | 0.013 | 0.002 | 0.010 |

### Reference

| Diameter (mm)   | 2.0                | 2.5   | 3.2    | 4.0     | 5.0     |
|-----------------|--------------------|-------|--------|---------|---------|
| Type of Current | AC/DC <sup>+</sup> |       |        |         |         |
| Current(A)      | 40~70              | 50~90 | 80~140 | 110~210 | 160~230 |

## E308-16

### Conformance

AWS A5.4 E308-16

### Typical Application

• Suitable for welding the corrosion resistant stainless steel structure

### Mechanical Properties

| Tensile Strength<br>(MPa) | Elongation<br>(%) |
|---------------------------|-------------------|
| 590                       | 45                |

### Chemical Composition %

| C     | Mn   | Si   | S     | P     | Cr    | Ni   | Mo    | Cu    |
|-------|------|------|-------|-------|-------|------|-------|-------|
| 0.038 | 1.35 | 0.68 | 0.008 | 0.022 | 19.75 | 9.60 | 0.064 | 0.010 |

### Reference

| Diameter (mm)   | 2.0             | 2.5    | 3.2    | 4.0     | 5.0     |
|-----------------|-----------------|--------|--------|---------|---------|
| Type of Current | DC <sup>+</sup> |        |        |         |         |
| Current(A)      | 40~80           | 50~100 | 70~130 | 100~160 | 140~200 |

## E309-16

### Conformance

AWS A5.4 E309-16

### Typical Application

• Used in similar type stainless steel, dissimilar stainless steel and high chromium steel and high manganese steel.

### Mechanical Properties

| Tensile Strength<br>(MPa) | Elongation<br>(%) |
|---------------------------|-------------------|
| 595                       | 40                |

### Chemical Composition %

| C     | Mn   | Si   | S     | P     | Cr    | Ni    | Mo    | Cu   |
|-------|------|------|-------|-------|-------|-------|-------|------|
| 0.055 | 1.45 | 0.70 | 0.009 | 0.021 | 24.25 | 12.75 | 0.035 | 0.10 |

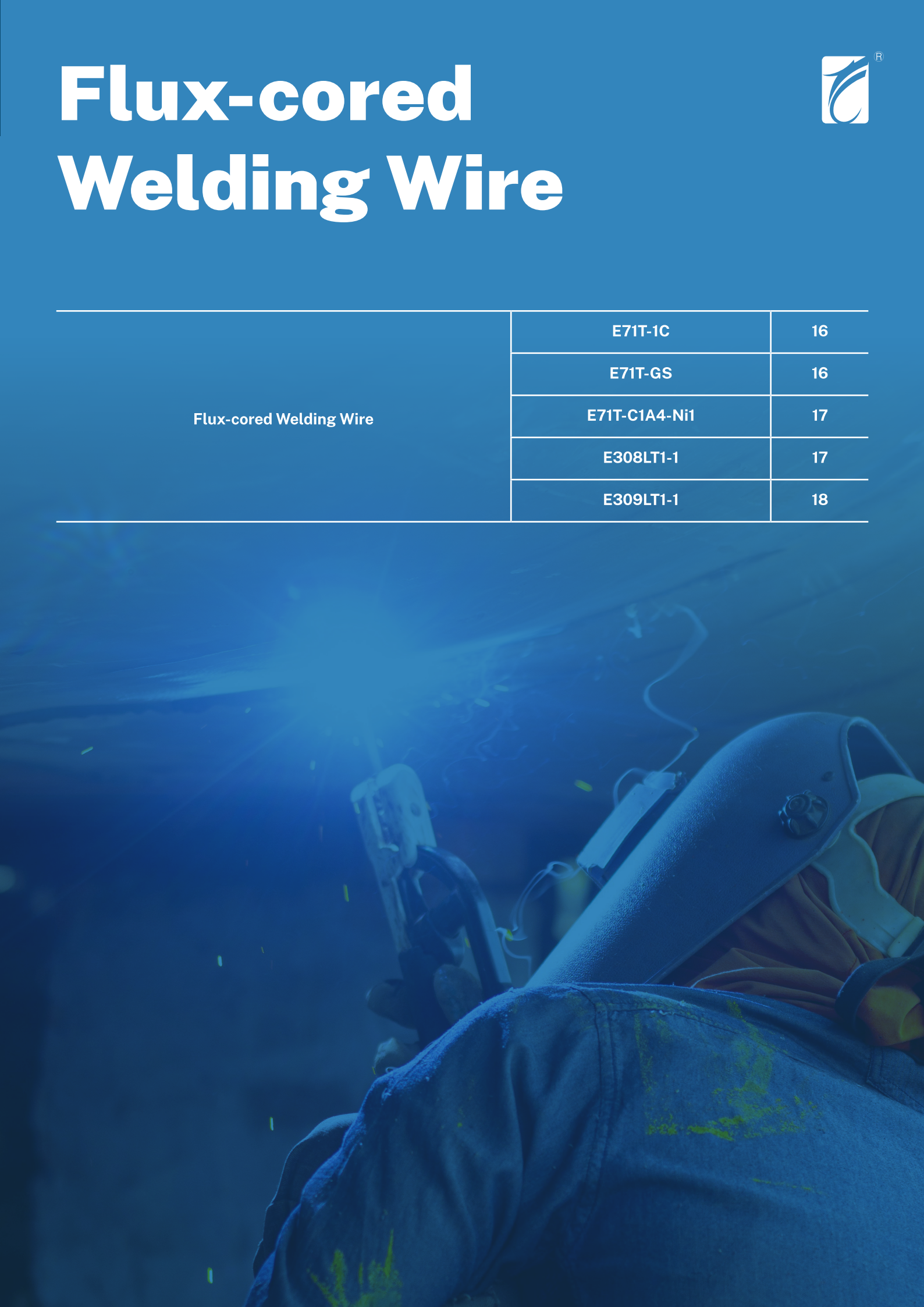
### Reference

| Diameter (mm)   | 2.0             | 2.5    | 3.2    | 4.0     | 5.0     |
|-----------------|-----------------|--------|--------|---------|---------|
| Type of Current | DC <sup>+</sup> |        |        |         |         |
| Current(A)      | 40~80           | 50~100 | 70~130 | 100~160 | 140~200 |

# Flux-cored Welding Wire



|                         |               |    |
|-------------------------|---------------|----|
| Flux-cored Welding Wire | E71T-1C       | 16 |
|                         | E71T-GS       | 16 |
|                         | E71T-C1A4-Ni1 | 17 |
|                         | E308LT1-1     | 17 |
|                         | E309LT1-1     | 18 |



## E71T-1C

### Conformance

AWS A5.20 E71T-1C

### Typical Application

• Used for welding some key structures like shipbuilding, mechanical manufacture, petroleum machinery, chemical machinery, hoisting machinery etc

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 560                    | 480                  | 29             | 77, 95, 83        | -20                     |

### Chemical Composition %

| C    | Mn   | Si   | S     | P     |
|------|------|------|-------|-------|
| 0.05 | 1.36 | 0.41 | 0.008 | 0.012 |

### Reference

|                            |                 |         |         |         |
|----------------------------|-----------------|---------|---------|---------|
| Shielding Gas              | CO <sub>2</sub> |         |         |         |
| Gas Flow Rate (L/min)      | 20~25           |         |         |         |
| Diameter (mm)              | 1.0             | 1.2     | 1.4     | 1.6     |
| Current(A) DC <sup>+</sup> | 120~250         | 120~300 | 150~400 | 180~450 |

## E71T-GS

### Conformance

AWS A5.20 E71T-GS

### Typical Application

• Used for many kinds of carbon steel base material (Mainly thin plate and galvanized plate), Full position semi-automatic welding, suitable for family type operation.

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) |
|------------------------|----------------------|----------------|
| 620                    | 450                  | 23             |

### Chemical Composition %

| C    | Mn   | Si   | S     | P     | Al   |
|------|------|------|-------|-------|------|
| 0.22 | 0.62 | 0.23 | 0.007 | 0.008 | 1.42 |

### Reference

|                            |        |        |        |
|----------------------------|--------|--------|--------|
| Diameter (mm)              | 0.8    | 0.9    | 1.0    |
| Current(A) DC <sup>+</sup> | 60~130 | 60~150 | 60~150 |
| Voltage(V)                 | 14~21  | 15~22  | 15~22  |

## E71T-C1A4-Ni1

### Conformance

AWS A5.20 E71T-1C

### Typical Application

• Used for welding some key structures like shipbuilding, mechanical manufacture, pressure vessels, boilers, petroleum machinery, chemical machinery, hoisting machinery etc.

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 570                    | 510                  | 27             | 135/120           | -30/-40                 |

### Chemical Composition %

| C    | Mn   | Si   | S     | P     | Ni   | Cr    | Mo    | V     |
|------|------|------|-------|-------|------|-------|-------|-------|
| 0.04 | 1.28 | 0.38 | 0.006 | 0.011 | 0.90 | ≤0.15 | ≤0.35 | ≤0.05 |

### Reference

|                            |                 |         |         |  |
|----------------------------|-----------------|---------|---------|--|
| Shielding Gas              | CO <sub>2</sub> |         |         |  |
| Gas Flow Rate (L/min)      | 20~25           |         |         |  |
| Diameter (mm)              | 1.2             | 1.4     | 1.6     |  |
| Current(A) DC <sup>+</sup> | 120~300         | 150~400 | 180~450 |  |

## E308LT1-1

### Conformance

AWS A5.22 E308LT1-1

### Typical Application

• Applied in welding corrosion-resistant 06Cr19Ni10, 07Cr19Ni11Ti stainless steel structures and the working temperature should be below 300°C . It used for welding 301,302,304,301L, 308,308L and other stainless steel materials.

### Mechanical Properties

| Tensile Strength (MPa) | Elongation (%) |
|------------------------|----------------|
| 550                    | 43.5           |

### Chemical Composition %

| C     | Mn   | Si   | P     | S     | Ni    | Cr    | Mo    | Cu   |
|-------|------|------|-------|-------|-------|-------|-------|------|
| 0.022 | 1.74 | 0.60 | 0.016 | 0.003 | 10.35 | 18.77 | 0.034 | 0.08 |

### Reference

|                            |                 |         |  |  |
|----------------------------|-----------------|---------|--|--|
| Shielding Gas              | CO <sub>2</sub> |         |  |  |
| Gas Flow Rate (L/min)      | 20~25           |         |  |  |
| Diameter (mm)              | 1.2             | 1.6     |  |  |
| Current(A) DC <sup>+</sup> | 160~240         | 180~270 |  |  |

## E309LT1-1

### Conformance

AWS A5.22 E309LT1-1

### Typical Application

• Used for welding some key structures like shipbuilding, mechanical manufacture, petroleum machinery, chemical machinery, hoisting machinery etc

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 545                    | 480                  | 29             | 77, 95, 83        | -20                     |

### Chemical Composition %

| C     | Mn   | Si   | S     | P     | Ni    | Cr    | Mo   | Cu   |
|-------|------|------|-------|-------|-------|-------|------|------|
| 0.021 | 1.68 | 0.58 | 0.003 | 0.018 | 12.39 | 23.82 | 0.08 | 0.07 |

### Reference

|                            |                 |         |
|----------------------------|-----------------|---------|
| Shielding Gas              | CO <sub>2</sub> |         |
| Gas Flow Rate (L/min)      | 20~25           |         |
| Diameter (mm)              | 1.2             | 1.6     |
| Current(A) DC <sup>+</sup> | 160~240         | 180~270 |

# TIG Welding Wire



|                  |         |    |
|------------------|---------|----|
| TIG Welding Wire | ER70S-3 | 19 |
|                  | ER70S-6 | 19 |



## ER70S-3

### Conformance

AWS A5.18 ER70S-3

### Typical Application

• Used for general steel fabrication: automotive structures, small trailers, roof joist, railcar repair, exercise equipment, furniture and other types of mild steels.

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 550                    | 450                  | 26             | 116, 108, 110     | -20                     |

### Chemical Composition %

| C     | Mn   | Si   | S     | P     | Ni    | Cr    | Mo    | V     | Cu   |
|-------|------|------|-------|-------|-------|-------|-------|-------|------|
| 0.008 | 1.31 | 0.58 | 0.008 | 0.012 | 0.018 | 0.020 | 0.020 | 0.011 | 0.11 |

### Reference

| Shielding Gas         | Ar      |         |
|-----------------------|---------|---------|
| Gas Flow Rate (L/min) | 7~12    | 12~15   |
| Current(A)            | 100~200 | 200~300 |

## ER70S-6

### Conformance

AWS A5.18 ER70S-6

### Typical Application

• Used for all-position manual tungsten argon arc backing weld and arc welding on pipelines, and both can produce satisfactory welded joints. It can be used for welding carbon steel and some low-alloy steel.

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 550                    | 450                  | 29             | 160               | -30                     |

### Chemical Composition %

| C    | Mn   | Si   | P     | S    | Ni    | Cr    | Mo    | Cu   | V     |
|------|------|------|-------|------|-------|-------|-------|------|-------|
| 0.08 | 1.49 | 0.84 | 0.018 | 0.84 | 0.019 | 0.032 | 0.004 | 0.08 | 0.007 |

### Reference

| Shielding Gas         | Ar      |         |
|-----------------------|---------|---------|
| Gas Flow Rate (L/min) | 9~14    | 14~18   |
| Current(A)            | 100~200 | 200~300 |

# Submerged Arc Welding Wire



|                            |       |    |
|----------------------------|-------|----|
| Submerged Arc Welding Wire | EL8   | 22 |
|                            | EM12  | 22 |
|                            | EH14  | 23 |
|                            | EM12K | 23 |
|                            | EM13K | 24 |



## EL8

### Conformance

AWS A5.17 EL8

### Typical Application

- Using with sintered flux SJ301 and 501
- Applied both for high speed welding steel plate of tensile strength 420MPa and filling welding

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 550                    | 450                  | 26             | 116, 108, 110     | -20                     |

### Chemical Composition %

| C     | Mn   | Si    | S     | P     | Ni    | Cr    | Cu    |
|-------|------|-------|-------|-------|-------|-------|-------|
| 0.060 | 0.45 | 0.012 | 0.014 | 0.020 | 0.022 | 0.017 | 0.113 |

### Reference

| Flux         | SJ301 |     |     |     |
|--------------|-------|-----|-----|-----|
| Diameter(mm) | 2.5   | 3.2 | 4.0 | 5.0 |

## EM12

### Conformance

AWS A5.17 EM12

### Typical Application

- Using with sintered flux SJ101
- Applied both for high speed welding steel plate of tensile strength 420MPa and filling welding

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 415~550                | ≥330                 | ≥22            | ≥27               | -20                     |

### Chemical Composition %

| C     | Mn   | Si    | P     | S     | Ni    | Cr    | Cu    |
|-------|------|-------|-------|-------|-------|-------|-------|
| 0.066 | 0.96 | 0.038 | 0.010 | 0.007 | 0.011 | 0.027 | 0.110 |

### Reference

| Flux         | SJ101 |     |     |     |
|--------------|-------|-----|-----|-----|
| Diameter(mm) | 2.5   | 3.2 | 4.0 | 5.0 |

## EH14

### Conformance

AWS A5.17 EH14

### Typical Application

- Using with sintered flux SJ101
- Applied both for high speed welding steel plate of tensile strength 490MPa and filling welding

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 490~650                | ≥400                 | ≥22            | ≥27               | -20/-40                 |

### Chemical Composition %

| C     | Mn   | Si    | S     | P     | Ni    | Cr    | Cu   |
|-------|------|-------|-------|-------|-------|-------|------|
| 0.066 | 1.62 | 0.011 | 0.011 | 0.011 | 0.007 | 0.013 | 0.12 |

### Reference

| Flux         | SJ301 |     |     |     |
|--------------|-------|-----|-----|-----|
| Diameter(mm) | 2.5   | 3.2 | 4.0 | 5.0 |

## EM12K

### Conformance

AWS EM12K

### Typical Application

- Using with sintered flux SJ101
- Applied both for high speed welding steel plate of tensile strength 420MPa and filling welding

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 415~550                | ≥330                 | ≥22            | ≥27               | -40                     |

### Chemical Composition %

| C     | Mn   | Si    | P     | S     | Ni    | Cr    | Cu    |
|-------|------|-------|-------|-------|-------|-------|-------|
| 0.066 | 0.96 | 0.038 | 0.010 | 0.007 | 0.011 | 0.027 | 0.110 |

### Reference

| Flux         | SJ101 |     |     |     |
|--------------|-------|-----|-----|-----|
| Diameter(mm) | 2.5   | 3.2 | 4.0 | 5.0 |

## EM13K

### Conformance

AWS EM13K

### Typical Application

- Using with sintered flux SJ101
- Applied both for high-speed welding steel plate of tensile strength 420MPa and filling welding.

### Mechanical Properties

| Tensile Strength (MPa) | Yield Strength (MPa) | Elongation (%) | Impact Energy (J) | Impact Temperature (°C) |
|------------------------|----------------------|----------------|-------------------|-------------------------|
| 490~670                | ≥390                 | ≥18            | ≥27               | -20                     |

### Chemical Composition %

| C     | Mn   | Si   | S     | P     | Ni    | Cr    | Cu    |
|-------|------|------|-------|-------|-------|-------|-------|
| 0.089 | 0.98 | 0.67 | 0.023 | 0.032 | 0.034 | 0.015 | 0.110 |

### Reference

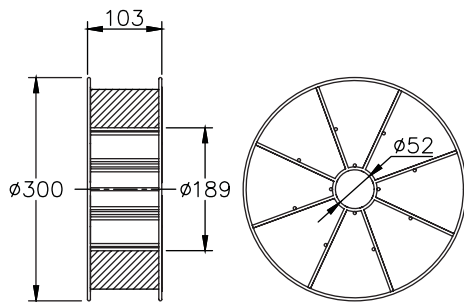
| Flux         | SJ101 |     |     |     |
|--------------|-------|-----|-----|-----|
| Diameter(mm) | 2.5   | 3.2 | 4.0 | 5.0 |

# Package & Quality Approval



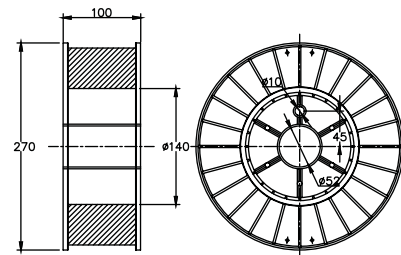
|                            |                  |       |
|----------------------------|------------------|-------|
| Package & Quality Approval | Package          | 26~27 |
|                            | Quality Approval | 28~29 |





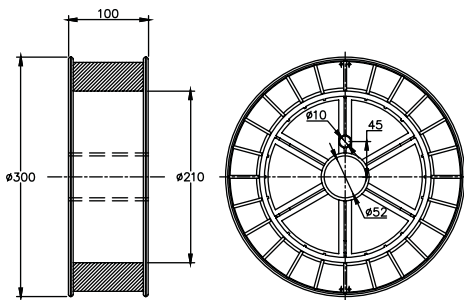
**Spool BS300 (GMAW)**

|                |                      |
|----------------|----------------------|
| Specification  | EN ISO544            |
| Designation    | BS300                |
| Material       | Steel wire           |
| Wire weight    | 15kg                 |
| Outer material | Corrugated cardboard |



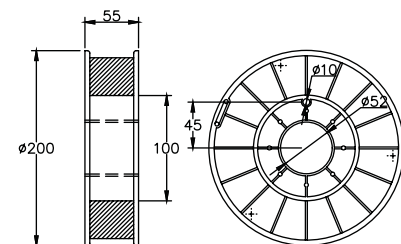
**Spool D270 (GMAW)**

|                |                      |
|----------------|----------------------|
| Specification  | EN ISO544            |
| Designation    | D270                 |
| Material       | Plastic              |
| Wire weight    | 15kg                 |
| Outer material | Corrugated cardboard |



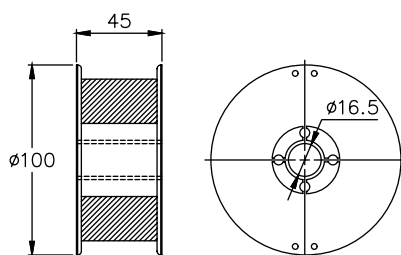
**Spool D300 (GMAW)**

|                |                      |
|----------------|----------------------|
| Specification  | EN ISO544            |
| Designation    | D300                 |
| Material       | Plastic              |
| Wire weight    | 15kg                 |
| Outer material | Corrugated cardboard |



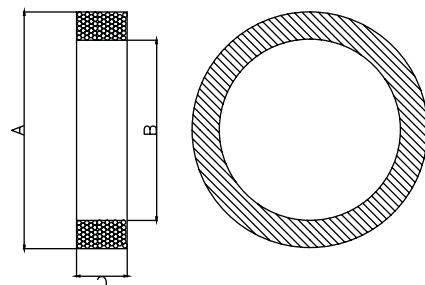
**Spool D200 (GMAW)**

|                |                      |
|----------------|----------------------|
| Specification  | EN ISO544            |
| Designation    | D200                 |
| Material       | Plastic              |
| Wire weight    | 5kg                  |
| Outer material | Corrugated cardboard |



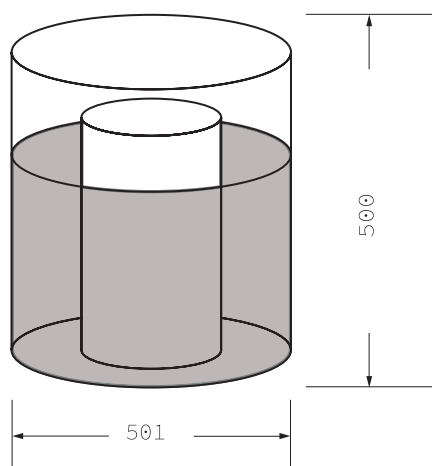
**Spool D100 (GMAW)**

|                |                      |
|----------------|----------------------|
| Specification  | EN ISO544            |
| Designation    | D100                 |
| Material       | Plastic              |
| Wire weight    | 1kg                  |
| Outer material | Corrugated cardboard |

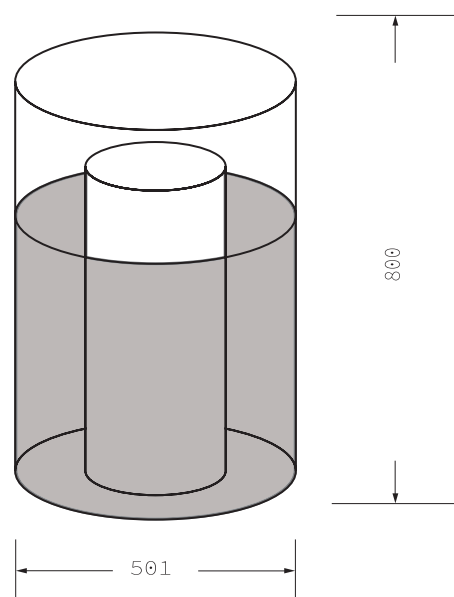


**Coil wire (SAW)**

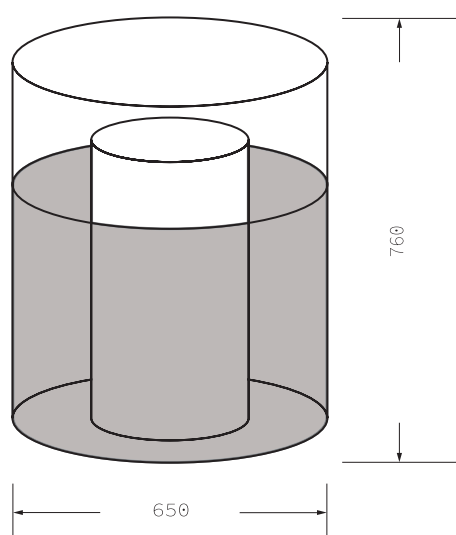
|                |                                                                                |
|----------------|--------------------------------------------------------------------------------|
| Specification  | EN ISO544                                                                      |
| Wire weight    | 25/50/100/250/350kg                                                            |
| Outer material | Corrugated cardboard (25kg only)<br>PP strip covered<br>(50/100/250/250/350kg) |



|                   |       |
|-------------------|-------|
| Wire weight       | 150kg |
| Outer drum dia.   | 501mm |
| Outer drum height | 500mm |
| Inner drum dia.   | 300mm |
| Inner drum height | 470mm |



|                   |       |
|-------------------|-------|
| Wire weight       | 250kg |
| Outer drum dia.   | 501mm |
| Outer drum height | 800mm |
| Inner drum dia.   | 755mm |
| Inner drum height | 300mm |



|                   |       |
|-------------------|-------|
| Wire weight       | 350kg |
| Outer drum dia.   | 760mm |
| Outer drum height | 650mm |
| Inner drum dia.   | 435mm |
| Inner drum height | 675mm |



DNV

Certificate No.  
TAM00046355

TYPE APPROVAL CERTIFICATE

This is to certify:

That the **WireGas combination**

with trade name  
**LT E300 6 / C1**

Manufacturer

**Changshu Longteng Welding Materials Technology Co., Ltd.**  
**Changshu City, Jiangsu Province, China**

is found to comply with

**EN857 rules for classification – Shipw.**

**EN857 class programme DNV CP 8003 – Type approval – Welding consumables**

with this approval

|                   |                                |
|-------------------|--------------------------------|
| Grade             | WYS                            |
| Current           | DC (+)                         |
| Approved diameter | 0.8 mm – 1.6 mm                |
| Positions         | All, except vertical downwards |
| Remarks           | Also for fillet welding        |

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

based at Hamburg on 2022-12-14

This Certificate is valid until 2027-12-13.

DNV local unit: Shanghai

Approved Engineer: Diekuar Ledbach

by DNV  
Digitally signed by Dr. Diet  
Ledbach DNV Hamburg, China  
DNV class No. 04.00.000 – in full

Thorendus Liebreich  
Head of Division

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Form used: WELD-1406

Revision: 2020-12

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