

# SW-316L Cored

Type : Rutile



## Conformances

AWS A5.22/ASME SFA5.22 E316LT1-1/-4  
JIS Z3323 TS316L-FB1  
EN ISO 17633-A-T 19 12 3 L P M21/C1 2  
KR RW316LG (C) (-60°C ≥34J)  
ABS AWS A5.22 E316LT1-1/-4  
LR 316L (C1)  
BV 316L (-60°C) (C1)

DNV-GL VL 316L (C1)  
NK KW316LG(C)  
TÜV EN ISO 17633-A-T 19 12 3 L P M21/C1 2  
DB DIN EN ISO 17633-A-T 19 12 3 L P M21/C1 2  
CWB AWS A5.22 E316LT1-1/-4  
CE  
RS A-6(316L) (C1)

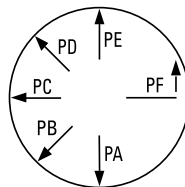
## Applications

- 18%Cr-12%Ni-2%Mo stainless steels

## Features

- Good performance in all positions

## Welding Position



## Current

DC +

## Shielding Gas

100% CO<sub>2</sub>  
Ar + 20~25% CO<sub>2</sub>

## Diameter / Packaging

| Diameter<br>mm (in) | Spool       |                  |              | Pac            |                |                |
|---------------------|-------------|------------------|--------------|----------------|----------------|----------------|
|                     | 5kg (11lbs) | 12.5kg (27.6lbs) | 15kg (33lbs) | 250kg (551lbs) | 300kg (661lbs) | 350kg (771lbs) |
| 0.9 (0.035)         | ✓           | ✓                | ✓            |                |                |                |
| 1.0 (0.040)         | ✓           | ✓                | ✓            |                |                |                |
| 1.2 (0.045)         | ✓           | ✓                | ✓            |                |                |                |
| 1.4 (0.052)         | ✓           | ✓                | ✓            |                |                |                |
| 1.6 (1/16)          |             | ✓                | ✓            |                |                |                |

## Typical Chemical Composition of All-Weld Metal (%)

|                              | C     | Si   | Mn   | P     | S     | Cr    | Ni    | Mo   |
|------------------------------|-------|------|------|-------|-------|-------|-------|------|
| 100% CO <sub>2</sub>         | 0.025 | 0.90 | 1.25 | 0.013 | 0.008 | 11.80 | 17.54 | 2.63 |
| 80% Ar + 20% CO <sub>2</sub> | 0.025 | 0.92 | 1.38 | 0.013 | 0.008 | 11.73 | 17.54 | 2.63 |

## Typical Mechanical Properties of All-Weld Metal

|                              | TS<br>MPa(lbs/in <sup>2</sup> ) | EL<br>(%) | Temp<br>°C(°F) | CVN-Impact Value<br>J (ft-lbs) |
|------------------------------|---------------------------------|-----------|----------------|--------------------------------|
| 100% CO <sub>2</sub>         | 550 (79,750)                    | 45.6      | -60 (-76)      | 45 (33)                        |
| 80% Ar + 20% CO <sub>2</sub> | 555 (80,475)                    | 42.4      | -60 (-76)      | 45 (33)                        |

## Typical Welding Parameters

| Diameter, Polarity<br>Shielding Gas | CTWD<br>mm (in) | Wire Feed Speed<br>m/min (in/min) | Amp.<br>(A) | Volt.<br>(V) | Deposition Rate<br>kg/hr (lb/hr) |
|-------------------------------------|-----------------|-----------------------------------|-------------|--------------|----------------------------------|
| 1.2mm (0.045 in) DC+                |                 |                                   |             |              |                                  |
| 100% CO <sub>2</sub>                | 20 (4/5)        | 6.0 (236)                         | 140         | 23~26        | 2.5 (5.5)                        |
|                                     |                 | 9.2 (362)                         | 180         | 27~30        | 3.4 (7.5)                        |
|                                     |                 | 12.0 (472)                        | 210         | 28~31        | 4.5 (9.9)                        |
| 80% Ar + 20% CO <sub>2</sub>        | 20 (4/5)        | 6.1 (240)                         | 140         | 23~26        | 2.6 (5.7)                        |
|                                     |                 | 9.0 (354)                         | 180         | 27~30        | 3.6 (7.9)                        |
|                                     |                 | 11.5 (453)                        | 210         | 27~30        | 4.6 (10.1)                       |
| 1.6mm (1/16 in) DC+                 |                 |                                   |             |              |                                  |
| 100% CO <sub>2</sub>                | 25 (1)          | 3.8 (150)                         | 180         | 24~27        | 3.0 (6.6)                        |
|                                     |                 | 6.5 (256)                         | 250         | 25~28        | 4.6 (10.1)                       |
|                                     |                 | 8.9 (350)                         | 290         | 26~29        | 5.9 (13.0)                       |
| 80% Ar + 20% CO <sub>2</sub>        | 25 (1)          | 3.7 (146)                         | 180         | 24~27        | 3.1 (6.8)                        |
|                                     |                 | 6.4 (250)                         | 250         | 25~28        | 4.8 (10.6)                       |
|                                     |                 | 8.8 (346)                         | 290         | 26~29        | 6.1 (13.4)                       |