# SC-81LT

Type : Rutile

## Conformances

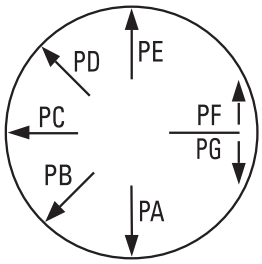
AWS A5.36/ ASME SFA5.36 E81T1-C1A6-K2
(AWS A5.29/ ASME SFA5.29 E81T1-K2C)
JIS Z3313 T55 6 T1-1 C A-N3 H5
EN ISO 17632-A-T 46 6 1.5Ni P C1 1 H5
KR 5Y40SG(C) H5, L3SG(C) H5

ABS 5Y, 5Y400SA H5
LR 5Y40S H5
BV SA5Y40M HHH
DNV·GL VY40MSH5, NV4-4L, VY
NK KSWL3G(C) H5
KSW54Y40G(C) H5

## Applications

- Shipbuilding
- Offshore structure
- Structural fabrication

## Welding Position




## Features

- Good impact value at low temperature
- Smooth and stable arc with a fast freezing slag
- Good CTOD value

## Current

DC +

## Shielding Gas

100% $CO_2$

## Diameter / Packaging

| Diameter | Spool | | | Pac | | |
|---|---|---|---|---|---|---|
| mm (in) | 12.5kg (28lbs) | 15kg (33lbs) | 20kg (44lbs) | 100kg (221lbs) | 200kg (441lbs) | 250kg (551lbs) |
| 1.2 (0.045) | √ | | | | | |
| 1.4 (0.052) | √ | | | | | |

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

| C | Si | Mn | P | S | Ni |
|---|---|---|---|---|---|
| 0.04 | 0.26 | 1.20 | 0.010 | 0.010 | 1.50 |

## Typical Mechanical Properties of All-Weld Metal

| YS MPa(lbs/in²) | TS MPa(lbs/in²) | EL (%) | Temp °C(°F) | CVN-Impact Value J (ft·lbs) |
|---|---|---|---|---|
| 520 (75,500) | 610 (88,600) | 28.0 | -40 (-40)<br>-60 (-76) | 120 (89)<br>85 (63) |

## Typical Welding Parameters

| Diameter, Polarity Shielding Gas | CTWD mm (in) | Wire Feed Speed m/min (in/min) | Amp. (A) | Volt. (V) | Deposition Rate kg/hr (lb/hr) | Efficiency (%) |
|---|---|---|---|---|---|---|
| 1.2mm (0.045 in) DC+ | | | | | | |
| | | All Position | | | | |
| | | 4.4 (175) | 120~140 | 23~28 | 1.6 (3.5) | |
| | | 5.1 (200) | 130~150 | 24~29 | 1.8 (4.0) | |
| | | 6.4 (250) | 140~160 | 25~30 | 2.3 (5.0) | |
| | | 7.6 (300) | 160~190 | 25~30 | 2.7 (6.0) | |
| 100% $CO_2$ | 25 (1) | 8.9 (350) | 190~210 | 26~31 | 3.2 (7.0) | 86~88 |
| | | 9.5 (375) | 210~230 | 26~31 | 3.4 (7.5) | |
| | | 10.8 (425) | 220~240 | 27~32 | 3.8 (8.5) | |
| | | Flat & Horizontal | | | | |
| | | 12.1 (475) | 240~270 | 28~33 | 4.9 (10.8) | |
| | | 12.7 (500) | 250~280 | 29~34 | 5.2 (11.4) | |
| 1.4mm (0.052 in) DC+ | | | | | | |
| | | All Position | | | | |
| | | 3.8 (150) | 120~150 | 23~28 | 1.8 (3.9) | |
| | | 4.7 (180) | 150~170 | 24~29 | 2.2 (4.8) | |
| | | 5.7 (225) | 170~190 | 24~29 | 2.7 (5.9) | |
| | | 6.4 (250) | 190~210 | 25~30 | 2.9 (6.5) | |
| 100% $CO_2$ | 25 (1) | 6.9 (275) | 210~240 | 25~30 | 3.2 (7.2) | 86~88 |
| | | 7.6 (300) | 220~250 | 26~31 | 3.5 (7.8) | |
| | | Flat & Horizontal | | | | |
| | | 8.5 (335) | 250~280 | 26~31 | 4.0 (8.7) | |
| | | 9.5 (375) | 280~300 | 27~32 | 4.4 (9.8) | |
| | | 10.2 (400) | 290~310 | 27~34 | 4.7 (10.4) | |