

# SC-81M

Type : Rutile



## Conformances

AWS A5.36/ ASME SFA5.36 E81T1-M21 A8-Ni1 H4  
(AWS A5.29/ ASME SFA5.29 E81T1-Ni1M-J H4)  
EN ISO 17632-A-T 50 6 1Ni P M21 1 H5

CE

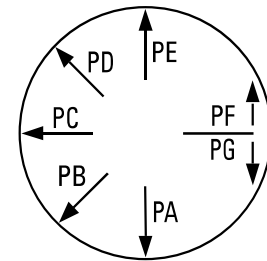
## Applications

- Construction machinery
- Bridge structures
- Mining

## Features

- Smooth and stable arc with a fast freezing slag
- Good impact value at low temperature
- Designed for welding with Ar+CO<sub>2</sub> mixture

## Welding Position



## Current

DC +

## Shielding Gas

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

## Diameter / Packaging

| Diameter    | Spool          |              |              | Pac            |                |                |
|-------------|----------------|--------------|--------------|----------------|----------------|----------------|
|             | 12.5kg (28lbs) | 15kg (33lbs) | 20kg (44lbs) | 250kg (551lbs) | 300kg (661lbs) | 350kg (771lbs) |
| 1.2 (0.045) | ✓              | ✓            |              |                |                |                |
| 1.4 (0.052) | ✓              | ✓            |              |                |                |                |
| 1.6 (1/16)  | ✓              | ✓            |              |                |                |                |

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

| C    | Si   | Mn   | P     | S     | Ni   |
|------|------|------|-------|-------|------|
| 0.04 | 0.34 | 1.15 | 0.008 | 0.008 | 0.91 |

**Typical Mechanical Properties of All-Weld Metal**

| YS<br>MPa(lbs/in <sup>2</sup> ) | TS<br>MPa(lbs/in <sup>2</sup> ) | EL<br>(%) | Temp<br>°C(°F) | CVN-Impact Value<br>J (ft.-lbs) |
|---------------------------------|---------------------------------|-----------|----------------|---------------------------------|
| 550 (79,750)                    | 590 (85,550)                    | 26.0      | -60 (-76)      | 70 (52)                         |

**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) | Efficiency<br>(%) |  |
|-------------------------------------|-----------------|-----------------------------------|-------------|--------------|----------------------------------|-------------------|--|
| <b>1.2mm (0.045 in) DC+</b>         |                 |                                   |             |              |                                  |                   |  |
| <b>All Position</b>                 |                 |                                   |             |              |                                  |                   |  |
| 80%Ar+20% CO <sub>2</sub>           | 25 (1)          | 4.4 (175)                         | 140         | 22~27        | 1.6 (3.5)                        | 86~88             |  |
|                                     |                 | 5.1 (200)                         | 150         | 23~28        | 1.8 (4.0)                        |                   |  |
|                                     |                 | 6.4 (250)                         | 165         | 24~29        | 2.3 (5.0)                        |                   |  |
|                                     |                 | 7.6 (300)                         | 190         | 24~29        | 2.7 (6.0)                        |                   |  |
|                                     |                 | 8.9 (350)                         | 205         | 25~30        | 3.2 (7.0)                        |                   |  |
|                                     |                 | 9.5 (375)                         | 225         | 25~30        | 3.4 (7.5)                        |                   |  |
|                                     |                 | <b>Flat &amp; Horizontal</b>      |             |              |                                  |                   |  |
|                                     |                 | 10.8 (425)                        | 245         | 26~31        | 3.8 (8.5)                        |                   |  |
|                                     |                 | 12.1 (475)                        | 265         | 27~32        | 4.3 (9.5)                        |                   |  |
|                                     |                 | 12.7 (500)                        | 275         | 28~33        | 4.5 (10.0)                       |                   |  |
| <b>1.4mm (0.052in), DC +</b>        |                 |                                   |             |              |                                  |                   |  |
| <b>All Position</b>                 |                 |                                   |             |              |                                  |                   |  |
| 80%Ar+20% CO <sub>2</sub>           | 25 (1)          | 3.8 (150)                         | 150         | 22~27        | 1.8 (3.9)                        | 86~88             |  |
|                                     |                 | 4.7 (180)                         | 165         | 23~28        | 2.2 (4.8)                        |                   |  |
|                                     |                 | 5.7 (225)                         | 190         | 23~28        | 2.7 (5.9)                        |                   |  |
|                                     |                 | 6.4 (250)                         | 215         | 24~29        | 2.9 (6.5)                        |                   |  |
|                                     |                 | 6.9 (275)                         | 235         | 24~29        | 3.2 (7.2)                        |                   |  |
|                                     |                 | 7.6 (300)                         | 255         | 25~30        | 3.5 (7.8)                        |                   |  |
|                                     |                 | <b>Flat &amp; Horizontal</b>      |             |              |                                  |                   |  |
|                                     |                 | 8.5 (335)                         | 275         | 25~31        | 4.0 (8.7)                        |                   |  |
|                                     |                 | 9.5 (375)                         | 295         | 26~32        | 4.4 (9.8)                        |                   |  |
|                                     |                 | 10.2 (400)                        | 310         | 26~33        | 4.7 (10.4)                       |                   |  |
| <b>1.6mm (1/16 in) DC+</b>          |                 |                                   |             |              |                                  |                   |  |
| <b>All Position</b>                 |                 |                                   |             |              |                                  |                   |  |
| 80%Ar+20% CO <sub>2</sub>           | 25 (1)          | 3.8 (150)                         | 200         | 22~27        | 2.5 (5.5)                        | 86~88             |  |
|                                     |                 | 4.4 (175)                         | 210         | 23~28        | 2.9 (6.4)                        |                   |  |
|                                     |                 | 5.1 (200)                         | 235         | 24~29        | 3.3 (7.3)                        |                   |  |
|                                     |                 | 5.7 (225)                         | 265         | 24~29        | 3.7 (8.2)                        |                   |  |
|                                     |                 | 6.4 (250)                         | 285         | 25~30        | 4.2 (9.2)                        |                   |  |
|                                     |                 | 6.9 (275)                         | 305         | 25~31        | 4.6 (10.1)                       |                   |  |
|                                     |                 | <b>Flat &amp; Horizontal</b>      |             |              |                                  |                   |  |
|                                     |                 | 8.3 (325)                         | 335         | 26~32        | 5.4 (11.9)                       |                   |  |
|                                     |                 | 8.9 (350)                         | 365         | 27~33        | 5.8 (12.8)                       |                   |  |