

# SF-3A

AWS A5.20 E71T-9M-JH4

EN ISO 17632-A: T 46 4 ZMnNi P M21 1 H5

EN ISO 9606-1: FM1



## Flux cored wire for welding carbon steel with impact requirements down to -40 °C.

### General description:

SF-3A is a seamless, rutile flux cored wire designed for welding of steel with impact requirements down to -40°C such as grade E often used in shipbuilding. The flux cored wire uses a Argon/CO<sub>2</sub> mixed shielding gas which gives good weldability and a stable arc, minimum spatter, good visual bead and even transition to parent material. Due to the seamless design the wire has an extremely low hydrogen content, (typical of ≤2.8 ml/100g) which greatly reduces the possibility of cold cracks.

SF-3A emits little welding fume and has great weldability in all positions. The wire has a clean copper coated surface which together with exact diameter and roundness, ensures stable and even wire feeding. Wire stick out should be between 15-25mm dependent upon the welding parameters. Voltage should be approx. 10% of the Ampere, which is 1-3 Volts lower than that of which conventional folded flux cored wires require.

### Welding positions:



### Welding current:

DC+

### Type of gas / flow:

Ar+18-25% CO<sub>2</sub>

18-25 l/min.

### Typical chemical composition of all-weld-metal:

| C    | Si   | Mn   | P     | S     | Cu   | Ni   |  |  |  |
|------|------|------|-------|-------|------|------|--|--|--|
| 0,05 | 0,50 | 1,50 | 0,010 | 0,006 | 0,30 | 0,35 |  |  |  |

### Diffusible hydrogen content (ml/100g):

≤5 ml/100g (2,8 ml/100g typical).

### Typical mechanical properties of all-weld-metal:

| Yield and Tensile Strengths |                |                 | Charpy Impact Test     |                        |
|-----------------------------|----------------|-----------------|------------------------|------------------------|
| Yield<br>Mpa                | Tensile<br>Mpa | Elongation<br>% | Charpy V (J)<br>-20 °C | Charpy V (J)<br>-40 °C |
| 547                         | 612            | 25              |                        | 90                     |

### Guidance - Ampere (DC+):

| Wire diameter | 1,0 mm            | 1,2 mm            | 1,4 mm            |
|---------------|-------------------|-------------------|-------------------|
| Ampere / Volt | 125-250A / 20-28V | 180-300A / 22-32V | 250-350A / 25-33V |

### Packaging information:

1,0mm x 5,0kg spool  
1,2mm x 5,0kg spool  
1,2mm x 12,5kg spool  
1,2mm x 250kg drum  
1,4mm x 12,5kg spool  
1,6mm x 12,5kg spool

### Approvals:

DNV-GL, LR, ABS, CWB, DB, BV,  
PRS, TÜV, CE

### Reference / date:

SF-3A, English, 16.04.2026.