

# SF-3A

AWS A5.20 E71T-9M-JH4 / AWS A5.36 E71T1-M21A4-CS1

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 Mpa	Tensile Mpa	Elongation %	Charpy V (J) -20 °C	Charpy V (J) -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 D200  
1,2mm x 5,0kg spool D200  
1,2mm x 12,5kg spool D300  
1,2mm x 250kg drum Ø51cm  
1,4mm x 12,5kg spool D300

### Approvals:

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

### Reference / date:

SF-3A, English, 06.07.2023.