

selectarc
B90

**Inconel type Electrode
for fabrication and repair**


FSH WELDING GROUP
INNOVATIVE WELDING CONSUMABLES
www.fsh-welding.com

Classification

AWS A5.11 : ENiCrFe-3 EN/ISO14172: E-Ni 6182
UNS : W 86182 NiCr15Fe6Mn

Description & Applications

Semi-synthetic basic coated electrode with 140% recovery and an Inconel 600 type nickel base deposit. Used for repairing and joining of Nickel alloys, 5 % Nickel steels, cryogenic stainless steels (down to – 196°C), Incoloy 800 and other high temperature steels. High performance for joining dissimilar materials as stainless steels to low alloyed steels, stainless steels to Nickel alloys, buttering of difficult to weld steels. Deposit insensitive to cracks, very good resistance to acids, salt and alkaline solutions, molten salt. Resistant in oxidizing and carburizing atmospheres (avoid sulphurous atmosphere).

Main applications : Oven parts, burners, heat treatment equipment, cement works , moulds, tanks, transport and storage of liquid gas. Chemical industries, petrochemical industries, glassworks, civil engineering, repair and maintenance workshops.

Note: "Inconel" and "Incoloy" are registered trade names of Inco Alloys

| Base materials | UNS | Alloy | DIN | Material N° |
|----------------|--------|-------|-----------------|-------------|
| | | 5%Ni | 12Ni19 | 1.5680 |
| | N06600 | 600 | NiCr15Fe | 2.4816 |
| | N08800 | 800 | X10NiCrAlTi3220 | 1.4876 |
| | N08810 | 800H | X5NiCrAlTi3120 | 1.4958 |
| | | DS | X8NiCrSi3818 | 1.4862 |

Typical Weld Metal Composition (%)

| C | Si | Mn | Cr | Nb | Fe | Mo | Ni |
|-------|-----|-----|------|-----|-----|-----|------|
| <0.05 | 0.5 | 5.5 | 16.0 | 2.0 | <10 | 0.2 | base |

All Weld Metal Mechanical Properties

| R _{p0,2} (MPa) | R _m (MPa) | A ₅ (%) | KV (J) | |
|---------------------------|------------------------|----------------------|----------|-----|
| >380 | >600 | >30 | +20°C | >80 |
| | | | -196°C | >60 |

Welding Current & Instructions

| Electrode | ØxL (mm) | 2,5x350 | 3,2x350 | 4,0x350 | 5,0x450 |
|-----------|------------|---------|---------|---------|---------|
| Current | (A) | 75 | 110 | 135 | 160 |

Rebaking : 1 h at 250-300°C. Joints to weld must be clean, exempt from grease, cracks . Weld with a minimum heat input in order to eliminate the phenomena of hot cracks. For welding carbon steels a preheating of 200-500°C, depending on the carbon equivalent, is recommended.



1G/PA



2F/PB



2G/PC



3G/PF



4G/PE

