

**B90** AC/DC+**NICKEL ALLOY****DESCRIPTION**

**Inconel type electrode.** 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 and 9 % Nickel steels cryogenic stainless steels (down to  $-196^{\circ}\text{C}$ ), Incoloy 800 and other high temperature steels. High performance for joining dissimilar materials as stainless steels / low alloyed steels, stainless steels / Nickel alloys. Deposit insensitive to cracks, very good resistance to acids, salt and alkaline solutions, molten salt (ex. cyanide), flux of brazing, oxidising and carburization atmosphere (avoid sulphurous atmosphere).

**CLASSIFICATION**

AWS A5.11 : ENiCrFe-3

UNS : W 86182

EN/ISO14172 : E-Ni 6182 (NiCr15Fe6Mn)

**TYPICAL APPLICATIONS**

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

**BASE MATERIALS :** 5%Ni, 9%Ni, 600, 601, 800, 800H, DS

**PROCEDURE**

Rebaking 1h at  $250-300^{\circ}\text{C}$  ( $482 - 572^{\circ}\text{F}$ ). 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  $200-500^{\circ}\text{C}$  ( $392- 932^{\circ}\text{F}$ ), depending on the carbon equivalent, is recommended.

**MECHANICAL PROPERTIES**

Tensile strength: > 87 000 psi (> 600 MPa)  
 Yield strength: > 55 000 psi (> 380 MPa)  
 Elongation: > 30 %  
 Impact (Charpy V): > 80 J at  $+20^{\circ}\text{C}$ , > 60 J at  $-196^{\circ}\text{C}$

**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	Rem

**WELDING PARAMETERS**

Diameter:	5.0 mm (3/16")	4.0 mm (5/32")	3.2 mm (1/8")	2.5 mm (3/32")
Amperage:	160 A	135 A	110 A	75 A

**WELDING POSITIONS**

1G/PA

2F/PB

2G/PC

3G/PF

4G/PE

TIG rods are also available: **Selectarc TIG B90** (AWS A5.14: ERNiCr-3)

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*Specialized welding alloys and technology. For technical assistance or for ordering:*