

AFROX NIMROD 182KS



Afrox Nimrod 182KS electrode is made on a nearly matching core wire with a basic flux system designed to produce optimum operability and radiographically sound weld metal. **Nimrod 182KS** is optimised for DC+ welding in all positions including pipework qualified in the ASME 6G position. Recovery is about 110% with respect to core wire, 65% with respect to whole electrode.

These weld metals have no directly equivalent parent material,

although the composition is related to Inconel™ 600. Mn and Nb are added to give high resistance to hot cracking, tolerance to dilution by many combinations of nickel-base and ferrous alloys, with stable properties over a wide range of service temperatures from -269°C to above 900°C.

APPLICATIONS

Applications include heat-resisting nickel-base alloys to themselves for use in **furnace equipment** up to about 900°C.

Other applications include:

Mixed welds between most nickel-base alloys, including Monel 400 and stainless, low alloy or CMn steels without need to preheat.

Transition welds between creep-resisting ferritic and austenitic steels, such as 2CrMo and 316H for long term service at elevated temperature in petrochemical and power generation plants.

Low temperature applications such as 3% or 5% Ni steels used for **cryogenic vessels** and **pipework** in service at or below -100°C. Stress relief may be carried out if required.

MATERIALS TO BE WELDED

Nickel alloys such as Inconel 600, Nimonic 75. Nickel base alloys to themselves and to mild, low alloy and stainless steels. High temperature transition joints. Cryogenic 3% and 5% Ni steels.

CLASSIFICATIONS

AWS	A5.11	ENiCrFe-3
BS	EN (proposed)	ENi6182
DIN	1736	EL-NiCr15FeMn (2.4807)

**CHEMICAL ANALYSIS
(ALL WELD METAL)**

% Carbon	0.10 max	% Titanium	1.0 max
% Manganese	5.0-9.5	% Niobium	1.0-2.5
% Silicon	1.0 max	% Iron	2.0-9.0
% Sulphur	0.015 max	% Copper	0.50 max
% Phosphorus	0.03 max	% Cobalt	0.12 max
% Chrome	13.0-17.0	% Tantalum	0.30 max
% Nickel	61.0 min		

TYPICAL MECHANICAL PROPERTIES (ALL WELD METAL IN THE AS WELDED CONDITION)

0.2% Proof Stress	420 MPa
Tensile Strength	660 MPa
% Elongation on 4d	40
% Elongation on 5d	37
% Reduction of area	38
Impact energy at -196°C	100J
Hardness	190HV

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PACKING DATA AND OPERATING CURRENT

(DC+)

Diameter mm	Electrode Length mm	Current Amps	Item Number	Pack Mass Kg
2,5	280	60-80	077/619	4,0

STORAGE AND RE-BAKING

Hermetically sealed ring-pull metal tin with unlimited shelf life. Direct use from tin is satisfactory for longer than a working shift of 8h. Excessive exposure of electrodes to humid conditions will cause some moisture pick-up and increase the risk of porosity.

For electrodes that have been exposed:

Redry 200 – 300°C/1-2h to restore to as-packed condition. Maximum 380° C, 3 cycles, 10h total.

Storage of redried electrodes at 50 – 200°C in holding oven or heated quiver: no limit, but maximum 6 weeks recommended. Recommended ambient storage conditions for opened tins (using plastic lid): < 60% RH, > 18°C.

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