

NIMROD 132KS (ENiCrFe-1)

PRODUCT DESCRIPTION

MMA electrode with a special basic flux covering on a matching core wire. The electrode is optimised for DC+ welding in all positions including fixed pipework in the ASME 5G/6G positions.

Recovery about 105% with respect to core wire, 65% with respect to whole electrode.

SPECIFICATIONS

AWS A5.11	ENiCrFe-1
BS EN 14172	E Ni 6062
DIN 1736	EL-NiCr15FeNb (2.4805)

ASME IX QUALIFICATION

QW432 F-No 43

MATERIALS TO BE WELDED

Alloy 600 and similar:

UNS N06600	Inconel 600 (Special Metals)
BS NA14	Nicrofer 7216 (Krupp VDM)
DIN 2.4816 (NiCr15Fe)	Nicrofer 7216H (Krupp VDM)
AFNOR NC15Fe	Pyromet 600 (Carpenter)
ASTM A494 CY40 (cast)	RA600 (rolled Alloys)

Other alloys:

Alloy 330	Nimonic 75 (Special Metals)
Alloy 601 (to about 900°C)	

APPLICATIONS

Nimrod 132KS deposits an Inconel type weld metal similar in composition to the 182 types (data sheet D-10) but with lower manganese. The electrode is used mainly for welding alloy 600, the nearest equivalent base material, with service applications up to about 1000°C. The lower Mn level is preferred by some authorities, as Mn raises thermal expansion coefficient and high levels may reduce oxidation resistance at the upper service temperatures. Additions of both Mn and Nb are sufficient to suppress hot cracking and provide good hot strength.

The good oxidation and excellent nitriding and carburisation resistance of alloy 600 is exploited for **heat treatment equipment and annealing muffles**. Resistance to dry chlorine up to about 550°C is important in plants for **PVC synthesis**, and it has many applications in the **chemical, petrochemical, food processing and nuclear industries**.

MICROSTRUCTURE

High alloy austenite with some carbides.

WELDING GUIDELINES

No preheat or PWHT required.

WELDING POSITIONS (ISO/ASME)



RELATED ALLOY GROUPS

The 182 (data sheet D-10) and AB alloys (data sheet D-11) are very similar; and the 20.70.Nb solid wire would be used in conjunction with Nimrod 132KS.

CHEMICAL COMPOSITION (WELD METAL WT %)

	C	Mn	Si	S	P	Cr	Ni	Mo	Nb	Fe
Min.	0.03	1.0	--	--	--	14.0	62.0	0.25	1.5	6.0
Max.	0.08	3.5	0.75	0.015	0.030	17.0	Bal	0.50	3.5	11.0
Typical	0.05	3	0.4	0.01	0.01	16.5	70	0.3	2.6	6.5

Cu<0.50%.
Minimum Mo and Fe applies to DIN only.
Residual Co<0.12% and Ta<0.30% when requested.

ALL-WELD MECHANICAL PROPERTIES

As welded	Min.	Typical
Tensile strength [MPa]	550	645
0.2% proof strength [MPa]	360	390
Elongation (%) 4d	30	38
5d	27	35
Reduction of area (%)	--	38
Impact ISO-V(J) -196°C	--	100

OPERATING PARAMETERS, DC+VE

Diameter (mm)	2.5	3.2	4.0	5.0
min. A	60	70	100	130
max. A	80	110	155	210

PACKAGING DATA

Diameter (mm)	2.5	3.2	4.0	5.0
Length (mm)	300	300	350	350
kg/carton	12.0	12.9	15.0	15.0
Pieces/carton	909	474	300	198

STORAGE

3 hermetically sealed ring-pull metal tins per carton, with unlimited shelf life. Direct use from tin is satisfactory for much longer than an 8h working shift.

For electrodes that have been exposed:

Redry 200-250°C/1-2h to restore to as-packed condition. Maximum 350°C, 3 cycles, 10h total.

Storage of redried electrodes at 100-200°C in holding oven or 50-150°C in heated quiver: no limit, but maximum 6 weeks recommended. Recommended ambient storage conditions for opened tins (using plastic lid): < 60% RH, >18°C.

FUME DATA

Fe	Mn	Ni	Cr	Cu	F	OES (mg/m ³)
2	12	11	5	0.1	15	1

Fume composition, wt % typical: