

### 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 Ni6062  
**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.

### 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.

### 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
typ	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 stress	MPa	360	390
Elongation on 4d	%	30	38
Elongation on 5d	%	27	35
Reduction of area	%	--	38
Impact energy	- 196°C J	--	100

### Parameters

DC +ve



ø mm	2.5	3.2	4.0	5.0
min A	60	70	100	130
max A	80	110	155	210

### Packaging data

ø mm	2.5	3.2	4.0	5.0
length mm	280	300	350	350
kg/carton	12.0	12.9	15.0	15.0
pieces/carton	759	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

Fume composition, wt % typical:

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