METRODE PRODUCTS LTD
HANWORTH LANE, CHERTSEY
SURREY, KT16 9LL
Tel: +44(0)1932 566721
Fax: +44(0)1932 565168 Sales
+44(0)1932 569449 Technical
+44(0)1932 566199 Export
Email: info@metrode.com
Internet: http//www.metrode.com

DATA SHEET F-35

NiCr FLUX

Product description

Highly basic agglomerated flux for submerged arc welding with a wide range of nickel base alloys (e.g. 20.70.Nb, 62-50 and HAS C276).

Basicity Index (according to Boniszewski) is ~4.5. Nominal composition of the flux is:

5%(SiO_2) + 50%(CaO+MgO+MnO+K_2O) + 10%(CaF_2) + 35%(Al_2O_3)

Specifications

BS EN 760 S A FB 2
DIN 32522 B FB 7 6534 AC 5

ASME IX Qualification

QW432 F-No -, QW442 A-No -.

Materials to be welded

With appropriate wires nickel base alloy 625 (data sheet D-20), alloy 600 (data sheet D-10) and alloy C-276 (data sheet D-30) can be welded; see wire data sheets for further details.

Applications

NiCr flux is suitable for joining and surfacing. The high basicity ensures minimal loss of alloying elements, and the very low silica content produces low silicon weld metal and minimises the risk of hot cracking.

Welding guidelines

NiCr flux is generally used on alloys that require no preheat, have a maximum interpass temperature of 150°C and do not require PWHT. Further information can be found on the data sheet for the respective alloy.

Typical parameters

Current: DC+, Dc- or AC; DC+ operation is preferred. Normally used for single wires up to 3.2mm diameter and up to 450A. Smaller wires and lower currents are normally used to minimise the risk of hot cracking, particularly for joining applications.

Typical parameters for joining with 1.6mm wire are: 260A, 26V, 350mm/min travel speed.

Packaging data

Metrode NiCr flux is supplied in sealed moisture resistant 20kg metal drums.

Storage

Preferred storage conditions for open drums: <60%RH, >18°C.

If flux has become damp or has been stored for a long period, it should be redried in the range 250-400°C for 1-3 hours.

Fume data

SAW fume is negligible.

Typical weld deposit analysis, wt%

Wire	C	Mn	Si	S	P	Cr	Ni	Mo	Nb	Fe	Ti
62-50	0.02	0.2	0.2	0.01	0.01	21.5	bal	8.5	3.3	1	0.1
20.70.Nb	0.01	3	0.2	0.01	0.01	20.5	bal	-	2.3	1	0.1

Typical Mechanical properties

Wire	Tensile strength, MPa	0.2% proof stress, MPa	Elongation on 4d, %	Impact energy, J
62-50	715	430	50	80 at -196°C
20.70.Nb	640	360	40	100 at -196°C