Afrox Filmax NiCrMo-3
Afrox TIG NiCrMo-3

Afrox NiCrMo-3 solid wires for TIG and MIG welding are designed to match the composition and properties of alloy 625. Originally developed to give high temperature strength and structural stability, alloy 625 is also widely used for its resistance to general corrosion, pitting, crevice and stress corrosion cracking in severe chloride media. These properties are conferred by high levels of chromium, molybdenum and niobium, which also raise strength to the highest amongst standard nickel-based alloys. Useful properties from -269°C to above 1 000°C are achieved.

Applications

In addition to matching alloy 625, suitable for welding heat resisting alloys including Inconel® 601 (except severe sulphidising conditions), Incoloy® 800/800H, or combinations of these with other alloys for furnace equipment, petrochemical and power generation plants. Some other applications include: Overmatching corrosion resistant welds in alloy 825, Hastelloys® G and G3, alloy 28, 904L, 6% Mo super austenitic stainless 254 SMO®, and also overlays on pumps, valves and shafts, often in offshore and marine environments where high pitting resistance (PRE = 50) and tolerance to weld metal dilution are essential. Welds in high strength ferrous alloys including cryogenic 9% nickel steels and for reclamation of dies where rapid work-hardening and toughness are required.

Materials to be Welded		
Matching Alloy 625		
ASTM-ASME	**DIN**	**BS**
UNS N06625	2.4856	NA21
A494 CW-6MC (cast)		
Proprietary Alloys		
Inconel® 625 (Inco)		
Nicrofer® 6020hMo (VDM)		
Nicrofer® 6022hMo (VDM)		
Other Alloys		
High Nickel Alloys	**Super Austenitic Alloys**	
Inconel® 601 (Inco)	UNS S31254	
Incoloy® 800H (Inco)	254 SMO® (Avesta)	
Incoloy® 825	904L (Inco)	
And equivalents	Similar alloys	
Cryogenic	**Dissimilar**	
9% Ni steels	Combinations of above	

Classifications		
AWS	A5.14	ERNiCrMo-3
EN	18274	ENi6625 (NiCr22Mo9Nb)

Typical Chemical Analysis (All weld metal)			
% Carbon	0,05 max	**% Titanium**	0,4 max
% Manganese	0,5 max	**% Niobium**	3,15 - 4,15
% Silicon	0,5 max	**% Iron**	1,0 max
% Sulphur	0,015 max	**% Copper**	0,5 max
% Phosphorous	0,015 max	**% Aluminium**	0,4 max
% Chrome	20,0 - 23,0	**% Molybdenum**	8,0 - 10,0
% Nickel	60,0 min		

PRODUCT DATA SHEET

Typical Mechanical Properties (All weld metal in the as welded condition)	
0,2% Proof Stress	520 MPa
Tensile Strength	780 MPa
% Elongation on 4d	42
% Elongation on 5d	40
Impact Energy at -100°C	100 J
Impact Energy at -196°C	80 J
Hardness cap/mid	205/225 HV

Packing Data

MIG			TIG			
Diameter (mm)	**Pack Mass (kg)**	**Item Number**	**Diameter (mm)**	**Pack Mass (kg)**	**Consumable Length (mm)**	**Item Number**
0,8	15,0	W077646	1,6	5,0	1 000	W077642
1,0	15,0	W077647	2,0	5,0	1 000	W077643
1,2	15,0	W077648	2,4	5,0	1 000	W077644

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