

PRODUCT DATA SHEET

Afrox Filmax Aluminium Bronze Afrox TIG Aluminium Bronze

Afrox Filmax Aluminium Bronze and Afrox TIG Aluminium Bronze are solid copper filler wires containing approximately 10% aluminium and 1% iron. These alloys are suitable for welding 5-11% aluminium bronzes plus other copper alloys as listed below. For brasses, the weld colour is similar and the presence of aluminium in the filler helps to suppress zinc volatilization during welding. It can also be used for joining dissimilar alloys, eg. copper to steel, copper to cast iron, brass to steel, aluminium bronze to steel, etc. These alloys are also suitable for welding components which are subject to sea water corrosion. Afrox Filmax Aluminium Bronze should be

shielded with pure argon, pure helium or an argon/helium mixture (Coppashield®) for thicker sections. Flow rates of 10-18 l/min should be used. Afrox TIG Aluminium Bronze should be shielded with pure argon but pure helium provides deeper penetration, higher travel speeds and allows preheat to be reduced.

Applications

Applications include corrosion resistant and spark resistant pumps, castings, machinery parts, heat exchangers for offshore, marine and mining equipment.

Materials to be Welded

Aluminium bronze	UNS C61400, BS CA101 - 103, BS 1400 AB1 (cast), Alloy D
Beryllium copper	Cu + 0,5 - 2% Be, closest strength
Brass	Cu + Zn
Aluminium brass	eg. Yorkalbro Cu-22% Zn-2% Al
Manganese bronze	Cu + 20 - 45% Zn + 1 - 3% Mn
Silicon bronze	Cu + 1 - 3,5% Si

Classifications

AWS	A5.7	ERCuAl-A2
DIN	1733	SG-CuAl10Fe (2.0937)
BS	2901Pt3	C13
EN	24373	Cu6180 CuAl

Chemical Analysis (All weld metal)

% Copper	Bal.	% Zinc	0,02 max
% Aluminium	9,0 - 11,0	% Lead	0,02 max
% Silicon	0,1 max	% Iron	0,75 - 1,5
% Manganese	1,0 max	% Others Total	0,40 max
% Nickel	1,0 max		

Typical Mechanical Properties (All weld metal in the as welded condition)

Tensile Strength	390 - 500 MPa
% Elongation on 5d	45 max
Hardness	90 - 120 HB
Hardness (Work Hardened)	140 - 160 HB

Packing Data

MIG			TIG			
Diameter (mm)	Pack Mass (kg)	Item Number	Diameter (mm)	Pack Mass (kg)	Consumable Length (mm)	Item Number
1,2	15,0	W033142	1,6	5,0	1 000	W077585
1,6	15,0	W077592	2,4	5,0	1 000	W077587

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