Inweld Deox Copper

AWS A5.7 ERCu (Welding)

AWS A5.27 RCu (Brazing)

Chemical Composition of Inweld Deox Copper

Fe	C	Sn	Ni	Mn	Si	P	Pb	Al	Cu	Other
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Single values are maximum unless otherwise specified.

Description and Applications

Inweld Deox Copper is a 98% copper filler metal used to overlay, build-up and fabricate electrolytic tough pitch and oxygen-free copper. The remaining 2% of this alloy is made up of residual elements including phosphorus and silicon which act as deoxidizing agents to promote sound weld joints. Inweld Deox Copper is chosen over other copper based alloys in situations where the best combination of electrical conductivity, mechanical properties and corrosion resistance is required. This filler metal can be used to MIG, TIG and Oxyacetylene weld copper, copper-alloyed base metals, copper to mild steel, for overlaying steel and for the fabrication of copper pipes, tanks and fittings. Inweld Deox Copper flows easily and the weld deposits are porosity free and match the color of copper.

Apply boric acid flux before and during welding. Preheat heavier, thicker sections, but do not overheat as this will degrade weld properties. This alloy has a very high thermal conductivity rate so overheating will occur much faster than other base metals. The oxyacetylene flame must be neutral to slightly oxidizing. The oxyacetylene torch tip size must be one to two sizes larger than the base plate.

Typical Weld Metal Properties & Brazing Properties

	AWS Spec
Average As-Welded Brinell Hardness:	25
Tensile Strength:	25,000 psi
Yield Strength:	8,000 psi
Elongation:	29%

Recommended Welding Parameters

GMAW (DCRP – Electrode+) 100% Ar or a 75% Ar / 25% He Mixture

Wire Diameter	Voltage	Amperage
0.035”	20-26	100-200
0.045”	22-28	100-250
1/16”	29-32	250-400
3/32”	32-34	350-500

GTAW (DCSP – Electrode-) ACHF using 100% Ar or He 2% Thoriated, 2% Ceriated or Lanthanum Tungsten Electrode

Wire Diameter	Voltage	Amperage
1/16”	70-120	70-150
3/32”	120-160	140-230
1/8”	170-230	225-320
5/32”	220-280	175-300
3/16”	280-330	200-320