



DEOX COPPER Welding Wire and Rod

U.S. ALLOY CO.
dba Washington Alloy
7010-G Reames Rd.
Charlotte, NC 28216
www.weldingwire.com

Quality Management System
in accordance with
ISO 9001
Cert # 05-R0925



ALLOY DESCRIPTION AND APPLICATION;

Washington Alloy DEOX Copper is a 98% copper filler metal used for MIG, TIG and oxyacetylene welding of copper and copper-alloyed base metals.

DEOX Copper contains small amounts of phosphorus and silicon which act as the deoxidizing agents to promote sound weld joints. Washington Alloy DEOX Copper is easy flowing and produces weld deposits that are porosity free, electrically conductive and the color will match that of copper. Excellent for joining copper to mild steel, for overlaying steel and for the fabrication of copper pipes, tanks and copper fittings. Oxyacetylene Torch :

The oxyacetylene gas flame must be neutral or slightly oxidizing. Tip size must be one to two sizes larger than the base plate. Preheating should be done only if the part is thick. A boric acid or borax flux is recommended.

TYPICAL GMAW WELDING PROCEDURES; DCEP Spray transfer

Wire Diameter	Wire Speed (ipm)	Amps	Volts	Argon (cfh)
0.023	460-590	80-160	21-22	20-25
0.030	450-545	140-210	21-24	20-30
0.035	385-475	175-250	23-25	25-30
0.045	275-340	210-295	26-28	30-35
1/16	150-260	280-390	27-31	35-40

TYPICAL GTAW WELDING PROCEDURES; DCEN with EWTh-2 truncated conical tip

Filler Wire Size	Tungsten	Amps	Volts	Gas Cup Size	Argon (cfh)	Base thickness
1/16"	1/16"	80-170	12	3/8-1/2"	20	1/16-1/8"
3/32"	3/32"	140-275	12	3/8-1/2"	20	1/8- 3/16"
1/8"	1/8"	200-375	12	1/2"	25	1/4-3/8"
1/8-5/32"	3/16"	260-475	12	1/2-3/4"	30	3/8-1/2"

Procedures may vary with change in position, base metals, filler metals, equipment and other changes.

CHEMICAL COMPOSITION REQUIRMENT (%) AND PHYICAL PROPERTIES;

Copper	98.0 min.	Melting Point	1967° F
Manganese	0.50	Tensile Strength (psi)	25-30,000
Silicon	0.50	Electrical Conductivity	40.0% (% of IACS) annealed
Phosphorus	0.15	Density (lbs/in ³)	0.31
Aluminum	0.01	Brinell Hardness	50-60
Lead	0.02	Elongation	29 %
Tin	1.00		

All single values on composition are maximum percentages & Total others elements 0.50

AVAILABLE SIZES: TCU DEOX = Spools of .030, .035, .045, 1/16, 3/32

TCU DEOX Cut lengths of .030, .035, .045, 1/16, 3/32, 1/8, 5/32, 3/16,

Other sizes available – please inquire

SPECIFICATIONS; ANSI/AWS A5.7 ERCu
ASME SFA 5.7 ERCu



WA ALLOY CO.

4-2019 DC

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