



XTR 2% Thoriated

Tungsten EWTh-2 (WTh 20)

Description:

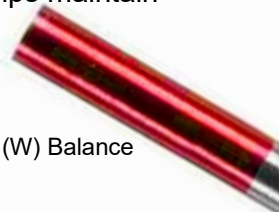
Tungsten is a rare metallic element used for manufacturing gas tungsten arc welding (GTAW) electrodes. The GTAW process relies on tungsten's hardness and high-temperature resistance to carry the welding current to the arc. Tungsten has the highest melting point of any metal, 3,410 degrees Celsius.

Typical Applications:

The most common TIG electrode, preferred for longevity and ease of use. Operating far below its melting temp, resulting in a considerably lower rate of consumption and eliminates arc wandering for greater stability. Compared with other electrodes, thoriated electrodes deposit less tungsten into the weld puddle, causing less weld contamination. Used for specialty AC welding (thin-gauge aluminum and material less than 0.060 inch) and DC welding, either electrode (-) or straight polarity (+), on carbon steel, stainless steel, nickel, and titanium. In manufacturing, thorium is evenly dispersed throughout the electrode, helps maintain its sharp edge, ideal electrode shape for welding thin steel.

Standards, Specifications, Typical Analysis:

Classification	EWTh-2 – ANSI/AWS A5.12, ISO6848			
Principle Oxide, Mass Percent	ThO ₂ 1.7-2.2%,	Impurities Mass Percent:	0.5% Max,	Tungsten (W) Balance
Color Code per AWS	Red #FF0000			



	1.5% & 2% Lanthanated (Gold) (Blue)	0.8% Zirconiated (White)	2% Thoriated (Red)	2% Ceriated (Gray)	Pure (Green)
AC Current	✓	✓		✓	✓
DC Current	✓		✓	✓	
Aluminum	✓	✓		✓	✓
Mild Steel	✓		✓	✓	
Stainless Steel	✓		✓	✓	
Copper Alloys	✓		✓	✓	
Titanium	✓		✓	✓	
ARC Ignition	5	5	5	4	4
Tungsten Life	4	3	5	4	4
ARC Stability	4	5	5	4	4
AC Performance	4 5	5	-	3	3
Contamination Resistance	3	5	5	4	3

Information provided is a guide, individual results may vary depending on welders skill level, machine & base metal

✓ means a good or great performance

Numbers 1-5, 5 being very good/excellent and 1 meaning not very good

Approximate current/amperage ranges:

Diameter		Direct Current (DC)*				Alternating Current (AC)*	
Inch	MM	Electrode Negative (-)		Electrode Positive (+)		Pure Tungsten	With Oxide
		Pure Tungsten	With Oxide	Pure Tungsten	With Oxide		
.020	0.50	2 to 20	2 to 20	Na	Na	2 to 15	2 to 15
.040	1.00	10 to 75	10 to 75	Na	Na	15 to 55	15 to 70
1/16	1.6	60 to 150	60 to 150	10 to 20	10 to 20	45 to 90	60 to 125
3/32	2.4	120 to 220	150 to 250	15 to 30	15 to 30	80 to 140	120 to 210
1/8	3.2	160 to 310	225 to 330	20 to 35	20 to 35	150 to 190	150 to 250
5/32	4.0	275 to 450	350 to 480	35 to 50	35 to 50	180 to 260	240 to 350
3/16	4.8	380 to 600	480 to 650	50 to 70	50 to 70	240 to 350	330 to 450
1/4	6.4	575 to 900	750 to 1000	70 to 125	70 to 125	325 to 450	450 to 600

Note: If no value is given, no recommendation is available

* The current values are based on use of argon gas, these values may vary depending on the type of shielding gas, type of equipment and application.

Credit AWS A5.12M/A5.12:2009 (ISO 6848:2004) Table A.2



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