UNITED STATES WELDING CORPORATION

USW ALLOY DESIGNATION AND BRIEF DESCRIPTION	**6AL - 4V TI** **GTAW SOLID BARE WELDING WIRE TITANIUM BASE**	ISO 9001 AS 9100 Revision A	**DATA SHEET** 4954

CROSS-REFERENCE CONFORMANCE SPECIFICATIONS	MSRR 9500/73 AMS 4954 6-4 Ti AWS A5.16 ER Ti-5 (ER Ti-6Al-4V) ASTM/ASME Grade 5 UNS R56400 MSRR 8632 Mil-T-9046-AB1/AB2 BS 2TA10 ALLOY 318 OMAT 3/145A
METALLURGICAL BACKGROUND INFORMATION	ALLOY 6-4-Ti is a solid welding wire produced conventionally and then surface cleaned to remove standard metal working lubricants. 6-4-Ti is a duplex, alpha-beta alloy filler metal used for welding alloys of similar composition. Widely used in turbine engine components - fan and compressor sections. ELI version available. High strength alloy. Good weldability. *The most widely used titanium alloy welding wire.*
MATERIALS TO BE WELDED APPLICATION AND ADVICE	AMS 4965, 4928, 4967, 4985, 4991, 4934, 4935, 4920, 4905, 4932, 4911. MSRR 8610, 8614, 8628, 8632. ASTM Grade 5 - L65, 348, 367, 381, 467, 468. BSTA 11, 12, 28, 56. DTD 5365. Pure argon gas shielding and ultra clean weldment conditions are required. A trailing gas shield and underside shielding is necessary. Avoid iron contamination.

WIRE CHEMISTRY WT%

Aluminum	5.50	6.75	Nitrogen	-	0.03	(300ppm)
Vanadium	3.50	4.50	Hydrogen	-	0.015	(150ppm)
Iron	-	0.30	Yttrium	-	0.005	(50ppm)
Oxygen	-	0.18	Other elements	-	0.10	each
Carbon	-	0.05	Other elements		0.40	total
			Titanium		Balance	

WELD PROPERTIES	Melting 2919°F - 3040°F Hardness 330 - 390 HV Good weldability under controlled conditions. Density 4. 43 gm/cc
SIZES AND FORMS OF SUPPLY	STRAIGHT LENGTHS 5 lbs. (2.2kg) packs 36" (914mm) lengths Flag tagged for traceability. (Double tagging and other lengths on request) Wide range of diameters. SPOOLED WIRE Precision layer wound, with controlled cast and helix 12" (300mm) diameter spools standard 8" (200mm), 4" (100mm) and proprietary spool sizes on request. Wide range of diameters and spool weights.
PACKAGING	Sealed, air-evacuated, argon filled Vapor Barrier containers with desiccants ensure full protection from atmospheric contamination and prolonged shelf-life.

DFARS Compliant

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