



UNITED STATES WELDING CORPORATION

USW ALLOY DESIGNATION AND BRIEF DESCRIPTION	6-2-4-2 Ti GTAW SOLID BARE WELDING WIRE TITANIUM BASE	ISSUED JANUARY 2007	DATA SHEET 4952 <small>(3)</small>																																																						
		REVISION NO. A																																																							
CROSS-REFERENCE CONFORMANCE SPECIFICATIONS	AMS 4975 6 Al 2 Sn 4 Zr 2 Mo Ti AMS 4952 MSRR9500/74 USWC 4952 (C) MSRR8661 UNS R54620																																																								
METALLURGICAL BACKGROUND INFORMATION	ALLOY 6-2-4-2 Ti is a solid welding wire produced conventionally and then surface cleaned to remove standard metal working lubricants. This alloy is an alpha-beta high temperature, heat-treatable material used in gas turbine component manufacture. The beta content is low, giving good weldability.																																																								
MATERIALS TO BE WELDED APPLICATION AND ADVICE	AMS 4975, 4976, 4919, 4981. Pure argon gas shielding and ultra clean weldment conditions are required. A trailing gas shield and underside shielding is necessary..																																																								
WIRE CHEMISTRY WT%	<table border="0"> <tr> <td>Aluminum</td> <td>5.50</td> <td>6.50</td> <td>Nitrogen</td> <td>-</td> <td>0.040 (400ppm)</td> </tr> <tr> <td>Zirconium</td> <td>3.60</td> <td>4.40</td> <td>Hydrogen</td> <td>-</td> <td>0.0125 (125ppm)</td> </tr> <tr> <td>Tin</td> <td>1.80</td> <td>2.20</td> <td>Oxygen</td> <td>-</td> <td>0.150 (1500 ppm)</td> </tr> <tr> <td>Molybdenum</td> <td>1.80</td> <td>2.20</td> <td>Yttrium</td> <td>-</td> <td>0.005 (50ppm)</td> </tr> <tr> <td>Silicon</td> <td>-</td> <td>0.10</td> <td>Other elements</td> <td>-</td> <td>0.10 each</td> </tr> <tr> <td>Carbon</td> <td>-</td> <td>0.04</td> <td>Other elements</td> <td></td> <td>0.40 total</td> </tr> <tr> <td>Copper</td> <td>-</td> <td>0.10</td> <td>Titanium</td> <td></td> <td>Balance</td> </tr> <tr> <td>Boron</td> <td>-</td> <td>0.0030</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Iron</td> <td>-</td> <td>0.10</td> <td></td> <td></td> <td></td> </tr> </table>			Aluminum	5.50	6.50	Nitrogen	-	0.040 (400ppm)	Zirconium	3.60	4.40	Hydrogen	-	0.0125 (125ppm)	Tin	1.80	2.20	Oxygen	-	0.150 (1500 ppm)	Molybdenum	1.80	2.20	Yttrium	-	0.005 (50ppm)	Silicon	-	0.10	Other elements	-	0.10 each	Carbon	-	0.04	Other elements		0.40 total	Copper	-	0.10	Titanium		Balance	Boron	-	0.0030				Iron	-	0.10			
Aluminum	5.50	6.50	Nitrogen	-	0.040 (400ppm)																																																				
Zirconium	3.60	4.40	Hydrogen	-	0.0125 (125ppm)																																																				
Tin	1.80	2.20	Oxygen	-	0.150 (1500 ppm)																																																				
Molybdenum	1.80	2.20	Yttrium	-	0.005 (50ppm)																																																				
Silicon	-	0.10	Other elements	-	0.10 each																																																				
Carbon	-	0.04	Other elements		0.40 total																																																				
Copper	-	0.10	Titanium		Balance																																																				
Boron	-	0.0030																																																							
Iron	-	0.10																																																							
WELD PROPERTIES	Beta transus 1819° F Density 4.54 gm/cc Good weldability under controlled conditions.																																																								
SIZES AND FORMS OF SUPPLY	<table border="0"> <tr> <td style="text-align: center;">STRAIGHT LENGTHS</td> <td style="text-align: center;">SPOOLED WIRE</td> </tr> <tr> <td>5 lbs. (2.2kg) packs</td> <td>Precision layer wound, with controlled cast and helix</td> </tr> <tr> <td>36" (914mm) lengths</td> <td>12" (300mm) diameter spools standard</td> </tr> <tr> <td>Flag tagged for traceability.</td> <td>8" (200mm), 4" (100mm) and proprietary spool sizes</td> </tr> <tr> <td>(Double tagging and other lengths on request)</td> <td>on request.</td> </tr> <tr> <td>Wide range of diameters.</td> <td>Wide range of diameters and spool weights.</td> </tr> </table>			STRAIGHT LENGTHS	SPOOLED WIRE	5 lbs. (2.2kg) packs	Precision layer wound, with controlled cast and helix	36" (914mm) lengths	12" (300mm) diameter spools standard	Flag tagged for traceability.	8" (200mm), 4" (100mm) and proprietary spool sizes	(Double tagging and other lengths on request)	on request.	Wide range of diameters.	Wide range of diameters and spool weights.																																										
STRAIGHT LENGTHS	SPOOLED WIRE																																																								
5 lbs. (2.2kg) packs	Precision layer wound, with controlled cast and helix																																																								
36" (914mm) lengths	12" (300mm) diameter spools standard																																																								
Flag tagged for traceability.	8" (200mm), 4" (100mm) and proprietary spool sizes																																																								
(Double tagging and other lengths on request)	on request.																																																								
Wide range of diameters.	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.																																																								

DISTRIBUTED BY: