



UNITED STATES WELDING CORPORATION

USW ALLOY DESIGNATION AND BRIEF DESCRIPTION	C.P. Ti GTAW SOLID BARE WELDING WIRE TITANIUM BASE	ISSUED JANUARY 2007	DATA SHEET 4951 (2)																								
		REVISION NO. A																									
CROSS-REFERENCE CONFORMANCE SPECIFICATIONS	<table border="0"> <tr> <td>MSRR 9500/70</td> <td>AWS A5.16 ER Ti-2</td> </tr> <tr> <td>AMS 4951</td> <td>UNS R50550</td> </tr> <tr> <td>C.P. Ti</td> <td>OMAT 366A</td> </tr> <tr> <td>USWC 4951 (C)</td> <td>99% Ti Min.</td> </tr> </table>			MSRR 9500/70	AWS A5.16 ER Ti-2	AMS 4951	UNS R50550	C.P. Ti	OMAT 366A	USWC 4951 (C)	99% Ti Min.																
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METALLURGICAL BACKGROUND INFORMATION	<p>C.P. Ti is a solid welding wire produced conventionally and then surface cleaned to remove standard drawing lubricants.</p> <p>C.P. Ti Commercially pure titanium is a Ti-O₂ alloy designed for welding similar alloys. It is environmentally packaged for extended shelf life.</p> <p>C.P. Ti has an alpha CPH structure. It has excellent weldability and gives good weld ductility.</p>																										
MATERIALS TO BE WELDED APPLICATION AND ADVICE	<p><i>Grade 2 is the most widely used C.P. Ti specification in all forms.</i></p> <p>AMS 4941, 4942, 4901, 4921, 4900, 4902. ASTM B348, B265, 337, 338, 467, 468, 367. MSRR 8607, 8608, 8609, 8620. Widely used to fabricate all C.P. grades. Also used to fabricate alloy grades where ductility is more important than joint strength.</p>																										
WIRE CHEMISTRY WT%	<table border="0"> <tr> <td>Iron</td> <td>-</td> <td>.20</td> <td>Hydrogen</td> <td>-</td> <td>0.005 (50ppm)</td> </tr> <tr> <td>Oxygen</td> <td>-</td> <td>.18</td> <td>Other elements</td> <td>-</td> <td>0.10 each</td> </tr> <tr> <td>Carbon</td> <td>-</td> <td>.08</td> <td>Other elements</td> <td>-</td> <td>0.40 total</td> </tr> <tr> <td>Nitrogen</td> <td>-</td> <td>.05</td> <td>Titanium</td> <td>-</td> <td>Balance</td> </tr> </table>			Iron	-	.20	Hydrogen	-	0.005 (50ppm)	Oxygen	-	.18	Other elements	-	0.10 each	Carbon	-	.08	Other elements	-	0.40 total	Nitrogen	-	.05	Titanium	-	Balance
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WELD PROPERTIES	<p>Melting Point 3020° F Excellent weldability. Strength varies with oxygen content.</p>																										
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 36" (914mm) lengths Flag tagged for traceability. (Double tagging and other lengths on request) Wide range of diameters.</td> <td>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.</td> </tr> </table>			STRAIGHT LENGTHS	SPOOLED WIRE	5 lbs. (2.2kg) packs 36" (914mm) lengths Flag tagged for traceability. (Double tagging and other lengths on request) Wide range of diameters.	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.																				
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PACKAGING	<p>Sealed, air-evacuated, argon filled Vapor Barrier containers with desiccants ensure full protection from atmospheric contamination and prolonged shelf-life.</p>																										
DISTRIBUTED BY:																											