



# UNITED STATES WELDING CORPORATION

<b>USW ALLOY DESIGNATION AND DESCRIPTION</b>	<b>TURBALOY® W</b> HQ-GRADE GTAW SOLID BARE WELDING WIRE NICKEL BASE		<b>ISSUED</b> JANUARY 2007		<b>DATA SHEET</b>  <b>5786</b> (5)																																				
			<b>REVISION NO.</b> A																																						
<b>CROSS-REFERENCE CONFORMANCE SPECIFICATIONS</b>	MSRR 9500/213 AMS 5786 Alloy W 62.5Ni 5.0Cr 24.5Mo 5.5Fe		UWS N10004 USWC 5786A OMAT 333A (Commercial Grade AWS A5.14 ER Ni Mo-3)																																						
<b>METALLURGICAL BACKGROUND INFORMATION</b>	TURBALOY® W undergoes a series of proprietary abrading and cleaning processes to remove all surface contaminants. These manufacturing processes ensure a consistent ultra-clean weld wire surface.  TURBALOY® is a single phase Ni-Mo high temperature alloy.																																								
<b>MATERIALS TO BE WELDED AND APPLICATIONS</b>	TURBALOY® W is used to join dissimilar metal combinations including A286 (AMS 6532), L-605(AMS 5796). It is used for combustor repair and manufacture for welding turbine blades to rotor hubs. shroud rings, etc.  Used to repair difficult-to-weld alloys. AMS 5755 : RPS 184 Group 5 and 63 Use pure argon gas shielding and ultra clean conditions.																																								
<b>WIRE CHEMISTRY WT%</b>	<table border="0"> <tr> <td>Carbon</td> <td>-</td> <td>0.12</td> <td>Chromium</td> <td>4.00</td> <td>6.00</td> </tr> <tr> <td>Manganese</td> <td>-</td> <td>1.00</td> <td>Molybdenum</td> <td>23.00</td> <td>26.00</td> </tr> <tr> <td>Silicon</td> <td>-</td> <td>1.00</td> <td>Cobalt</td> <td>-</td> <td>2.50</td> </tr> <tr> <td>Sulfur</td> <td>-</td> <td>0.030</td> <td>Iron</td> <td>4.00</td> <td>7.00</td> </tr> <tr> <td>Phosphorus</td> <td>-</td> <td>0.040</td> <td>Vanadium</td> <td>-</td> <td>0.60</td> </tr> <tr> <td></td> <td></td> <td></td> <td>Nickel</td> <td></td> <td>Balance</td> </tr> </table>					Carbon	-	0.12	Chromium	4.00	6.00	Manganese	-	1.00	Molybdenum	23.00	26.00	Silicon	-	1.00	Cobalt	-	2.50	Sulfur	-	0.030	Iron	4.00	7.00	Phosphorus	-	0.040	Vanadium	-	0.60				Nickel		Balance
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<b>WELD PROPERTIES</b>	Tensile strength: 127ksi				Density: 9.03 gm/cc																																				
<b>SIZES AND FORMS AVAILABLE</b>	STRAIGHT LENGTHS 5 lb. (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.																																						
<b>PACKAGING</b>	Sealed polyethylene envelopes. (Desiccants optional)																																								

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3579 HIGHWAY 50 EAST # 104 □ CARSON CITY, NEVADA 89701-2826  
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