



# UNITED STATES WELDING CORPORATION

<b>USW ALLOY DESIGNATION AND BRIEF DESCRIPTION</b>	<b>TURBALOY® 82</b> HQ-GRADE GTAW SOLID BARE WELDING WIRE NICKEL BASE		<b>ISSUED</b> JANUARY 2007	<b>DATA SHEET</b>  <b>5836</b> (12)																																										
			<b>REVISION NO.</b> A																																											
<b>CROSS-REFERENCE CONFORMANCE SPECIFICATIONS</b>	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">MSRR9500/216 AWS A5.14 ER Ni,Cr-3 MIL-E-21562 Type RN82, EN82 Available in MC-GRADE</td> <td style="width: 50%; border: none;">72Ni 3.0Mn 20Cr 2.5Cb AMS 5836 OMAT 3/170A UNS N06082 FM 82</td> </tr> </table>				MSRR9500/216 AWS A5.14 ER Ni,Cr-3 MIL-E-21562 Type RN82, EN82 Available in MC-GRADE	72Ni 3.0Mn 20Cr 2.5Cb AMS 5836 OMAT 3/170A UNS N06082 FM 82																																								
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<b>METALLURGICAL BACKGROUND INFORMATION</b>	<p>TURBALOY®82 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.</p> <p>TURBALOY® 82 is a Ni, Cr, Cb single phase alloy used for joining alloys of similar composition. The Cb content offsets hot cracking tendency.</p>																																													
<b>MATERIALS TO BE WELDED APPLICATION AND ADVICE</b>	<p>Alloys 600 and 800. Dissimilar combinations of stainless and ferritic steels to high nickel alloys. AMS 5665, 5540. ASTM B163, B166, B167, B168, (UNS No 6600) RPS 184 group 3 - group 5; group 7- group 5.</p>																																													
<b>WIRE CHEMISTRY WT%</b>	<table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">Carbon</td> <td style="width: 5%;">-</td> <td style="width: 15%;">0.10</td> <td style="width: 25%;">Cobalt</td> <td style="width: 5%;">-</td> <td style="width: 25%;">0.12</td> </tr> <tr> <td>Manganese</td> <td>2.5</td> <td>3.5</td> <td>Titanium</td> <td>-</td> <td>0.75</td> </tr> <tr> <td>Silicon</td> <td>-</td> <td>0.50</td> <td>Tantalum</td> <td>-</td> <td>0.30</td> </tr> <tr> <td>Sulfur</td> <td>-</td> <td>0.015</td> <td>Iron</td> <td>-</td> <td>3.00</td> </tr> <tr> <td>Phosphorus</td> <td>-</td> <td>0.03</td> <td>Copper</td> <td>-</td> <td>0.50</td> </tr> <tr> <td>Chromium</td> <td>18.0</td> <td>22.00</td> <td>Residual elements</td> <td>-</td> <td>0.50</td> </tr> <tr> <td>Columbium</td> <td>2.0</td> <td>3.0</td> <td>Nickel + Cobalt</td> <td>67.0</td> <td>-</td> </tr> </table>				Carbon	-	0.10	Cobalt	-	0.12	Manganese	2.5	3.5	Titanium	-	0.75	Silicon	-	0.50	Tantalum	-	0.30	Sulfur	-	0.015	Iron	-	3.00	Phosphorus	-	0.03	Copper	-	0.50	Chromium	18.0	22.00	Residual elements	-	0.50	Columbium	2.0	3.0	Nickel + Cobalt	67.0	-
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<b>PACKAGING</b>	Sealed polyethylene envelopes. (Desiccants optional)																																													

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