



# UNITED STATES WELDING CORPORATION

<p align="center"><b>USW ALLOY DESIGNATION AND BRIEF DESCRIPTION</b></p>	<p align="center"><b>TURBALOY® 82</b>  <b>HQ-GRADE</b>  <b>GTAW SOLID BARE WELDING WIRE</b>  <b>NICKEL BASE</b></p>	<p align="center">ISO 9001 AS 9100</p>	<p align="center"><b>DATA SHEET</b>  <b>5836</b></p>																																										
<p align="center"><b>CROSS-REFERENCE CONFORMANCE SPECIFICATIONS</b></p>	<table border="0"> <tr> <td>MSRR9500/216</td> <td>72Ni 3.0Mn 20Cr 2.5Cb</td> </tr> <tr> <td>AWS A5.14 ER Ni,Cr-3</td> <td>AMS 5836</td> </tr> <tr> <td>MIL-E-21562 Type RN82, EN82</td> <td>OMAT 3/170A</td> </tr> <tr> <td>Available in MC-GRADE</td> <td>UNS N06082</td> </tr> <tr> <td></td> <td>FM 82</td> </tr> </table>			MSRR9500/216	72Ni 3.0Mn 20Cr 2.5Cb	AWS A5.14 ER Ni,Cr-3	AMS 5836	MIL-E-21562 Type RN82, EN82	OMAT 3/170A	Available in MC-GRADE	UNS N06082		FM 82																																
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<p align="center"><b>METALLURGICAL BACKGROUND INFORMATION</b></p>	<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>																																												
<p align="center"><b>MATERIALS TO BE WELDED APPLICATION AND ADVICE</b></p>	<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>																																												
<p align="center"><b>WIRE CHEMISTRY WT%</b></p> <p>NOTES: AMS 5836</p>	<table border="0"> <tr> <td>Carbon</td> <td>-</td> <td>0.10</td> <td>Cobalt</td> <td>-</td> <td>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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<p align="center"><b>WELD PROPERTIES</b></p>	<p>As welded, all weld metal 57 ksi  Proof Stress: 57.28 ksi  Tensile strength 94 ksi</p> <p>Hardness: 160VN  Elongation: 40%</p>																																												
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<p align="center"><b>PACKAGING</b></p>	<p>Sealed polyethylene envelopes. (Desiccants optional)</p>																																												
<p>DFARS Compliant</p>		<p align="right">www.usweldingcorp.com</p>																																											