



UNITED STATES WELDING CORPORATION

<p align="center">USW ALLOY DESIGNATION AND DESCRIPTION</p>	<p align="center">TURBALOY® 918 MC-GRADE GTAW SOLID BARE WELDING WIRE COBALT BASE</p>	<p align="center">ISO 9001 AS 9100</p>	<p align="center">DATA SHEET 5814</p>																																																																		
<p align="center">CROSS-REFERENCE CONFORMANCE SPECIFICATIONS</p>	<table border="0"> <tr> <td>AMS 5814</td> <td>GE B50A824</td> </tr> <tr> <td>MAR-M-918</td> <td>USW 1559</td> </tr> <tr> <td>USWC 5809 (V)</td> <td>13256BB</td> </tr> <tr> <td>UNS R30918</td> <td>52 Co 20 Cr 20 Ni 7.5 Ta</td> </tr> </table>			AMS 5814	GE B50A824	MAR-M-918	USW 1559	USWC 5809 (V)	13256BB	UNS R30918	52 Co 20 Cr 20 Ni 7.5 Ta																																																										
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<p align="center">METALLURGICAL BACKGROUND INFORMATION</p>	<p>TURBALOY®918 is produced by vacuum induction melting and re-melting techniques and the final wire is manufactured by special lubricant-free, roller-die forming followed by surface abrasion and cleaning processes.</p> <p>These manufacturing routes ensure consistent metallurgical integrity of the alloy with regard to control of trace elements and physical purity of the welding wire surface, resulting in repeatable excellent weld quality.</p> <p>TURBALOY® 918 is a Co-Cr-Ni-Ta-C high temperature alloy used to repair weld parts subject to severe thermal cycling and castings of similar composition.</p> <p>(NOTE: AMS 5814 can only be produced using the MC manufacturing process).</p>																																																																				
<p align="center">MATERIALS TO BE WELDED AND APPLICATIONS</p>	<p>Nozzle guide valve repair. Casting repair welding.</p> <p>Pure argon gas shielding and ultra clean weldment conditions required.</p>																																																																				
<p align="center">WIRE CHEMISTRY WT%</p>	<table border="0"> <tr> <td>Carbon</td> <td>0.04</td> <td>0.10</td> <td>Copper</td> <td>-</td> <td>0.15</td> </tr> <tr> <td>Manganese</td> <td>-</td> <td>0.10</td> <td>Zirconium</td> <td>-</td> <td>0.02</td> </tr> <tr> <td>Silicon</td> <td>-</td> <td>0.20</td> <td>Tin</td> <td>-</td> <td>0.0050 (50ppm)</td> </tr> <tr> <td>Sulfur</td> <td>-</td> <td>0.008</td> <td>Lead</td> <td>-</td> <td>0.0025 (25ppm)</td> </tr> <tr> <td>Phosphorus</td> <td>-</td> <td>0.01</td> <td>Bismuth</td> <td>-</td> <td>0.0025 (25ppm)</td> </tr> <tr> <td>Chromium</td> <td>19.00</td> <td>21.00</td> <td>Silver</td> <td>-</td> <td>0.0025 (25ppm)</td> </tr> <tr> <td>Nickel</td> <td>19.00</td> <td>21.00</td> <td>Cobalt</td> <td></td> <td>Balance</td> </tr> <tr> <td>Tantalum</td> <td>7.00</td> <td>8.00</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aluminum</td> <td>-</td> <td>0.10</td> <td></td> <td></td> <td></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>0.50</td> <td></td> <td></td> <td></td> </tr> </table>			Carbon	0.04	0.10	Copper	-	0.15	Manganese	-	0.10	Zirconium	-	0.02	Silicon	-	0.20	Tin	-	0.0050 (50ppm)	Sulfur	-	0.008	Lead	-	0.0025 (25ppm)	Phosphorus	-	0.01	Bismuth	-	0.0025 (25ppm)	Chromium	19.00	21.00	Silver	-	0.0025 (25ppm)	Nickel	19.00	21.00	Cobalt		Balance	Tantalum	7.00	8.00				Aluminum	-	0.10				Boron	-	0.0030				Iron	-	0.50			
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<p align="center">PACKAGING</p>	<p>Sealed, air-evacuated, argon purged Vapor Barrier envelopes with desiccants ensure full protection from atmospheric contamination and prolonged shelf-life.</p>																																																																				
<p>DFARS Compliant</p>		<p align="right">www.usweldingcorp.com</p>																																																																			