



# UNITED STATES WELDING CORPORATION

<b>USW ALLOY DESIGNATION AND DESCRIPTION</b>	<b>TURBOCAST™ 694</b>  GTAW SOLID BARE HARD FACING WIRE COBALT BASE	<b>ISSUED</b> JAUARY 2007	<b>DATA SHEET</b>  <b>1674</b> (1)																																				
		<b>REVISION NO.</b> A																																					
<b>CROSS-REFERENCE CONFORMANCE SPECIFICATIONS</b>	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">MSRR9500/226 OMAT 3/82D PWA 694 B50TF55</td> <td style="width: 50%; border: none;">28Cr 5Ni 19.5W 1V USWC 1674 (C) CM64 B50A842</td> </tr> </table>			MSRR9500/226 OMAT 3/82D PWA 694 B50TF55	28Cr 5Ni 19.5W 1V USWC 1674 (C) CM64 B50A842																																		
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<b>METALLURGICAL BACKGROUND INFORMATION</b>	<p>TURBOCAST™ 694 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>TURBOCAST™ 694 is a Co-Cr-W high temperature, hard surfacing alloy.</p>																																						
<b>MATERIALS TO BE WELDED AND APPLICATIONS</b>	<p>TURBOCAST™ 694 is applied to cobalt and nickel base superalloy turbine blade components to improve performance using the GTAW process.</p> <p>An important application is gas turbine blade interlock shroud surface. Pure argon gas shielding and ultra clean conditions are required.</p>																																						
<b>WIRE CHEMISTRY WT%</b>	<table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">Carbon</td> <td style="width: 10%;">0.70</td> <td style="width: 10%;">1.00</td> <td style="width: 25%;">Molybdenum</td> <td style="width: 10%;">-</td> <td style="width: 10%;">0.50</td> </tr> <tr> <td>Manganese</td> <td>-</td> <td>1.00</td> <td>Iron</td> <td>-</td> <td>3.0</td> </tr> <tr> <td>Silicon</td> <td>-</td> <td>1.00</td> <td>Boron</td> <td>0.005</td> <td>0.10</td> </tr> <tr> <td>Chromium</td> <td>26.00</td> <td>30.00</td> <td>Tungsten</td> <td>18.0</td> <td>21.0</td> </tr> <tr> <td>Nickel</td> <td>4.00</td> <td>6.00</td> <td>Vanadium</td> <td>0.75</td> <td>1.25</td> </tr> <tr> <td></td> <td></td> <td></td> <td>Cobalt</td> <td></td> <td>Balance</td> </tr> </table>			Carbon	0.70	1.00	Molybdenum	-	0.50	Manganese	-	1.00	Iron	-	3.0	Silicon	-	1.00	Boron	0.005	0.10	Chromium	26.00	30.00	Tungsten	18.0	21.0	Nickel	4.00	6.00	Vanadium	0.75	1.25				Cobalt		Balance
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<b>WELD PROPERTIES</b>	<p>Average hardness, double bead, arc deposited produces, 50Rc (510 HV) at ambient and 310 HV at 1200°F Density: 7.82 gm/cc</p>																																						
<b>SIZES AND FORMS AVAILABLE</b>	<p style="text-align: center;">STRAIGHT LENGTHS</p> <p>5 lb. (2.2kg) packs 22" lengths Flag tagged for traceability. (Double tagging and other lengths on request) .062" - .045" - 0.035" - 0.030" - 0.025" - 0.020"</p>																																						
<b>PACKAGING</b>	<p>Sealed polyethylene envelopes. (Desiccants optional)</p>																																						

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