



UNITED STATES WELDING CORPORATION

USW ALLOY DESIGNATION AND DESCRIPTION	TURBALOY® 188 HQ-GRADE GTAW SOLID BARE WELDING WIRE COBALT BASE	ISSUED JANUARY 2007	DATA SHEET 5801 (5)																																				
		REVISION NO. A																																					
CROSS-REFERENCE CONFORMANCE SPECIFICATIONS	AMS 5801 UNS R30188	39Co 22Cr 22Ni 14.5W 0.07La HS 188 USWC 5801 (A)																																					
METALLURGICAL BACKGROUND INFORMATION	<p>TURBALOY® 188 undergoes a series of proprietary abrading and cleaning processes to remove all contaminants. These manufacturing processes ensure a consistent ultra-clean weld wire surface.</p> <p>TURBALOY® 188 is a Co-Ni-Cr-W-La high temperature filler material which is used to weld alloys of similar composition.</p>																																						
MATERIALS TO BE WELDED AND APPLICATIONS	<p>AMS 5608 (R30188) AMS 5772 PWA 1015, 1042 MSRR 7136, 7165</p> <p>Gas turbine engine combustors, flame liners, gas ducting, refurbishment of recycled turbine HT components.</p>																																						
WIRE CHEMISTRY WT%	<table> <tr> <td>Carbon</td> <td>0.05</td> <td>0.15</td> <td>Nickel</td> <td>20.00</td> <td>24.00</td> </tr> <tr> <td>Manganese</td> <td>-</td> <td>1.25</td> <td>Tungsten</td> <td>13.00</td> <td>16.00</td> </tr> <tr> <td>Silicon</td> <td>0.20</td> <td>0.50</td> <td>Lanthanum</td> <td>0.02</td> <td>0.12</td> </tr> <tr> <td>Sulfur</td> <td>-</td> <td>0.015</td> <td>Boron</td> <td>-</td> <td>0.015</td> </tr> <tr> <td>Phosphorus</td> <td>-</td> <td>0.020</td> <td>Iron</td> <td>-</td> <td>3.00</td> </tr> <tr> <td>Chromium</td> <td>20.00</td> <td>24.00</td> <td>Cobalt</td> <td>-</td> <td>Balance</td> </tr> </table>			Carbon	0.05	0.15	Nickel	20.00	24.00	Manganese	-	1.25	Tungsten	13.00	16.00	Silicon	0.20	0.50	Lanthanum	0.02	0.12	Sulfur	-	0.015	Boron	-	0.015	Phosphorus	-	0.020	Iron	-	3.00	Chromium	20.00	24.00	Cobalt	-	Balance
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WELD PROPERTIES	<p>Hardness: (as deposited) 96 HRB</p> <p>Density: 9.14 gm/cc</p>																																						
SIZES AND FORMS AVAILABLE	<table> <tr> <td>STRAIGHT LENGTHS</td> <td>SPOOLED WIRE</td> </tr> <tr> <td>5 lb. (2.2kg) packs</td> <td>Precision layer wound, with controlled cast and helix</td> </tr> <tr> <td>36" (914mm) lengths</td> <td>12" (300mm) diameter spools standard</td> </tr> <tr> <td>Flag tagged for traceability.</td> <td>8" (200mm), 4" (100mm) and proprietary spool sizes</td> </tr> <tr> <td>(Double tagging and other lengths on request)</td> <td>on request.</td> </tr> <tr> <td>Wide range of diameters.</td> <td>Wide range of diameters and spool weights.</td> </tr> </table>			STRAIGHT LENGTHS	SPOOLED WIRE	5 lb. (2.2kg) packs	Precision layer wound, with controlled cast and helix	36" (914mm) lengths	12" (300mm) diameter spools standard	Flag tagged for traceability.	8" (200mm), 4" (100mm) and proprietary spool sizes	(Double tagging and other lengths on request)	on request.	Wide range of diameters.	Wide range of diameters and spool weights.																								
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PACKAGING	Sealed polyethylene envelopes. (Desiccants optional)																																						

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