



UNITED STATES WELDING CORPORATION

<p>USW ALLOY DESIGNATION AND DESCRIPTION</p>	<p>TURBALOY® 617 HQ-GRADE GTAW SOLID BARE WELDING WIRE NICKEL BASE</p>	<p>ISO 9001 AS 9100</p> <p>Revision A</p>	<p>DATA SHEET 1507</p>																																																
<p>CROSS-REFERENCE CONFORMANCE SPECIFICATIONS</p>	<p>USW 1507 Alloy 617 AMS 5887 AWS A5.14 ER Ni-Cr-Co-Mo-1 UNS N06617 W N° 2.4627 PWA 1168</p>																																																		
<p>METALLURGICAL BACKGROUND INFORMATION</p>	<p>TURBALOY® 617 is produced by vacuum induction melting and remelting techniques. The final wire is manufactured by special lubricant-free, roller-die forming followed by surface abrasion and cleaning processes. These manufacturing processes ensure consistent metallurgical integrity of the alloy with regard to control of trace elements and physical purity of the welding wire surface.</p> <p>TURBALOY® 617 is used to fabricate alloys of similar composition and is used for high temperature stability and strength in engine combustion and flame components.</p>																																																		
<p>MATERIALS TO BE WELDED AND APPLICATIONS</p>	<p>AMS 5887, 5888, 5889. ASTM B166 INCOLOY 800HT, 802. HK40.</p>																																																		
<p>WIRE CHEMISTRY WT%</p>	<table border="0"> <tr> <td>Carbon</td><td>0.05</td><td>0.15</td><td>Iron</td><td>-</td><td>3.00</td></tr> <tr> <td>Manganese</td><td>-</td><td>1.00</td><td>Titanium</td><td>-</td><td>0.60</td></tr> <tr> <td>Silicon</td><td>-</td><td>1.00</td><td>Copper</td><td>-</td><td>0.50</td></tr> <tr> <td>Sulfur</td><td>-</td><td>0.015</td><td>Aluminum</td><td>0.80</td><td>1.50</td></tr> <tr> <td>Phosphorus</td><td>-</td><td>0.030</td><td>Nickel</td><td></td><td>Balance</td></tr> <tr> <td>Chromium</td><td>20.00</td><td>24.00</td><td></td><td></td><td></td></tr> <tr> <td>Molybdenum</td><td>8.00</td><td>10.00</td><td></td><td></td><td></td></tr> <tr> <td>Cobalt</td><td>10.00</td><td>15.00</td><td></td><td></td><td></td></tr> </table>			Carbon	0.05	0.15	Iron	-	3.00	Manganese	-	1.00	Titanium	-	0.60	Silicon	-	1.00	Copper	-	0.50	Sulfur	-	0.015	Aluminum	0.80	1.50	Phosphorus	-	0.030	Nickel		Balance	Chromium	20.00	24.00				Molybdenum	8.00	10.00				Cobalt	10.00	15.00			
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<p>WELD PROPERTIES</p>	<p>Melting range 2420°- 2510°F Base metal hardness 175 - 180 HV Density 8.36gm/cc</p>																																																		
<p>SIZES AND FORMS AVAILABLE</p>	<table border="0"> <tr> <td style="text-align: center;">STRAIGHT LENGTHS</td> <td style="text-align: center;">SPOOLED WIRE</td> </tr> <tr> <td> 5 lb. (2.2kg) packs 36" (914mm) lengths Flag tagged for traceability. (Double tagging and other lengths on request) Wide range of diameters. </td> <td> Precision layer wound, with controlled cast and helix 12" (300mm) diameter spools standard 8" (200mm), 4" (100mm) and proprietary spool sizes on request. Wide range of diameters and spool weights. </td> </tr> </table>			STRAIGHT LENGTHS	SPOOLED WIRE	5 lb. (2.2kg) packs 36" (914mm) lengths Flag tagged for traceability. (Double tagging and other lengths on request) Wide range of diameters.	Precision layer wound, with controlled cast and helix 12" (300mm) diameter spools standard 8" (200mm), 4" (100mm) and proprietary spool sizes on request. Wide range of diameters and spool weights.																																												
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<p>PACKAGING</p>	<p>Sealed, air-evacuated, argon purged Vapor Barrier envelopes with desiccants ensure full protection from atmospheric contamination and prolonged shelf-life.</p>																																																		

DFARS Compliant

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