



UNITED STATES WELDING CORPORATION

USW ALLOY DESIGNATION AND DESCRIPTION	TURBALOY® 309 HQ-GRADE GTAW SOLID BARE WELDING WIRE IRON BASE	ISSUED JANUARY 2007	DATA SHEET 1439 (2)																														
		REVISION NO. A																															
CROSS-REFERENCE CONFORMANCE SPECIFICATIONS	USWC 1439 (C) 24Cr 13 Ni UNS S30980 AWS A5.9 ER309																																
METALLURGICAL BACKGROUND INFORMATION	TURBALOY® 309 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. TURBALOY® 309 is used to weld similar and dissimilar metals such as joining type 304 to carbon steels.																																
MATERIALS TO BE WELDED AND APPLICATIONS	Type 304 and dissimilar metals																																
WIRE CHEMISTRY WT%	<table style="width: 100%; border-collapse: collapse;"> <tr> <td>Carbon</td><td style="text-align: center;">-</td><td style="text-align: center;">0.12</td><td>Chromium</td><td style="text-align: center;">23.00</td><td style="text-align: center;">25.00</td></tr> <tr> <td>Manganese</td><td style="text-align: center;">1.00</td><td style="text-align: center;">2.50</td><td>Nickel</td><td style="text-align: center;">12.00</td><td style="text-align: center;">14.00</td></tr> <tr> <td>Silicon</td><td style="text-align: center;">0.30</td><td style="text-align: center;">0.65</td><td>Molybdenum</td><td></td><td style="text-align: center;">.75</td></tr> <tr> <td>Sulfur</td><td style="text-align: center;">-</td><td style="text-align: center;">0.030</td><td>Copper</td><td style="text-align: center;">-</td><td style="text-align: center;">0.75</td></tr> <tr> <td>Phosphorus</td><td style="text-align: center;">-</td><td style="text-align: center;">0.030</td><td>Iron</td><td></td><td style="text-align: center;">Balance</td></tr> </table>			Carbon	-	0.12	Chromium	23.00	25.00	Manganese	1.00	2.50	Nickel	12.00	14.00	Silicon	0.30	0.65	Molybdenum		.75	Sulfur	-	0.030	Copper	-	0.75	Phosphorus	-	0.030	Iron		Balance
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WELD PROPERTIES	Melting point: Annealed hardness:																																
SIZES AND FORMS AVAILABLE	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; vertical-align: top;"> STRAIGHT LENGTHS 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 style="text-align: center; vertical-align: top;"> SPOOLED WIRE 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 5 lb. (2.2kg) packs 36" (914mm) lengths Flag tagged for traceability. (Double tagging and other lengths on request) Wide range of diameters.	SPOOLED WIRE 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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PACKAGING	Sealed polyethylene envelopes. (Desiccants optional)																																
DISTRIBUTED BY:																																	