



# UNITED STATES WELDING CORPORATION

<b>USW ALLOY DESIGNATION AND DESCRIPTION</b>	<b>TURBALOY® 350</b> MC-GRADE GTAW SOLID BARE WELDING WIRE IRON BASE NITROGEN STRENGTHENED		<b>ISSUED</b> JANUARY 2007		<b>DATA SHEET</b>  <b>5774</b> (14)	
			REVISION NO. A			
<b>CROSS-REFERENCE CONFORMANCE SPECIFICATIONS</b>	AMS 5774 UNS S35080 AM - 350		USWC 5774 (V) 16.5Cr 4.5Ni 2.9Mo 0.10N AISI 633			
<b>METALLURGICAL BACKGROUND INFORMATION</b>	<p>TURBALOY® 350 wire is produced by special lubricant-free, roller-die forming followed by surface abrasion and cleaning processes.</p> <p>These manufacturing processes ensure consistent physical purity of the welding wire surface.</p> <p>TURBALOY® 350 is a nitrogen strengthened hardenable stainless alloy with austenitic or martensitic structure depending on thermal cycle. The filler metal is used to fabricate base alloys of similar composition.</p> <p>PWHT at 1650°F is recommended for optimum properties.</p>					
<b>MATERIALS TO BE WELDED AND APPLICATIONS</b>	AMS 5745, 5546, 5548, 5554.		UNS S350000.		ASTM A579.	
	Turbine compressor components. (AMS 5825 can be used to weld Alloy AM350.) AMS 5774 is also used to weld AM 355.					
<b>WIRE CHEMISTRY WT%</b>	Carbon	0.08	0.12	Chromium	16.00	17.00
	Manganese	0.50	1.25	Nickel	4.00	5.00
	Silicon	-	0.50	Molybdenum	2.50	3.25
	Sulfur	-	0.030	Nitrogen	0.07	0.13
	Phosphorus	-	0.040	Iron		Balance
<b>WELD PROPERTIES</b>	Melting range: 2500°F - 2550°F		Density: 7.92 gm/cc			
	Hardness annealed: 31 HRC					
	Hardness hardened: 42 HRC					
<b>SIZES AND FORMS AVAILABLE</b>	<b>STRAIGHT LENGTHS</b>		<b>SPOOLED WIRE</b>			
	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.			
<b>PACKAGING</b>	Sealed, air-evacuated, argon purged Vapor Barrier envelopes with desiccants ensure full protection from atmospheric contamination and prolonged shelf-life.					

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