

## UNITED STATES WELDING CORPORATION

USW ALLOY DESIGNATION AND DESCRIPTION	GTAW SOLID BA	C-GRADE	2 L <b>DING WI</b> I	RE	I	SO 900 AS 9100 evision	)	data sheet 5780
CROSS-REFERENCE CONFORMANCE SPECIFICATIONS	AMS 5780 15.5Cr-4.5Ni-2.9Mo-0.10N UNS S35500 AM355 MSRR 9500/210							
METALLURGICAL BACKGROUND INFORMATION	<ul> <li>TURBALOY<sup>®</sup> 355 is a corrosion and heat resistant steel. The wire is manufactured by special lubricant-free, roller-die forming followed by surface abrasion and cleaning processes.</li> <li>These manufacturing processes ensure consistent metallurgical integrity of the alloy with regard to purity of the welding wire surface.</li> <li>TURBALOY<sup>®</sup> 355 is a hardenable Cr-Ni-Mo nitrogen strengthened stainless alloy giving high strength at moderate temperature. The structure can be austenitic or martensitic depending on heat treatment and/or quenching temperature.</li> <li>TURBALOY<sup>®</sup> 355 is used to weld alloys of similar composition.</li> </ul>							
MATERIALS TO BE WELDED AND APPLICATIONS	AMS 5743, 5744, 5368, 5359, 5549, 5547. ASTM A564, A693, 579, 705. Gas turbine compressor components - rotors, discs, blades. PWHT at 1740°F produces optimum mechanical properties and as necessary for subsequent age- hardening treatment.							
WIRE CHEMISTRY WT%	Carbon Manganese Silicon Sulfur Phosphorus Chromium	0.10 0.50 - - 15.00	0.15 1.25 0.50 0.03 0.04 16.00	Nickel Molybd Nitroge Copper Iron	n	4.00 2.50 0.07	5.00 3.25 0.13 0.50 Balan	ce
WELD PROPERTIES	Melting range:2500°F- 2550°FHardness annealed:32 HRCHardness aged:42 HRC						Dens	ity: 7.80 gm/cc
SIZES AND FORMS AVAILABLE	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.				
PACKAGING	Sealed, air-evacuated, argon purged Vapor Barrier e nvelopes with desiccants ensure full protection from atmospheric contamination and prolonged shelf-life.							
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