



# UNITED STATES WELDING CORPORATION

<b>USW ALLOY DESIGNATION AND DESCRIPTION</b>	<b>TURBALOY<sup>®</sup> M190</b> HQ-GRADE GTAW SOLID BARE WELDING WIRE IRON BASE			<b>ISSUED</b> JANUARY 2007		<b>DATA SHEET</b>  <b>5823</b> (28)
				<b>REVISION NO.</b> A		
<b>CROSS-REFERENCE CONFORMANCE SPECIFICATIONS</b>	MSRR 9500/10 Jethete M190 AMS 5822 (VM) MSRR 6511 (Reference) 11.8 Cr 2.8 Ni 1.6 Co 1.8 Mo 0.32 V			UNS S41780 OMAT 3/54A USWC 5822 (V) MC-GRADE AMS 5823 Available in MC-GRADE		
<b>METALLURGICAL BACKGROUND INFORMATION</b>	TURBALOY <sup>®</sup> M190 is produced by vacuum induction melting and remelting techniques. The final wire is produced 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, resulting in repeatable excellent weld quality.					
<b>MATERIALS TO BE WELDED AND APPLICATIONS</b>	MSRR 6503, 6504, 6506, 6509, 6510, 6511, 6512, various forms of Jethete. MSRR 6513, 6514, 6515, various forms of FV607.  TURBALOY <sup>®</sup> M190 is used for manufacture and repair of gas turbine components using GTAW and pure argon gas shielding.					
<b>WIRE CHEMISTRY WT%</b>	Carbon	0.10	0.15	Nickel	2.50	3.00
	Manganese	0.40	1.30	Molybdenum	1.50	2.00
	Silicon	-	0.40	Copper	-	0.75
	Sulfur	-	0.030	Cobalt	1.30	2.00
	Phosphorus	-	0.030	Vanadium	0.25	0.40
	Chromium	11.00	12.50	Nitrogen	-	0.045
				Iron		Balance
<b>WELD PROPERTIES</b>	Typical Proof strength: > 107ksi Typical Tensile strength: > 134ksi Typical Elongation: >8%					
<b>SIZES AND FORMS AVAILABLE</b>	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.		
<b>PACKAGING</b>	Sealed, air-evacuated, argon purged Vapor Barrier envelopes with desiccants ensure full protection from atmospheric contamination and prolonged shelf-life.					

DISTRIBUTED BY:

3579 HIGHWAY 50 EAST # 104 □ CARSON CITY, NEVADA 89701-2826  
775/883-7878 □ 800/423-5964 □ FAX: 775/883-7776