

UNITED STATES WELDING CORPORATION

USW ALLOY DESIGNATION AND DESCRIPTION	TURBA MC GTAW SOLID BA IRC	LOY ⁽ -grade .re wei DN Basi	[®] 4130 Lding wir	J RER	ISSUEI ANURAY 2 EVISION A) 2007 NO.	DATA SHEET 6457
CROSS-REFERENCE CONFORMANCE SPECIFICATIONS	AMS 6457 USWC 6457 (V) UNS K13147 0.95Cr 0.2Mo (0.28-0.33C) AISI 4130 MIL-R-5632 Type I Available in HQ-GRADE Available						
METALLURGICAL BACKGROUND INFORMATION	TURBALOY [®] 4130 is produced by vacuum induction melting and re-melting 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. TURBALOY [®] 4130 is a popular high strength, low alloy steel wire used for fabricating alloys of similar composition to produce joints with good toughness, strength and reproducibility. Universal engineering alloy.						
MATERIALS TO BE WELDED AND APPLICATION	AMS 6360, 6361, 6362, 6365, 6373, 6374, 6371, 6350, 6351, 6356, 6370, 6348, UNS G41300 Pre-heat and post-weld heat treatment are necessary for most applications. Defense equipment, weapon systems, highly stressed frames, F1 chassis members, tools, turbine components, aircraft parts. Use ultra clean weldment preparation. Refer to PH & PWHT chart						
WIRE CHEMISTRY WT%	Carbon Manganese Silicon Sulfur Phosphorus Phosphorus + Sulfur Chromium	0.28 0.40 0.15 - - 0.80	0.33 0.60 0.35 0.008 0.008 0.012 1.10	Molybdenn Nickel Copper Vanadium Oxygen Nitrogen Hydrogen Iron	um 0.15 - - - - - -	0.25 0.25 0.10 0.06 0.002 0.005 0.0010 Balan	5 (25ppm) (50ppm) 0 (10ppm) ce
WELD PROPERTIES	CVN at 0°F, 89.7ft lbs, 97% shear Density: 7.8gm/cc (Minimum specification requirement: 47.0 ft lbs.) Yield strength: 128 Ksi Tensile strength: 141 Ksi						
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.						