

UNITED STATES WELDING CORPORATION

USW ALLOY DESIGNATION AND DESCRIPTION	GTAW SOLID	MC-GRADI	LDING WIR		ISO 900 AS 910 Revision	0	data sheet 1745
CROSS-REFERENCE CONFORMANCE SPECIFICATIONS	FSX 414LC 52Co 29.5Cr 10Ni 7W 0.70Mn USW 1745V GE B50A823						
METALLURGICAL BACKGROUND INFORMATION	 TURBALOY[®] 414 LC 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[®] 414 LC is a Co-Cr-Ni-W-C alloy with elevated temperature wear and oxidation resistance. Similar composition to AMS 5789 but with greater resistance to crack propagation in service. 						
MATERIALS TO BE WELDED AND APPLICATIONS	Nozzle guide vane refurbishment. GE land based turbines. GE B50A823 Casting repair.						
WIRE CHEMISTRY WT%	Carbon Silicon Manganese Sulfur Phosphorus Chromium Nickel Tungsten Iron	0.10 0.60 0.60 - 28.5 9.5 6.50	0.15 1.00 1.00 0.008 0.010 30.5 11.5 7.6 0.50	Zirconiun Copper Boron Lanthanur Oxygen Nitrogen Hydrogen Cobalt	- n 0.02 -	0.010	(50ppm) 0 (100ppm) 0 (10ppm) ce
WELD PROPERTIES							
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.						
DFARS Compliant www.usweldingcorp.com							

