

UNITED STATES WELDING CORPORATION

USW ALLOY DESIGNATION AND DESCRIPTION	TURBALOY [®] 418 MC-GRADE GTAW SOLID BARE WELDING WIRE IRON BASE	ISO 9001 AS 9100 Revision A	DATA SHEET 5817
CROSS-REFERENCE CONFORMANCE SPECIFICATIONS	Greek AscoloyUSWC 5817AMS 581713Cr 2.0Ni 3.0WUNS \$41800AISI 615Available in HQ-GRADE		
METALLURGICAL BACKGROUND INFORMATION	 TURBALOY[®] 418 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. These manufacturing processes ensure physical purity of the welding wire surface. TURBALOY[®] 418 is a hardenable Cr-Ni-W martensitic alloy for service up to 1202°F in highly stressed parts. The alloy is deep-hardenable. It is used for steam turbine buckets, blades; and compressor parts in gas turbines. Note the addition of Tungsten for high temperature properties. TURBALOY[®] 418 is used to weld materials of similar base metals composition. 		
MATERIALS TO BE WELDED AND APPLICATION	AMS 5616, 5508, 5354.ASTM A565Similar 12Cr high-strength alloys, weld wire: AMS 5823, 5821, 5776.Preheat 400°F - 600°F, maintain interpass at this level.Anneal after welding.Note: For non-critical work, AMS 5694 can be used for welding 418.		
WIRE CHEMISTRY WT%		ybdenum - 0.5 ninum - 0.1 per - 0.5 - 0.0	0 5 0
WELD PROPERTIES	Response to heat treatment: >45 HRC Minimum Density: 7.86gm/cc		
SIZES AND FORMS AVAILABLE PACKAGING	STRAIGHT LENGTHSSPOOLED WIRE5 lb. (2.2kg) packsPrecision layer wound, with controlled cast and helix36" (914mm) lengths12" (300mm) diameter spools standardFlag 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.Sealed, air-evacuated, argon purged Vapor Barrier e nvelopes with desiccants ensure full protection from		
DFARS Compliant	atmospheric contamination and prolonged shelf-life.	www.usw	eldingcorp.com

