

UNITED STATES WELDING CORPORATION

USW ALLOY DESIGNATION AND DESCRIPTION	TURBALOY [®] 22-13-5 (209) MC-GRADE GTAW SOLID BARE WELDING WIRE IRON BASE) ISO 900 AS 9100 Revision) DATA SHEET 5764	
CROSS-REFERENCE CONFORMANCE SPECIFICATIONS	Nitronic 50 XM-19	2 50 XM-19		
METALLURGICAL BACKGROUND INFORMATION	 TURBALOY[®] 22-13-5 is produced by vacuum induction melting and remelting 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[®] 22-13-5 is a nitrogen strengthened fully austenitic stainless steel and will work harden significantly. TURBALOY[®] 22-13-5 is used for welding base metal of similar composition. 			
MATERIALS TO BE WELDED AND APPLICATIONS	AMS 5764, 5861. AMS 276, 580, 240, 479, 412 (All XM-19). Note: For lower strength welds, ER316 can be used for welding. Avoid copper contamination to minimize cracking susceptibility.			
WIRE CHEMISTRY WT%	Manganese4.006.00NithSilicon-1.00VanPhosphorus-0.04TitaSulfur-0.03Alu	lumbium 0.10 trogen 0.20 nadium 0.10 anium - uminum - rconium - n	0.30 0.40 0.30 0.02 0.02 0.02 Balance	
WELD PROPERTIES	Hardness: 241 HV (annealed sheet). Readily weldable. <i>Note:</i> TURBALOY [®] 22-13-5 can also be welded using 309, 312, Ni-base filler metal.			
SIZES AND FORMS AVAILABLE	36" (914mm) lengthsFlag 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 self-life.			
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