

UNITED STATES WELDING CORPORATION

USW ALLOY DESIGNATION AND DESCRIPTION		MC-G ID BARI	LOY [®] 100 grade e welding wir base	RE [ISO 900 AS 9100 Revision	0	DATA SHEET 1580
CROSS-REFERENCE CONFORMANCE SPECIFICATIONS	USW 1580 Rev A TURBALOY® 100 ER 100S-1 (AWS A5.28 nearest e quivalent) 2 Ni 0.5Mo 1.5Mn 0.07C - Trace element controlled.						
METALLURGICAL BACKGROUND INFORMATION	TURBALOY® 100 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® 100 is a 2Ni 0.5Mo high strength low alloy steel filler alloy for welding matching materials of similar strength, giving consistent, reproducible X-ray quality welds.						
MATERIALS TO BE WELDED AND APPLICATIONS	Originally developed to supplement existing commercial grade wires in order to obtain superior weld properties when fabricating HY 80 military ship steels and alloys of similar designation. Also used for steam turbine components manufacture and repair.						
WIRE CHEMISTRY WT%	Carbon Manganese Silicon Sulfur Phosphorus Chromium Nickel Molybdenum Vanadium Titanium	0.06 1.40 0.20 - 0.05 1.80 0.40	0.08 1.70 0.35 0.008 0.010 0.17 2.10 0.55 0.05	Zirconi Alumir Copper Antimo Tin Arsenio Oxyger Nitroge Hydrog	num	0.0050	(30ppm) (50ppm) (3ppm)
WELD PROPERTIES	0.2% offset yield strength: 95 ksi (min.) MC - GRADE TURBALOY® 100 will normally produce ductility values considerably in excess of the 15% elongation specified.						
SIZES AND FORMS AVAILABLE PACKAGING	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. Sealed, air-evacuated, argon purged Vapor Barr			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. rier e nvelopes with desiccants ensure full protection from			
DFARS Compliant	atmospheric contamination and prolonged shelf-life. www.usweldingcorp.com						