UNITED STATES WELDING CORPORATION

USW ALLOY DESIGNATION AND DESCRIPTION	**TURBALOY® 8620** **MC-GRADE** **GTAW SOLID BARE WELDING WIRE** **IRON BASE**	ISO 9001 AS 9100 Revision A	**DATA SHEET** 6375

CROSS-REFERENCE CONFORMANCE SPECIFICATIONS

AMS 6375
UNS G86200
AISI 8620
USWC 6375 (V)
0.50Cr 0.55Ni 0.20Mo (0.18 - 0.23C) VM
USW 1437437
(HQ-GRADE available on request)

METALLURGICAL BACKGROUND INFORMATION

TURBALOY® 8620 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® 8620 is a ultra high strength, low alloy engineering steel filler metal for fabricating base alloys of similar composition, the high level of cleanness helping to promote good toughness. AISI 8620 is a carburizing grade with good through-thickness toughness and hardenability.

MATERIALS TO BE WELDED AND APPLICATIONS

AMS 6274, 6276, 6277, 5333, 5334.
UNS G86200.
AISI 8620.
AISI 8630 forms - ASTM A322, A331, A505, A519, A487, A732.
MiL-S-22141 IC 8620
Commercial grade 8620 filler wire sometimes used for tool repair.

WIRE CHEMISTRY WT%

Carbon	0.18	0.23	Chromium	0.40	0.60
Manganese	0.70	1.00	Nickel	0.40	0.70
Silicon	0.15	0.35	Molybdenum	0.15	0.25
Sulfur	-	0.008	Copper	-	0.35
P + S	-	0.012	Oxygen	-	0.0025 (25ppm)
Phosphorus	-	0.008	Nitrogen	-	0.0050 (50ppm)
			Hydrogen	-	0.0010 (10ppm)
			Iron		Balance

WELD PROPERTIES

Melting Range: 2700°F - 2740°F
Hardness annealed: 81 HRB
Hardness hardened: 28 HRC
Density: 7.85 gm/cc

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 enve lopes with desiccants ensure full protection from atmospheric contamination and prolonged shelf-life.

DFARS Compliant

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