UNITED STATES WELDING CORPORATION

USW ALLOY DESIGNATION AND DESCRIPTION	**TURBALOY® 220** **MC-GRADE** **GTAW SOLID BARE WELDING WIRE** **NICKEL BASE**	**ISSUED** JANUARY 2013 REVISION NO. A	**DATA SHEET** 1622

CROSS-REFERENCE CONFORMANCE SPECIFICATIONS

CH-22
B50TF239
Rene 220
USWC 1622(V)

12Co 19Cr 3.2Mo 5.3Cb 3.3Ta 1.0Ti 0.50Al 0.03C
PCC I-59-02.061
P29TF19 (Trace Elements)
Rene (R) Registered trademark of General Electric Co.

METALLURGICAL BACKGROUND INFORMATION

TURBALOY® 220 is produced by vacuum induction melting and remelting techniques. The final wire is manufactured by special lubricant-free, roller-die forming 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.

MATERIALS TO BE WELDED AND APPLICATIONS

TURBALOY® 220 is a Ni-Cr-Co corrosion and heat resistant alloy used for welding of precipitation hardenable, nickel alloys of similar composition, where oxidation resistance and creep strength are required.

WIRE CHEMISTRY WT%

Carbon	0.02	0.04	Columbium	5.00	5.50	Zirconium	0.010
Manganese	-	0.05	Titanium	0.09	1.10	Oxygen	0.0030
Silicon	-	0.05	Tantalum	3.00	3.50	Nitrogen	0.0075
Phosphorus	-	0.005	Aluminum	0.40	0.60	Nickel	Balance
Sulfur	-	0.002	Boron	0.003	0.005		
Chromium	18.00	20.00	Iron	-	0.30		
Molybdenum	3.00	3.40	Copper	-	0.10		
Cobalt	11.00	13.00	Magnesium	-	0.004		

WELD PROPERTIES

SIZES AND FORMS AVAILABLE

STRAIGHT LENGTHS	SPOOLED WIRE
5 lb. (2.2kg) packs 36” (914mm) lengths Flag tagged for traceability. (Double tagging and other lengths on request) Wide range of diameters.	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 envelopes with desiccants ensure full protection from atmospheric contamination and prolonged shelf-life.

DISTRIBUTED BY:

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