

MIDALLOY ER630 BARE WIRE

CLASSIFICATION

- AWS 5.9 Class ER630 / ASME SFA 5.9 Class ER630

DESCRIPTION

- MIDALLOY ER630 bare welding wire is a precipitation hardening, martensitic stainless steel.

APPLICATIONS

- Typical applications include valves, fasteners, gears, propeller shafts, and roller chain pins.

TYPICAL CHEMISTRY

C	Mn	Si	Cr	Ni	Mo	Cu	Cb + Ta	S	P	Fe
.03	.54	.43	16.49	4.78	0.2	3.6	.22	.021	.017	BAL.

TYPICAL MECHANICAL PROPERTIES*

TENSILE STRENGTH	150,000 PSI
YIELD STRENGTH	135,000 PSI
ELONGATION IN 2"	10%

*Note: Mechanical properties listed reflect a post weld heat treatment between 1875°F and 1925°F for one hour, followed by precipitation hardening between 1135°F and 1165°F for four hours.

WELDING PARAMETERS

PROCESS	DIAMETER	VOLTAGE	AMPERAGE	GAS
TIG	1/16"	14-18	90-130	Ar
	3/32"	15-20	120-175	Ar
	1/8"	15-20	150-220	Ar
MIG	.035"	26-29	150-180	Ar
	.045"	28-32	180-220	Ar
	1/16"	29-33	200-250	Ar

OTHER INFORMATION

- Welding of 17/4 plate under 4" thick can be done without preheating, but interpass temperatures up to 300°F are commonly specified.
- With thickness of 17/4 plate exceeding 4", preheating to 200°F and maintenance of an interpass temperature of 200°F - 500°F is considered necessary in many applications.
- In welding maintain a short arc and keep the heat input low.
- Use stringer beads, avoid wide weaving, avoid stress raisers such as sharp corners, threads, and partial penetration welds.

STANDARD PACKAGING

- TIG 10 lb. tube / 60 lb. carton
- MIG 30 lb. spool

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