



STAINLESS BARE WIRE DATA SHEET

executive 439Ti

DESCRIPTION

Executive 439Ti is a copper coated stainless steel wire primarily used for the welding of automotive stainless steel exhaust systems and components. The coating technology creates a smooth and uniform copper layer on the wire surface that remarkably improves the weldability of the wire.

This alloy, when properly welded, will retain the corrosion resistance and mechanical properties of the base metal in the weld deposit and heat-affected zone. The weld will be free of the martensite normally associated with conventional ferritic stainless steel welds. It has excellent high temperature strength, good thermal fatigue, and is well suited for thin gauge material. Superior corrosion characteristics and resistance to cracking are major advantages of this alloy.

This is an 18% Chrome alloy that is stabilized with titanium. ER439 provides improved oxidation and corrosion resistance over ER409 in similar applications. Applications are the same as those of ER409 filler metals where thin stock is fabricated into exhaust system components.

ADVANTAGES OF COPPER COATING

- Wide operating range of welding conditions with less spatter
- Good wetting, flat bead shape, smooth appearance and less oxidation darkening of the bead
- Improved contact tip and conduit lifetime
- Better ductility of the weld

APPLICATIONS AND FEATURES

- Weld metal has a ferrite structure with 18% Cr-Ti.
- Good heat and corrosion resistance.
- It is suitable for welding exhaust and muffler systems such as AISI 409, 430, 436 and 440 steel.

TYPICAL CHEMICAL VALUES

C	Si	Mn	P	S	Cr	Ti
0.025	0.35	0.63	0.010	0.009	18.43	0.30

WELDING PARAMETERS

PROCESS	SIZE	VOLTS	AMPS	SPEED OF WELDING / GAS FLOW	SHIELDING GAS / FLUX
GMAW	.030	15 – 20	40 – 120	20 - 30 IPM (500 to 750mm)/min	Ar + 1-2% CO ₂ (Short Arc)*
	.030	24 – 28	160 – 210	20 - 30 IPM (500 to 750mm)/min	Ar + 1-2% O ₂ (Spray Arc)*
	.035	15 – 21	60 – 140	20 - 30 IPM (500 to 750mm)/min	Ar + 1-2% CO ₂ (Short Arc)*
	.035	24 – 30	170 – 260	20 - 30 IPM (500 to 750mm)/min	Ar + 1-2% O ₂ (Spray Arc)*
	.045	16 – 22	100 – 210	20 - 30 IPM (500 to 750mm)/min	Ar + 1-2% CO ₂ (Short Arc)*
	.045	24 – 30	200 – 300	20 - 30 IPM (500 to 750mm)/min	Ar + 1-2% O ₂ (Spray Arc)*
	.062	24 – 32	220 – 330	20 - 30 IPM (500 to 750mm)/min	Ar + 1-2% O ₂ (Spray Arc)*

* Use Argon blend with 1-2% O₂ for high current, spray transfer welding and 1-2% CO₂ for low current, short-circuit transfer welding.

TYPICAL MECHANICAL PROPERTIES

Tensile Strength: 73 ksi 510 N/mm² (63.2 Kgf/mm²)
Elongation: 41%

CLASSIFICATION

Wire chemistry has been optimized for best performance and conforms to **AWS/SFA 5.9, Class 439, EN 14343-A**