

Classifications

EN ISO 17633-A	EN ISO 17633-B	AWS A5.22 / SFA-5.22
T Z 17 Nb Ti L M M12 1	TS Z430Nb M M12/M13 1	EC430G, EC439Nb

Characteristics and typical fields of application

Metal-cored wire of T Z 17 Nb Ti L / EC439Nb type for joints in exhaust systems with similar or dissimilar materials. Double-stabilized (niobium and titanium) formula and a low carbon content with reduced tendency for grain coarsening. Resistant to scaling up to 900°C. The easy handling and high deposition rate result in high productivity with excellent welding performance and very low spatter formation. The wire shows good wetting behavior and results in a finely rippled surface pattern. The wide arc ensures even penetration and side-wall fusion to prevent lack of fusion. The focus application is robotic welding of exhaust systems for the automotive industry, especially for thin sheet one-layer joints with a high travel speed.

Base materials

1.4016 X6Cr17, 1.4509 X2CrTiNb18, 1.4511 X3CrNb17
UNS S43000, S43940
AISI 430, 441

Typical analysis

	C	Si	Mn	Cr	Nb	Ti
wt.-%	0.02	0.5	0.7	18.5	0.55	0.35

Mechanical properties of all-weld metal - typical values (min. values)

Condition	Hardness
	HB
u	180
u untreated, as-welded – shielding gas M12 (Ar + 2.5% CO ₂)	

Operating data

	Polarity	DC +	Dimension mm
	Shielding gas (EN ISO 14175)	M12, M13	1.2

Welding with conventional or pulsed power sources using DC+ polarity, but pulsed arc may be advantageous and especially when welding out of position. Forehand (pushing) technique preferred with a work angle of appr. 80°. Ar + 2 – 3% CO₂ or Ar + 1 – 2% O₂ can be used as shielding gas. The gas flow should be 15 – 20 l/min and the wire stick-out 15 – 20 mm. When welding out of position, the metal-cored wires are similar to solid wires and pulsed arc welding is recommended. Preheating and interpass temperature as required by the base metal.

Approvals

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