

Classifications

EN ISO 17633-A	EN ISO 17633-B	AWS A5.22
T Z 17 Nb Ti L M M12/M13 1	TS Z430Nb M M12/M13 1	EC430 (mod.), EC439Nb

Characteristics and typical fields of application

Metal-cored wire for joints in exhaust systems with similar or dissimilar materials. Double-stabilized (Nb + Ti) 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

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

Typical analysis of all-weld metal

	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

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

Operating data

	Ø (mm)	Wire feed m/min	Arc length mm	Current A	Voltage V
	1.2	3.5 – 13.0	Max. 3	60 – 280	13 – 30

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 + 0.5 – 5% CO₂ or Ar + 0.5 – 3% O₂ can be used as shielding gas. The gas flow should be 15 – 18 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. The scaling temperature is approx. 850°C in air. Preheating and interpass temperature as required by the base metal.

Approvals

CE