DAIKOWT 347Si

GTAW

AUSTENITIC STAINLESS STEELS
347

DESCRIPTION

Solid rod for stabilised austenitic stainless steels

These Cr-Ni consumables are Nb-stabilized for welding steels that are stabilized with Ti or Nb. Nb it reduces intergranular corrosion under severe operation conditions. Also suitable for cladding as on mild steel after a 309 buffer layer. Service temperatures are typically -100°C to about 400°C. The higher silicon content (if compared with standard 347) increases the welding fluidity and improve the bead appearance.

SPECIFICATIONS

ISO 14343-A	W 19 9 Nb S	**AWS A5.9**	ER347Si
Certifications	CE	**Shielding**	I1
Positions	PA, PB, PC, PD, PE, PF	**Current**	DC-
Packaging Type			5kg carton tube

ASME QUALIFICATIONS

F-No (QW432)	6
A-No (QW442)	8

FERRITE

3-12 FN

PREN

19.165

HARDNESS

84HRB

CHEM. COMP. %

	DEFAULT
C	0.05
Mn	0.7
Ni	10
Cr	19
Nb	0.4
P	0.02
S	0.01
Mo	0.05
Si	0.9
Cu	0.07

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R_m MPa	550	660
Yield strength $R_{p0.2}$ MPa	350	450
Elongation A (L_0=5d_0) %	25	42
Impact Charpy ISO-V	-	150J @ -50°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

	1.6 mm	2.4 mm
Ampere	80A - 100A	110A - 160A
Voltage	-	-
Packaging	Ø 1,0÷4,0 mm	Ø 1,0÷4,0 mm
Packaging Type	5kg carton tube	5kg carton tube

347

DESCRIPTION

APPLICATION

Developed for welding Ti and Nb-stabilized 18Cr/8Ni stainless steel types 321 and 347, they are also suitable for unstabilized grades like 304/304L. Service temperatures typically range from -100°C to about 400°C. The applications parallel those of 308L, covering diverse sectors such as food, brewery, pharmaceutical equipment, architectural and general fabrication, and nuclear engineering. However, the 347 consumables mentioned here are generally unfit for elevated temperature structural applications where 0.04-0.08% carbon is specified for creep resistance; for such cases, consult data sheets 347H. For cryogenic uses requiring >0.38mm (15mils) Charpy lateral expansion at -196°C, select unstabilized weld metal with low carbon and controlled ferrite. No preheating requirement, a recommended maximum interpass temperature of 250°C, and no post-weld heat treatment (PWHT) necessity.

ALLOY TYPE

347 austenitic stainless steel for joining 321 and 347 base materials.

MICROSTRUCTURE

Austenite with a controlled level of ferrite, normally in the range 3-12FN.

MATERIALS

EN W.Nr.: 1.4541, 1.4543, 1.4561, 1.4550, 1.4552 (cast)
ASTM: 321, 347, CF8C (cast)
UNS: S32100, S34700