DAIKOWS 347

SAW

AUSTENITIC STAINLESS STEELS
347

DESCRIPTION

Solid wire for stabilised austenitic stainless steels

These Cr-Ni consumables are Nb-stabilized for welding steels grades, such as 321 and 347, that are stabilized with Ti or Nb. The presence of Nb 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. If dilution by the base metal produces a low ferrite or fully austenitic weld metal, the crack sensitivity of the weld may increases substantially.

SPECIFICATIONS

EN ISO 14343-A	S 19 9 Nb	**AWS A5.9**	ER347
Certifications	CE	**Shielding**	DAIKOFLUX 900-W
Positions	PA, PB, PC	**Current**	DC/AC
Packaging Type	K415 spool and drums.		

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. PER STANDARD	PRODUCT
Tensile strength R_m MPa	550	570
Yield strength $R_{p0.2}$ MPa	350	360
Elongation A (L_0=5d_0) %	25	30
Impact Charpy ISO-V	-	80J @ 20°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

	2.4 mm
Ampere	300A - 400A
Voltage	27V - 33V
Packaging	Ø 2,0÷4,0mm
Packaging Type	K415 spool and drums.

NOTES

SAW mechanical properties depend on wire/flux combination, refer to flux TDS.

347

DESCRIPTION

APPLICATION

This material is designed for welding 18/8 stainless steels, specifically types 321 and 347, stabilized with titanium and niobium. It is also compatible with non-stabilized grades such as 304/304L. Typical operating temperatures range from -100 °C to about 400 °C. The main applications include the food industry, breweries, pharmaceutical equipment, construction, general engineering, and nuclear engineering. However, 347 series consumables are generally not recommended for structural applications at high temperatures where a carbon percentage between 0.04% and 0.08% is required for creep resistance, as specified in the 347H data sheets. For cryogenic applications requiring a Charpy lateral expansion greater than 0.38 mm at -196 °C, it is preferable to use a non-stabilized filler metal with low carbon content and controlled ferrite. Preheating is not necessary and the maximum interpass temperature is 250 °C; post weld heat treatment (PWHT) is not required.

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