



# DAIKOWS 347H



AUSTENITIC STAINLESS STEELS  
347H

## DESCRIPTION

Solid wire for joining 321 and 347 base materials for high service temperature applications

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. If dilution by the base metal produces a low ferrite or fully austenitic weld metal, the crack sensitivity of the weld may increase substantially. Carbon content in the range of 0.04%-0.08% provides higher strength at elevated temperatures, up to 800°C.

## SPECIFICATIONS

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

## ASME QUALIFICATIONS

ASME QUALIFICATIONS	FERRITE	PREN	HARDNESS
F-No (QW432)	6	2-9 FN	19.83
A-No (QW442)	8		84HRB

## CHEM. COMP. %

CHEM. COMP. %	DEFAULT	MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
C	0.055	Tensile strength $R_m$ MPa	550	660
Mn	1.5	Yield strength $R_{p0.2}$ MPa	350	450
Ni	10	Elongation A ( $L_0=5d_0$ ) %	25	42
Cr	19.5	Impact Charpy ISO-V	-	100J @ -50°C
Nb	0.6	Impact Charpy ISO-V	-	-
P	0.02	<b>WELDING PARAMETERS</b> <span style="float: right;">2.4 mm</span>		
S	0.01	Ampere	300A - 400A	
Mo	0.1	Voltage	27V - 33V	
Si	0.35	Packaging	Ø 2,0÷4,0mm	
Cu	0.07	Packaging Type	K415 spool and drums.	

## NOTES

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



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# 347H

## DESCRIPTION

AUSTENITIC STAINLESS STEELS

347H

### APPLICATION

Material 347H is designed for welding high-carbon 18/8 type stainless steels, specifically titanium-stabilized and niobium-stabilized steels such as 321H and 347H. Its main applications include **\*\*catalytic crackers (known as cat crackers), cyclones, transfer lines, furnace components, steam piping, headers for superheaters, and various components of gas and steam turbines\*\***. These are commonly used in petrochemical plants, chemical processes, and power generation industries. It is important to note that alloy 16.8.2 has been developed as a more ductile alternative to 347H consumables, to mitigate problems in the Heat Affected Zone (HAZ) in service, particularly in 347H base materials with thicknesses exceeding 12 mm. Therefore, when welding thicker sections of 321H/347H, 16.8.2 consumables are preferred. For welding 321/347 intended for general applications requiring corrosion resistance up to approximately 400 °C, the use of 347 or 308L consumables is recommended. For cryogenic applications requiring a Charpy lateral expansion greater than 0.38 mm at -196 °C, it is recommended to use an unstabilized, low-carbon filler metal with controlled ferrite. No preheating or Post-Weld Heat Treatments (PWHT) are required, while the maximum interpass temperature is set at 250 °C.

### ALLOY TYPE

Controlled, high carbon Nb stabilized stainless steel for elevated temperature service.

### MICROSTRUCTURE

Austenite with 2-9FN, typically 4FN (solid wire typically 8FN).

### MATERIALS

**EN W.Nr.:** 1.4941 (X6CrNiTiB18-10), 1.4961 (X8CrNiNb16-13), 1.4878 (X8CrNiTi18-10)

**ASTM:** 321H, 347H

**UNS:** S32109, S34709

