G-TECH 347HB

SMAW

AUSTENITIC STAINLESS STEELS
347H

DESCRIPTION

Basic coated electrode for joining 321 and 347 base materials

One of the primary uses of this filler metal is for the joining of similar and dissimilar cryogenic steels for applications down to -269°C. This filler metal also exhibits good corrosion resistance in acids and seawater, and is particularly suited for corrosion conditions found in urea synthesis plants. The high Mn-content of the alloy helps to stabilize the austenitic microstructure and aids in hot cracking resistance. Typical applications include components used in chemical and petrochemical process plant and in power generation stations.

SPECIFICATIONS

EN ISO 3581-A	E 19 9 Nb B 42	**AWS A5.4**	E347-15
Shielding	-	**Positions**	PA, PB, PC, PD, PE, PF
Current	DC+;	**Packaging Type**	Carton box

ASME QUALIFICATIONS

F-No (QW432)	5
A-No (QW442)	8

FERRITE

2-9 FN

PREN

19.5

HARDNESS

84HRB

CHEM. COMP. %

	DEFAULT
C	0.06
Mn	1.9
Ni	9.5
Cr	19.5
Nb	0.75
P	0.02
S	0.01
Si	0.8
Cu	0.07

MECHANICAL PROPERTIES

	MIN. PER STANDARD	PRODUCT
Tensile strength R_m MPa	550	580
Yield strength $R_{p0.2}$ MPa	350	420
Elongation A (L_0=5d_0) %	25	25
Impact Charpy ISO-V	-	70J @ 20°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

	2.5 mm	3.2 mm	4.0 mm	5.0 mm
Ampere	50A - 80A	80A - 110A	110A - 150A	160A - 210A
Voltage	-	-	-	-
Packaging	56 pcs/kg	28 pcs/kg	19 pcs/kg	12 pcs/kg
Packaging Type	Carton box	Carton box	Carton box	Carton box

NOTES

Pcs/kg is indicative, actual number may vary ± 5%.

DAIKO

347H

DESCRIPTION

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