



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

ISO 3581-A	E 19 9 Nb B 42	AWS A5.4	E347-15
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	-
Positions	PA, PB, PC, PD, PE, PF	Current	DC+;

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

VARIANT

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 mm

Ampere	50A - 80A	80A - 110A	110A - 150A	160A -
Voltage	-	-	-	-
Packaging	56 pcs/kg	28 pcs/kg	19 pcs/kg	12 pcs/kg
Packaging Type	Carton box	Carton box	Carton box	Carton box

V 01/2024



The information in this datasheet is the result of detailed research and is considered accurate as of the publication date. However, we cannot guarantee its complete accuracy, and it is subject to change without notice. Actual results may vary due to many factors like welding procedures, material composition, temperature conditions, bevel configuration, and specific manufacturing techniques. We accept no liability for any errors or omissions in this datasheet. For the most current information, please visit www.daikowelding.com.

DAIKO



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DESCRIPTION

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APPLICATION

Utilized in welding titanium and niobium stabilized 18Cr/8Ni stainless steel, specifically types 321H and 347H, this method is employed across various components like catalytic crackers, cyclones, transfer lines, furnace parts, steam piping, superheater headers, and gas and steam turbine elements. Its applications span industries including petrochemical, chemical, and power generation. The significance of alloy 16.8.2 cannot be overstated, serving as a more ductile alternative to 347H consumables to prevent in-service Heat-Affected Zone (HAZ) failure in 347H base material exceeding 12mm in thickness. When dealing with thicker sections of 321H/347H, the preferred choice is 16.8.2 consumables. For general corrosion resistance at temperatures up to 400°C, recommended consumables are 347 or 308L. In cryogenic applications (>0.38mm Charpy lateral expansion at -196°C), it is advisable to use unstabilized weld metal. Notably, no preheating or Post Weld Heat Treatment (PWHT) is required, and the maximum interpass temperature is limited to 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.

