

DAIKOWM 308H



AUSTENITIC STAINLESS STEELS
308H

DESCRIPTION

Solid wire for 304/304H materials used at elevated temperatures

Wire formulated to match 18-10 austenitic stainless steels for elevated temperature strength. Carbon content in the range of 0.04%-0.08% provides higher strength at elevated temperatures. These consumables are suitable to weld heavy thick (>12mm) of 321H and 347H to avoid typical service HAZ cracking of these grades. Mainly applications include petrochemical and chemical process plant. Typical service temperatures are 400°C to 800°C.

SPECIFICATIONS

ISO 14343-A	G 19 9 H	AWS A5.9	ER308H
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	M12, M13
Positions	PA, PB, PC, PD, PE, PF, PG	Current	DC+

ASME QUALIFICATIONS

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

FERRITE

2-8 FN

PREN

20.33

HARDNESS

-

CHEM. COMP. %

	DEFAULT
C	0.05
Mn	1.8
Ni	9.5
Cr	20
P	0.015
S	0.002
Mo	0.1
Si	0.4
Cu	0.1

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R_m MPa	550	590
Yield strength $R_{p0.2}$ MPa	350	420
Elongation A ($L_0=5d_0$) %	30	44
Impact Charpy ISO-V	-	80J @ 20°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

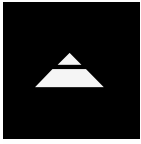
	1 mm	1.2 mm
Ampere	160A - 220A	200A - 270A
Voltage	25V - 29V	26V - 30V
Packaging	Ø 0,8÷1,6mm	Ø 0,8÷1,6mm
Packaging Type	Drums, B300, D200 and D100 spools.	Drums, B300, D200 and D100 spools.

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.





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DESCRIPTION

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APPLICATION

The 308H consumables are specifically crafted to match unstabilized 18Cr-10Ni austenitic stainless steels, providing elevated temperature strength and oxidation resistance. Carbon content is controlled within the range of 0.04-0.08%, and weld metal Cr and Ni are kept low to minimize embrittlement by sigma phase. Ferrite is controlled to further mitigate embrittlement, and minor elements and residuals are carefully managed to optimize high-temperature properties. No bismuth-bearing constituents are permitted to ensure compliance with API 582 (<0.002%Bi). Consideration of 308H consumables is advised for welding thick (>12mm) stabilized grades 321H or 347H, preventing in-service HAZ cracking and maintaining creep rupture ductility associated with 347 weld metal. Some authorities recommend type 16-8-2 for these steels, including 304H. Widely used in petrochemical and chemical process plants, especially for fabricating cyclones and transfer lines in catalytic crackers (cat crackers) operating within the range of 400-815°C. No preheat is required, and the maximum interpass temperature is set at 250°C. Post-weld heat treatment (PWHT) is not necessary.

ALLOY TYPE

High carbon 308 austenitic stainless steels.

MICROSTRUCTURE

Austenite with delta ferrite controlled 2-8FN.

MATERIALS

For 304/304H materials used at elevated temperatures.

EN W.Nr.: 1.4948 (X 6 CrNi 18 11).

ASTM: 304H, A351 Gr CF10, CF8.

UNS: S30409.

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