DAIKOFCW 308HP

FCAW

AUSTENITIC STAINLESS STEELS
308H

DESCRIPTION

Rutile all position flux cored wire

Austenitic rutile flux cored wire for welding and cladding in all positions thanks to the fast-freezing slag. It offers excellent weldability, easy handling and slag control in all positions resulting in high productivity with outstanding welding performance. Self-releasing slag requiring less cleaning and pickling, very low spatter formation and increased travel speeds allow to obtain noticeable savings in time and costs. These consumables are used to weld 18%Cr- 10%Ni stainless steels which will be applied for elevated temperatures (more than 600°C).

SPECIFICATIONS

ISO 17633-A	TZ 19 9 H R C1/M21 3	**AWS A5.22**	E308HT1-1/4
DIN	-	**Werkstoff Number**	-
Certifications	-	**Shielding**	M21, C1
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

19.5

HARDNESS

-

CHEM. COMP. %

	DEFAULT
C	0.06
Mn	1.3
Ni	10
Cr	19.5
P	0.02
S	0.01
Si	0.5

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R_m MPa	550	600
Yield strength $R_{p0.2}$ MPa	350	420
Elongation A (L_0=5d_0) %	30	34
Impact Charpy ISO-V	-	70J @ 20°C
Impact Charpy ISO-V	-	68J

WELDING PARAMETERS

	1.2 mm	1.6 mm
Ampere	120A - 280A	200A - 350A
Voltage	22V - 30V	26V - 30V
Packaging	Ø 1,2÷1,6mm	Ø 1,2÷1,6mm
Packaging Type	BS300 spool	BS300 spool

DAIKO

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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.