DAIKOFCW 309L

FCAW

AUSTENITIC STAINLESS STEELS
309L

DESCRIPTION

Rutile flux cored wire for flat and horizontal position for dissimilar joints and buffer layers

Austenitic rutile flux cored wire for welding and cladding in flat and horizontal position. The easy handling and the high deposition rate result in high productivity, excellent welding performance and very low spatter formation. The self-releasing slag makes cleaning and pickling easier. The wire shows good wetting behaviour and a finely rippled surface pattern. These consumables are mainly used for welding similar 23Cr-12Ni type alloys and under high dilution conditions, for dissimilar welds between stainless and CMn steels.

SPECIFICATIONS

EN ISO 17633-A	T 23 12 L R C1/M21 3	**AWS A5.22**	E309LT0-1/4
Certifications	CE, TUV	**Shielding**	M21, C1
Positions	PA, PB, PC	**Current**	DC+
Packaging Type	BS300 spool		

ASME QUALIFICATIONS

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

FERRITE

8-15 FN

PREN

24

HARDNESS

85HRB

CHEM. COMP. %

	DEFAULT
C	0.02
Mn	1.4
Ni	12.6
Cr	24
P	0.02
S	0.01
Si	0.7

MECHANICAL PROPERTIES

	MIN. PER STANDARD	PRODUCT
Tensile strength R_m MPa	510	650
Yield strength $R_{p0.2}$ MPa	320	520
Elongation A (L_0=5d_0) %	25	30
Impact Charpy ISO-V	-	40J @ -20°C
Impact Charpy ISO-V	-	-

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

NOTES

D200 spool and Ø 1,0 mm available upon request.

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APPLICATION

Bearing layers and claddings on steels: Ideal for overlays on carbon-manganese steels, mild or low alloy steels, and for joining cladded plates in 304L/321. Successive layers are applied with electrodes selected to match the cladding, such as 308L or 347. **Dissimilar connections**: Thanks to its tolerance to dilution, it is used to join stainless steels like 410, 304L, 321, and 316L with mild and low alloy steels for reinforcements, brackets, and other accessories. Not suitable for service temperatures above 400 °C. It is also suitable for welding 12% Cr ferritic steels, such as Cromwell 3CR12, both among themselves and with other steels. **Similar metal joints**: Wrought and cast steels, type 23Cr-12Ni (e.g., ASTM 309 and CH8, BS 309S24 and 309C30), can be welded when corrosion resistance below 400 °C is required. For high-temperature structural applications, a welding metal with a higher carbon content and reduced ferrite is necessary. Preheating and interpass temperatures depend on the hardenability of the base material. As a guide, no preheating is necessary for mild steels; on hardenable ones, the temperature can reach up to 250 °C.

ALLOY TYPE

24%Cr-13%Ni (309L) austenitic stainless for dissimilar joint buffer layers etc.

MICROSTRUCTURE

Austenite with ferrite in the range 8-20FN. GMAW tends to have lower ferrite (8-15 FN) than the MMA and FCW consumables.

MATERIALS

Mainly used under high dilution conditions, particularly dissimilar welds between stainless and CMn steels.