

# DAIKOFCW 309L



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

ISO 17633-A	T 23 12 L R C1/M21 3	AWS A5.22	E309LT0-1/4
DIN	-	Werkstoff Number	-
Certifications	CE, TUV	Shielding	M21, C1
Positions	PA, PB, PC	Current	DC+

## ASME QUALIFICATIONS

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

## FERRITE

8-15 FN
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## PREN

24
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## HARDNESS

85HRB
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## 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	VARIANT
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

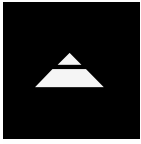
	1.2 mm	1.6 mm
Ampere	120A - 280A	200A - 350A
Voltage	22V - 30V	26V - 30V
Packaging	Ø 1,2÷1,6mm	Ø 1,2÷1,6mm
Packaging Type	BS300 spool	BS300 spool

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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](http://www.daikowelding.com).





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## APPLICATION

Commonly employed for buffer layers and overlays on CMn, mild steel, or low alloy steels, and for joining 304L/321 clad plates, as well as in dissimilar welds. Subsequent layers are applied using a suitable filler to align with the cladding, such as 308L or 347. In dissimilar joints, the capacity to tolerate dilution is leveraged when joining stainless types 410, 304L, 321, and 316L to mild and low alloy steels, including stiffeners, brackets, and other attachments. Typically, service temperatures exceeding 400°C are avoided. This filler metal is also utilized for welding 12%Cr 'utility ferritics' like Cromwell 3CR12, to itself and other steels. If the service demands corrosion resistance below 400°C, it is feasible to weld wrought and cast steels of the 23Cr-12Ni type (e.g., ASTM 309 and CH8, BS 309S24, and 309C30). However, for high-temperature structural service, it is advisable to use weld metal with carefully managed higher carbon and lower ferrite. Preheat and interpass temperatures depend on the base material hardenability, with no preheat typically required for mild steels, and it can extend up to 250°C for hardenable steels.

## 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.

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