



# DAIKOFCW 317



AUSTENITIC STAINLESS STEELS

317L

## DESCRIPTION

### Rutile flux cored wire for flat and horizontal position

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 microstructure is austenite with 5 - 10% ferrite. Intended for severe service conditions, i.e. in dilute hot acids. Not suitable for structural service above 400°C nor for cryogenic applications. These consumables are used to weld 317/317L austenitic stainless steels.

## SPECIFICATIONS

ISO 17633-A	TZ 19 13 4 L R C1 / M21 3	AWS A5.22	E317LT0-1/4
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	M21, C1
Positions	PA, PB, PC	Current	DC+

ASME QUALIFICATIONS	FERRITE	PREN	HARDNESS
F-No (QW432) 6	6-9 FN	30.65	80HRB
A-No (QW442) 8			

CHEM. COMP. %	DEFAULT	MECHANICAL PROPERTIES	MIN	VARIANT
C	0.03	Tensile strength R <sub>m</sub> MPa	550	610
Mn	1.1	Yield strength R <sub>p0.2</sub> MPa	350	480
Ni	12.6	Elongation A (L <sub>0</sub> =5d <sub>0</sub> ) %	25	35
Cr	19.1	Impact Charpy ISO-V	-	50J
P	0.02	Impact Charpy ISO-V	-	-
S	0.01			
Mo	3.5			
Si	0.6			

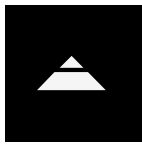
  

WELDING PARAMETERS	1.2 mm	1.6 mm
Ampere	120A - 280A	200A - 350A
Voltage	22V - 30V	26V - 30V
Packaging	Ø 1,2÷1,6mm	Ø 1,2÷1,6mm
Packaging Type	BS300 spool	BS300 spool



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

These consumables are employed for welding 317/317L austenitic stainless steels, showcasing notable effectiveness in challenging corrosion environments prevalent in industries such as chemicals, flue gas desulfurization, seawater desalination, and especially in pulp & paper and textile sectors. Their versatile applications extend to marine, papermaking, chemical processes, and food processing. Notably, they are suitable for surpassing 316/316L steels, leveraging a higher Mo content in the weld metal to enhance pitting and crevice resistance in highly corrosive environments. These steels exhibit excellent resistance to stress corrosion cracking and maintain high pitting resistance. With a service temperature ranging from -120°C to 300°C, careful welding is essential, as subsequent passes may induce precipitates of secondary phases in the weld metal. To address this, a recommended low heat input of max. 1.5 kJ/mm and an interpass temperature of max. 150°C are suggested. Generally, post-weld heat treatment is not required, though, in specific instances, solution annealing at 1080 - 1130°C followed by water quenching can be considered.

## ALLOY TYPE

The nominal composition (wt. %) of alloy is 19.5 Cr, 14 Ni, 3.5 Mo, similar but more alloyed than ER316.

## MICROSTRUCTURE

The fillers are fully-austenitic and slightly over-alloyed.

## MATERIALS

**EN W.Nr.:** 1.4436 (X3CrNiMo17-13-3), 1.4439 (X2CrNiMoN17-13-5), 1.4429 (X2CrNiMoN17-13-3), 1.4438 (X2CrNiMo18-15-4), 1.4583 (X10CrNiMoNb18-12).

**ASTM:** 316Cb, 316LN, 317LN, 317L, A351 CG8M, CG3M.

**UNS:** S31726, J92999.

