



Cromarod 309L

SMAW - (Stick) - MMA
Stainless Steel

Date: 2018-10-15
Revision: 25

Description:

Cromarod 309L is a rutile flux coated electrode which deposits a 23%Cr / 13%Ni austenitic stainless steel weld metal. The high alloy content and ferrite level enable the weld metal to tolerate dilution from mild and low alloy steels without hot cracking or brittle structures.

Applications:

- Dissimilar joints between stainless and mild or low alloy steels.
- Buffer layers on mild and low alloy steels prior to overlaying with Cromarod 308L or Cromarod 347.
- Interface runs in clad steel joints.
- Joining of clad steels and dissimilar joints between stainless and mild or low alloy steels.
- Welding of similar composition 309 type austenitic stainless steels.
- Joining ferritic-martensitic 410 and 430 type stainless steels.

Welding positions:



Coating type:

Rutile

Welding current:

DC+, AC OCV > 39V

Ferrite content:

FN 9 (WRC-92)

Corrosion resistance

As Cromarod 309L is usually used for buffer layers and dissimilar joints, corrosion resistance is of less importance. Two layers on mild steel is about equivalent to 304L type material.

Scaling temperature:

Approx. 1000 °C in air.

Redrying temperature:

350 °C, 2h

Chemical composition, wt.%

	C	Si	Mn	P	S	Cr	Ni
Min			0,5			22,0	12,0
Typical	0,02	0,8	0,8	0,02	0,02	23,0	13,0
Max	0,030	1,0	2,0	0,030	0,025	25,0	14,0

	Mo	Cu	V	Nb
Min				
Typical	0,1			
Max	0,5	0,5	0,1	0,1

Mechanical properties

	Specified	Typical*
Yield strength, Rp0.2%: ≥ 320 MPa		470 MPa
Tensile Strength, Rm: ≥ 520 MPa		560 MPa
Elongation, A5 ≥ 30%		34%
Impact energy, CV: -20 °C • ≥ 29 J		-20 °C • 48 J -60 °C • 45 J

Product data:

Diam.mm	Length mm	Current A	Voltage V	Kg weld metal/ kg electrodes	No. of electrodes/ kg weld metal	Kg weld metal/ hour arc time	Burn-off electrode time (sec.)
2,5	300	40-80	27	0,67	83	0,9	42
3,2	350	80-120	28	0,67	42	1,4	53
4	350	100-160	29	0,67	28	1,9	59
4	450	100-160	29	0,67	21	1,9	75

Classification:

AWS A5.4 E 309L-17
ISO 3581-A E 23 12 L R 12

Approvals:

LR
DNV GL
CE
BV
ABS
CWB

Note

Core wire:
P ≤ 0.020%
S ≤ 0.015%
N ≤ 0.080%

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