

Technical Data Sheet

UGIALLOY® 82

Chemical composition (%)

C	Si	Mn	Ni	Cr	Cu	Fe	(Nb+Ta)	Ti
≤ 0.05	≤ 0.1	2.5 – 3.5	≥ 67.0	18.0 – 22.0	≤ 0.5	≤ 3.0	2.0 – 3.0	≤ 0.7

01-10-2021 – REV 05

Classification

Nickel Chromium grade

Designation

Material No.

Europe – EN ISO 18274	USA – AWS A5.14	Europe – WNr.
Ni 6082 – NiCr20Mn3Nb	ERNiCr-3	2.4806

Approvals

	SAW
TÜV (Germany)	X
CE	
DB	

Mechanical properties on as weld deposit (typical values)

Using the recommended above mentioned welding parameters, the mechanical properties will be as follows:

Temperature (°C)	-196°C	Room Temperature
Tensile strength (MPa)		660
Yield strength (MPa)		403
Elongation (%)		36
Striction (%)		
Impact ISO V (J)	60	150

Corrosion resistance

- » Very good general corrosion resistance.
- » Good stress corrosion resistance.
- » Very good intergranular corrosion resistance.



Swiss Steel Group

Production sites: Ugitech SA
www.swisssteel-group.com

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Recommended welding parameters

MIG welding

Recommended shielding gas:

- » Argon + Oxygen (1 to 3%)
- » Argon + CO₂ (1 to 2.5%)
- » Argon + Helium

□ Filler metal (mm)	0.8	1.0	1.2	1.6
Short-Arc Current (A) Voltage (V)	60/80 15/17	80/120 15/17	100/150 17/19	
Spray-Arc Current (A) Voltage (V)	140/210 26/29	180/250 26/29	200/290 26/29	250/350 27/29
Gas Flow (l/min)	15	20	20	20

Water-cooled torch is recommended for high current, above 250 A.
Interpass must be controlled to less than 150°C.

MIG cladding

Recommended shielding gas:

- » Helium (70 %) + Argon (30 %)

The best solution is to use the pulsed arc welding with the following parameters: (wire 1.2 mm)

- » Current: background 100 - 150 A
Pulse peak 300 – 400 A
- » Voltage: background 25 V
Pulse peak 35 V

Water-cooled torch is recommended for high current, above 250 A.
Interpass must be controlled to less than 150°C.

TIG Welding

- » Shielding gas: Pure Argon.

Look at the recommendations of the torch producer.

- » Intensity: 100 – 200 A
- » Voltage: 10 – 20 V

Interpass must be controlled to less than 150°C.



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Available products

Process	Shape	Diameter Range	Packaging	Weight
TIG	Rods	1.0 – 4.0 mm	Cardboard tubes	5 kg
		0.8 – 1.6 mm	Metallic spools – BS 300	15 – 18 kg
MIG	Wire	0.8 – 1.2 mm	Plastic spools – D 200	5 kg
		1.0 – 1.6 mm	Plastic spools – D 300	15 kg
		1.0 – 1.6 mm	Plastic spools – D 350	25 – 27 kg
		0.8 – 1.2 mm	Pay off pack - Drums	250 – 500 kg
SAW	Wire	1.6 – 3.2 mm	Rims K415 / 300 / 94	20 – 25 kg
			Rims K435 / 300 / 70	

Contact us for dimensions

Applications

Because of its chemical characteristics and its corrosion resistance, UGIALLOY® 82 is perfectly suited to the following operations:

- » Welding of Nickel - Chromium - Iron alloys.
- » Welding of 9% Nickel steels (cryo-industry).
- » Heterogeneous welding when used at high temperatures.
- » Cladding of exchanger tube-sheets.



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