Technical Data Sheet

UGIALLOY® 625

Chemical composition (%)

C	Si	Mn	Ni	Cr	Mo	Cu	Fe	(Nb + Ta)
≤ 0.03	≤ 0.5	≤ 1.0	≥ 60.0	21.0 – 23.0	8.5 – 9.5	≤ 0.5	≤ 1.0	3.2 – 4.0

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Classification

Nickel Chromium Molybdenum grade

Designation

Material No.

Europe – EN ISO 18274	USA – AWS A5.14	Europe – WNr.
Ni 6625 – NiCr22Mo9Nb	ERNiCrMo-3	2.4831

Approvals

	MIG	TIG	SAW
TÜV (Germany)	X	X	

Mechanical properties on as weld deposit (typical values)

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

Temperature (°C)	-40°C	-17°C	Room Temperature
Tensile strength (MPa)			765
Yield strength (MPa)			490
Elongation (%)			47
Striction (%)			
Impact ISO V (J)	166	179	200

Corrosion resistance

» Very good corrosion resistance in acid, neutral or alkaline media, with or without chlorides.
» Very good resistance against pitting corrosion, crevice corrosion and inter crystalline corrosion.
» Very good resistance at high temperatures, especially against oxidation and carburization.

Swiss Steel Group

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

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Recommended welding parameters

MIG welding

Recommended shielding gas:

» Argon (+ helium)
» A very slight amount of O_2 or CO_2 (≤0.5%) to stabilize the welding arc.

Short-Arc

» Current 60 / 150 A
» Voltage 15 / 20 V

Spray-Art

» Current 140 / 350 A
» Voltage 26 / 30 V

UGIALLOY® 625 is suited for pulsed arc welding.
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:

» Argon (+helium)

The best solution is to used MIG pulsed device with the following parameters (wire 1.2mm)

» Current: base ....100-150 A
Peak ....300-400 A
» Voltage: base ....25 V
Peak 35

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

TIG Welding

» Current: 100 to 200 A
» Voltage: 10 to 20 V
» Shielding gas: Argon (+helium).
Nitrogen and hydrogen are prohibited in shielding gases

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Available products

Process	Shape	Diameter Range	Packaging	Weight
TIG	Rods	1.0 – 4.0 mm	Cardboard tubes	5 kg
MIG	Wire	0.8 – 1.6 mm	Metallic spools – BS 300	15 – 18 kg
		0.8 – 1.2 mm	Plastic spools – D 200	5 kg
			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

» UGIALLOY® 625 may be used for all applications in sea media, either for welding the same types of materials, or for cladding low alloyed steels.

» Because of its very good resistance at high temperatures, UGIALLOY® 625 may be used in all heat treatment installations.

» Because of its full austenitic structure, UGIALLOY® 625 may be used for cryogenic applications (welding of 9% nickel grade for example).

» UGIALLOY® 625 may be used for welding of all Nickel base type.