

# Technical Data Sheet

## UGIWELD™ 45N

### Chemical composition (%)

C	Si	Mn	Ni	Cr	Mo	Cu	N
≤ 0.03	≤ 0.9	0.5 – 2.0	7.5 – 9.5	21.5 – 23.5	2.5 – 3.5	≤ 0,5	0.1 – 0.2

01-10-2021 – REV 05

### Classification

Duplex grade

### Designation

Material No.

Europe – EN ISO 14343-A	USA – AWS A5.9	Europe – WNr.
22 9 2 N L	ER2209	

### Approvals

	MIG	TIG	SAW
TÜV (Germany)	X	X	
CE	X	X	X
DB	X	X	

### Mechanical properties

On All-Weld metal.

Temperature (°C)	-60°C	Room Temperature
Tensile strength (MPa)		750
Yield strength (MPa)		600
Elongation (%)		24
Impact ISO V (J)	50	80

### Corrosion resistance

- » Corrosion resistance is higher than for 316L.
- » Pitting corrosion resistance is the same as for 904L
- » Stress corrosion resistance is far higher than for austenitic stainless steels in media with chlorides, and for temperatures between 50°C and 300°C.



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### Recommended welding parameters

#### MIG welding

Recommended shielding gas:

» Argon + Oxygen (1 to 3%)

» Argon + CO<sub>2</sub> (1 to 2.5%)

Under some circumstances nitrogen should be added to the shielding gas.

Under no circumstances hydrogen should be added to the shielding gas.

#### » Short-Arc:

Current (A) 60 - 150 A

Voltage (V) 15 - 20 V

#### Spray-Arc:

Current (A) 140 - 350 A

Voltage (V) 26 - 30 V

Interpass must be controlled to less than 150°C.

Heat input must be controlled to less than 2 kJ/mm

UGIWELD™ 45N is suited for pulsed arc welding

#### TIG Welding

#### » Shielding gas:

Pure Argon

#### » Welding parameters:

Current 100 - 200 A

Voltage 10 - 20 V

Interpass must be controlled to less than 150°C.

Heat input must be controlled to less than 2 kJ/mm



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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
			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

UGIWELD™ 45N is suited for joining austenitic-ferritic stainless steels such as UNS S32205 and all other Lean Duplex stainless steels.

- » Acid gas industry and « offshore »
- » Chemical products transportation
- » Media with chlorides
- » Urea production
- » Other industries: depollution, pulp and paper industry...

UGIWELD™ 45N is also suited for heterogeneous welding of Duplex stainless steels and stainless steels with unalloyed and low alloyed grades.



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