

LDX 2101

For welding steels such as Outokumpu	EN	ASTM	BS	NF	SS
LDX 2101®	1.4162	S32101	–	–	–

Standard designations

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Characteristics and welding directions

AVESTA LDX 2101 is designed for welding the ferritic-austenitic (duplex) stainless steel Outokumpu LDX 2101, a "lean duplex" steel with excellent strength and medium corrosion resistance. The steel is mainly intended for applications such as civil engineering, storage tanks, containers etc.

AVESTA LDX 2101 is over alloyed with respect to nickel to ensure the right ferrite balance in the weld metal.

The weldability of LDX 2101 is excellent and welding can be performed using short, spray or pulsed arc. Welding using pulsed arc provides good results in both horizontal and vertical-up positions. The best flexibility is achieved by using pulsed arc and Ø 1.20 mm wire.

Welding data

	Diameter mm	Current A	Voltage V
Short arc	0.80	60 – 120	18 – 22
	1.00	110 – 140	20 – 22
	1.20	130 – 160	20 – 22
Spray arc	1.00	160 – 220	25 – 29
	1.20	200 – 240	28 – 31
	1.60	250 – 330	29 – 32
Pulsed arc	1.20	I_{peak} = 450 – 550 A I_{bkg} = 150 – 200 A Freq = 120 – 150 Hz	

Shielding gas

1. Ar + 30% He + 2.5% CO₂.
2. Ar + 2% CO₂ / Ar + 2% CO₂.

MIG welding is best performed using argon with an addition of approx. 30% He and 2 – 3% CO₂. The addition of helium (He), will increase the energy of the arc.
Gas flow rate 12 – 16 l/min.

Chemical composition, wire (typical values, %)

C	Si	Mn	Cr	Ni	Mo	N
0.02	0.40	0.5	23.0	7.0	<0.5	0.14

Ferrite 40 FN WRC-92

Mechanical properties

	Typical values (IIW)	Min. values EN ISO 14343
Yield strength $R_{p0,2}$	520 N/mm ²	–
Tensile strength R_m	710 N/mm ²	–
Elongation A_5	30 %	–
Impact strength KV		
+20°C	150 J	
–40°C	110 J	

Interpass temperature: Max. 150°C.

Heat input: Max. 0.5 – 2.0 kJ/mm.

Heat treatment: Generally none (in special cases quench annealing at 1020 – 1080°C).

Structure: Austenite with 35 – 65% ferrite.

Scaling temperature: Approx. 850°C (air).

Corrosion resistance: Good resistance to general corrosion. Corrosion resistance on a level with, or better than, AISI 304.

Approvals

- TÜV