

2304

For welding steels such as Outokumpu	EN	ASTM	BS	NF	SS
2304	1.4362	S32304	–	Z3 CN 23-04 Az	2327

Standard designations

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Characteristics and welding directions

AVESTA 2304 is primarily designed for welding the duplex steel SAF 2304 and similar grades.

AVESTA 2304 provides a ferritic-austenitic weldment that combines many of the good properties of both ferritic and austenitic stainless steels.

AVESTA 2304 has a low content of molybdenum, which makes it well suited for nitric acid environments.

Welding without filler metal (i.e. TIG-dressing) is not allowed since the ferrite content will increase drastically and both mechanical and corrosion properties will be negatively affected.

Welding data

Diameter, mm	Current, A	Voltage, V
1.20	60 – 80	9 – 11
1.60	80 – 110	10 – 12
2.40	130 – 180	16 – 19
3.20	160 – 220	17 – 20

Shielding gas

Ar (99.95%). Ar with an addition of up to 2% nitrogen (N₂) is advantageous and will have a positive effect on both mechanical and corrosion properties.

Gas flow rate 4 – 8 l/min.

Chemical composition, wire (typical values, %)

C	Si	Mn	Cr	Ni	Mo	N
0.02	0.40	0.5	23.5	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}	550 N/mm ²	–
Tensile strength R _m	730 N/mm	–
Elongation A ₅	30 %	–
Impact strength KV		
+20°C	180 J	
–40°C	180 J	

Interpass temperature: Max. 150°C.

Heat input: 0.5 – 2.5 kJ/mm.

Heat treatment: Generally none (in special cases quench annealing at 1100 – 1150°C).

Structure: Austenite with 35 – 55% ferrite.

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

Corrosion resistance: Very good resistance to pitting and stress corrosion cracking in nitric acid environments.

Approvals

- CE
- TÜV