

## Classification

EN ISO 14343-A	AWS A5.9
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## Characteristics and typical fields of application

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.

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

## Base materials

Similar duplex stainless steels, also combinations of duplex, ferritic and austenitic steels

Outokumpu 2304

1.4362 - UNS S32304

## Typical analysis of the solid wire (wt.-%)


	C	Si	Mn	Cr	Ni	Mo	N	Ferrite
wt.-%	0.02	0.4	0.5	23.5	7.0	< 0.5	0.14	40 FN (WRC-92)

## Mechanical properties of all-weld-metal

Heat treatment	Yield strength R <sub>p0.2</sub>	Tensile strength R <sub>m</sub>	Elongation (L <sub>0</sub> =5d <sub>0</sub> )	Impact work ISO-V KV J	
	MPa	MPa	%	+20 °C	-40 °C
u	550	730	30	180	180

u untreated, as welded – Shielding gas Ar (99.95 %)

## Operating data

	<b>Polarity</b>	<b>Shielding gas:</b>	<b>ø (mm)</b>
	DC ( + )	Ar (99.95 %)	1.6
		Ar + 2 % N <sub>2</sub>	2,4
		Gas flow rate: 4 – 8 l/min	3,2

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

Interpass temperature: max. 150 °C.

Heat input: 0.5 – 2.5 kJ/mm.

## Approvals

TÜV, CE