

## Classifications

EN ISO 3581-A	AWS A5.4
E 20 25 5 Cu N L R	E385-17

## Characteristics and typical fields of application

Avesta 904L is a high-alloy fully austenitic Cr-Ni-Mo-Cu electrode designed for welding 1.4539/ASTM 904L type steels. It can also be used for welding 1.4404/ASTM 316 components where a ferrite free weld is required, e.g. in cryogenic or non-magnetic applications. The weld metal has a very good impact toughness at low temperatures. To minimise the risk of hot cracking when welding fully austenitic steels, heat input and interpass temperature must be low and there must be as little dilution as possible from the parent metal.

### Corrosion resistance:

Very good resistance to general corrosion in non-oxidising environments such as sulphuric acid and phosphoric acid. Very good resistance to pitting and crevice corrosion in chloride containing solutions. Meets the corrosion test requirements per ASTM G48 Methods A, B and E (40°C).

## Base materials

Outokumpu	EN	ASTM	BS	NF	SS
904L	1.4539	904L	904S13	Z2 NCDU 25-20	2562

Also for welding similar steels of the 20-25 CrNiMoCu-type.

## Typical analysis of all-weld metal (wt.-%)

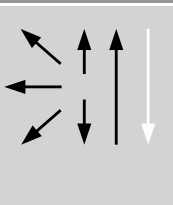
	C	Si	Mn	Cr	Ni	Mo	Cu
wt-%	0.02	0.7	1.2	20.5	25.0	4.5	1.5

## Mechanical properties of all-weld metal

Heat-treatment	Yield strength R <sub>e</sub> N/mm <sup>2</sup>	Tensile strength R <sub>m</sub> N/mm <sup>2</sup>	Elongation (L <sub>0</sub> =5d <sub>0</sub> )	Impact work ISO-V KV J			Hardness
				+20 °C	-40°C	-196°C:	
u	420	600	34	70	60	50	200

u untreated, as-welded

## Operating data

	Polarity: DC (+)	Electrode identification:	∅ (mm)	L mm	Amps A
			2.5		35 – 75
			3.25		55 – 110
			4.0		100 – 150
			5.0		140 – 190

## Approvals

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