

## Classification

EN ISO	AWS
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## Characteristics and typical fields of application

Avesta 248 SV is designed for welding Outokumpu 248 SV and steel castings with corresponding composition. Applications include propellers, pumps, valves and shafts. Avesta 248 SV has high safety against cracking, superior to many other martensitic consumables. The weld metal properties, on the whole, are similar to those of the steel. Preheating is normally unnecessary. In cases with heavy wall thicknesses or where considerable shrinkage stresses are to be expected, preheating up to 75 – 150° C is recommended.

Structure: Austenite balanced with ferrite and martensite.

The scaling temperature is at about 850° C (air).

### Corrosion resistance:

The resistance to general and pitting corrosion is in level with that of ASTM 304.

## Base Materials

Outokumpu	EN	ASTM	BS	NF	SS
248 SV	1.4418	-	-	Z6 CND 16-05-01	2387

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


	C	Si	Mn	Cr	Ni	Mo
wt.-%	0.02	0.35	1.3	16.0	5.5	1.0

## 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	Hardness
	MPa	MPa	%	+20 °C	HB
a*	460	840	23	80	260

\*a annealed at 590° C for 4 h

## Operating data

	<b>Polarity</b> DC (+)	<b>shielding gases:</b> Ar + 2% O <sub>2</sub> or 2 – 3% CO <sub>2</sub> Gas flow rate 12 – 16 l/min.	<b>amps A</b>	<b>voltage V</b>	<b>ø (mm)</b>
			Short arc		
			130 - 160	20 – 22	1.2
			Spray arc		
190 - 260	24 – 28	1.2			

Interpass temperature: max. 150° C. Gas flow rate 20 – 25 l/min.

Heat treatment: To stabilize the structure and to minimize the content of brittle martensite an annealing at annealing at 590° C for 4 h followed by air cooling is recommended.