

## Stainless steel electrode

### Classification

AWS A5.4-92 : E307-15\*  
EN 1600-97 : E 18 8 Mn B 22

\* Deviation: see remarks

### Temperature Range

pressurized parts: -120 ... +400°C  
scaling resistance: n.a.

### General description

A fully basic all position 5%Mn-alloyed stainless steel electrode

Especially developed for steels difficult to weld, such as:

- Armour plate
- Austenitic high Mn-steels

Often used for buffer layers in "hardfacing" applications

Weldable on DC+ polarity

### Welding positions



ISO/ASME PA/1G PB/2F PC/2G PF/3G up PE/4G PF/5G up

### Current type

AC / DC electr. +

### Approvals

### Chemical composition (w%), typical, all weld metal

C	Mn	Si	Cr	Ni
0.08	5.5	0.3	19.0	8.5

### Mechanical properties, all weld metal

	Condition	0.2% Proof strength (N/mm <sup>2</sup> )	Tensile strength (N/mm <sup>2</sup> )	Elongation (%)	Impact ISO-V(J)	
					+20°C	-120°C
Required: AWS A5.4-92		not required	min. 590	min. 30	not required	
EN 1600-97		min. 350	min. 500	min. 25	not required	
Typical values	AW	500	650	35	100	35

### Packaging, available sizes and identification

	Diameter (mm)	2.5	3.2	4.0	5.0	6.0
	Length (mm)	350	350	450	450	450
Unit: Box	Pieces / unit (nominal)	160	170	110	70	50
	Net weight/unit (kg)	2.8	5.0	6.5	6.5	6.4

### Identification

Imprint: 307-15 / Jungo 307

Tip colour: silver

Jungo® 307: rev. EN 15

**Materials to be welded**

Various steel grades, such as:

- Armour plate
- Hardenable steels including steels difficult to weld
- Non-magnetic austenitic steels
- Work hardening austenitic manganese steels
- Dissimilar steel grades (CMn-steels to stainless steel)
- Problem steels

**Calculation data**

Sizes Diam. x length (mm)	Current range type (A)	Current	Arc time - per electrode at max. current - (s)*	Energy E(kJ)	Dep.rate H(kg/h)	Weight/ 1000 pcs. (kg)	Electrodes/ kg weldmetal B	kg Electrodes/ kg weldmetal 1/N
2.5 x 350	50 - 70	DC+	44	71	0.96	17.8	85	1.52
3.2 x 350	70 - 100	DC+	53	132	1.4	29.1	48	1.39
4.0 x 450	100 - 130	DC+	86	264	1.7	55.9	25	1.41
5.0 x 450	160 - 170	DC+	82	388	2.7	85.3	16	1.39
6.0 x 450	170 - 200	DC+						

\* stub end 35mm

**Welding parameters, optimum fill passes**

Welding position: Diameter (mm)	PA/1G Current (A)	PB/2F	PC/2G	PF/3G up	PE/4G	PF/5G up
2.5	60	60	60	60	60	60
3.2	90	90	90	70		
4.0	140	115	130	95		
5.0	160	165				

**Remarks**

Deviations: chemical composition:

Mn = 4.5 - 6.5%

Ni = 5.7 - 9.5%

AWS: Mn = 3.30 - 4.75%

AWS: Ni = 9.0 - 10.7%