

Stainless steel electrode

Classification

AWS A5.4-92 : E308H-16
EN 1600-97 : E 19 9 H R 12

Temperature Range

pressurized parts: -20 ... +730°C
scaling resistance: to 800°C

General description

A rutile-basic all position stainless steel electrode

Specially developed for high temperature applications (up to 730°C) - e.g. AISI 304H or W.Nr. 1.4948

Low sensitivity to precipitation of intermetallic phases

Weldable on AC and DC

Popular in petrochemical and nuclear industry

Welding positions



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

Current type

AC / DC electr. + / -

Approvals

CTL

+

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

C	Mn	Si	Cr	Ni	FN
0.05	0.75	0.85	18.5	9.5	3-7

Mechanical properties, all weld metal

	Condition	0.2% Proof strength (N/mm ²)	Tensile strength (N/mm ²)	Elongation (%)	Impact ISO-V(J)	
					+20°C	-20°C
Required: AWS A5.4-92		not required	min. 550	min. 35	not required	
EN 1600-97		min. 350	min. 550	min. 30	not required	
Typical values	AW	450	600	44	70	50

Packaging, available sizes and identification

Unit: Box	Diameter (mm)	Length (mm)	Pieces / unit (nominal)				Net weight/unit (kg)			
			2.5	3.2	4.0	5.0	2.8	4.8	4.9	4.8
			350	350	350	350	145	150	100	65

Identification Imprint: 308H-16 /Arosta 304H

Tip colour: green

Arosta® 304H: rev. EN 15

Arosta® 304H

SMAW

Materials to be welded

Steel grades	EN 10088-1/-2	EN 102 13-4	W.Nr.	ASTM/ACI	UNS
Medium carbon C >0.03%	X4 CrNi 18-10	GX5 CrNi 19-10	1.4301	302 (TP)304 (TP)304H	S30400 S30409
1.4308 1.4948			CF8	J92600	

Calculation data

Sizes Diam. x length (mm)	Current range type (A)	Current	Arc time (s)*	Energy - per electrode at max. current - 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	40 - 75	DC+	51	89	0.99	19.4	79	1.54
3.2 x 350	60 - 110	DC+	58	121	1.3	31.5	48	1.52
4.0 x 350	80 - 150	DC+	64	258	1.8	48.0	32	1.54
5.0 x 350	140 - 220	DC+	72	493	2.3	72.6	22	1.56

* 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	70	70	70	60	60	60
3.2	100	100	100	70	70	70
4.0	140	140	140	80		
5.0	180	180	180			

For root passes DC- is recommended.