Thermanit 19/15 H

Stick electrode, high-alloyed, stainless

Classifications

EN ISO 3581-A	AWS A5.4 / SFA-5.4
E 20 16 3 Mn N L B 2 2	E316LMn-15

Characteristics and typical fields of application

Stainless; resistant to intercrystalline corrosion and wet corrosion up to 350 °C. Corrosion resistant similar to low carbon CrNiMo(Mn,N) steels/cast steel grades. Seawater resistant, good resistance to nitric acid. Huey test in acc. ASTM A 262-64: 3.3 µ / 48 h max. (0.54 g/m^{2}h), selective attack 200 µm max. Non magnetic (permeability in field of 8000 A / m 1.01 max.).

Particularly suited to corrosion conditions in urea synthesis plants for welding work on steel X 2 CrNiMo 1812 and the overlay side of Thermanit 21/17 E weld claddings. Well suited for joining and surfacing applications with matching austenitic CrNi(N) and CrNiMo(Mn,N) steels/cast steel grades.

Base materials

TÜV certified parent metals

1.4429 – X2CrNiMoN17-13-3; 1.4315 – X5CrNiN19-9;

1.4561 – X1CrNiMoTi18-13-2; 1.6903 – 10CrNiTi18-10;

cryogenic 3,5 – 5 % Ni-steels

Typical analysis of all-weld metal

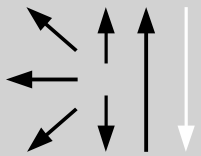
	C	Si	Mn	Cr	Mo	Ni	N
wt-%	< 0.04	< 0.50	6.00	20.00	3.00	16.50	0.18

Structure: Austenite, part ferrite 0.6 % max.

Mechanical properties of all-weld metal – typical values (min. values)

Heat-treatment	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation A (L_0=5d_0)	Impact work ISO-V KV J
	MPa	MPa	%	+20 °C
aw	430	650	30	80

Operating data



Polarity:	ø mm	L mm	Amps A
DC (+)	2.5	300	55 – 75
	3.2	350	70 – 110
	4.0	350	90 – 140

Welding instruction

Materials	Preheating	Postweld heat treatment
Matching / similar steels CrNi(N) steels/cast steel grades and cryogenic CrNi(N) steels/cast steel grades	None	None
21-17E claddings / high temperature steels / cast steel grades	According to parent metal 150 °C max.	In case of excessive hardening of the parent metal, stress relieving at 510 °C, 20 h max., annealing above 530 °C only prior to welding the last pass

Thermanit 19/15 H

Stick electrode, high-alloyed, stainless

Approvals

TÜV (01813), DB (30.014.31), CE