Thermanit XW

Stick electrode, high-alloyed, stainless, rutile

Classifications		
EN ISO 3581-A	AWS A5.4	Mat. No.
E 18 8 Mn R 1 2	E307-16 (mod.)	1.4370

Characteristics and typical fields of application

Stainless. Resistant to scaling up to 850 °C (1562 °F). No adequate resistance against sulphureous combustion gases at temperatures above 500 °C (932 °F). For joining and surfacing applications with heat resistant Cr steels / cast steel grades and heat resistant austenitic steels/cast steel grades. Well suited to fabricating austenitc-ferritic joints – max. application temperature 300 °C (572 °F). For joining unalloyed / low alloy or Cr steels / cast steel grades to austenitic steels.

Low heat input required in order to avoid brittle martensitic transition zones. Not suitable for the welding of buffer layer, cladded sheet metal or cladding applications.

Base materials

TÜV certified parent metal

1.4583 – X10CrNiMoNb18-12 as well as included parent metals combined with ferritic steels up to fine grained structural steels grade StE 355 (P355N); high tensile, unalloyed and alloyed structural, quenched and tempered, and armour steels, same parent metal or in combination; unalloyed and alloyed boiler or structural steels with highalloyed Cr and CrNi steels; heat resistant steels up to 850 °C (1562 °F); austenitic high manganese steel with matching and other steels.

Cryogenic sheet metals and pipe steels in combination with austenitic parent metals.

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

	C	Si	Mn	Cr	Ni	N
wt-%	0.10	0.6	7.0	18.5	8.0	0.08

Structure: Austenite

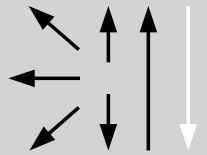
Mechanische Gütewerte des Schweißgutes

Heat-treatment	Yield strength $R_{p0.2}$	Yield strength $R_{p1.0}$	Tensile strength R_m	Elongation A (L_0=5d_0)	Impact work ISO-V KV J
	MPa	MPa	MPa	%	+20 °C
aw	350	400	600	40	70

Thermanit XW

Stick electrode, high-alloyed, stainless, rutile

Operating data



Polarity:	ø (mm)	L mm	Amps A
DC (+) / AC	2.0	300	45 – 60
	2.5	300	55 – 70
	3.2	350	65 – 105
	4.0	350	110 – 140
	5.0	450	150 – 200

Welding instruction

Materials	Preheating	Postweld heat treatment
Heat resistant Cr-steels / cast steel grades	According to wall thickness: 150 - 300 °C (302 - 572 °F)	Tempering at 750 °C (1382 °F) is not necessary if service temperature the same or higher
Heat resistant Cr Ni steels	None	None
Joining of CrNi(MoN) austenitic steels to unalloyed/low alloy steels / cast steel grades	According to ferritic parent metal, mostly unnecessary	No postweld heat treatment >300 °C (572 °F) – risk of carbide precipitation at grain boundaries in the weld fusion zone, loss of toughness, fracturing
Joining of CrNi(MoN) austenitic steels to stainless and heat resistant Cr-steels / cast steel grades	According to ferritic parent metal	According to parent metals. Attention must be paid to the intercrystalline corrosion resistance and embrittlement susceptibility of the austenitic metal side

Approvals

TÜV (01235), DB (30.132.08) GL, LR, CE