Thermanit 20/10 W 140 K

Covered electrode, high-alloyed, austenitic stainless, special applications

Classifications

EN ISO 3581-A	AWS A5.4 / SFA-5.4
E 20 10 3 R 5 3	E308Mo-17 (mod.)

Characteristics and typical fields of application

Rutile coated electrode of E 20 10 3 R / E308Mo-17 (mod.) type. For high deposition rate joining of stainless Cr and austenitic CrNi-Mo-steels/cast steel grades. Especially suited for dissimilar austenitic ferritic joints at a max. service temperature of 300ºC. For tough joints on high manganese steel (steel castings), CrNiMn-steels and armor steels. For surfacing and repair welding on wear parts such as rotors and rails. Particularly for tough joints between unalloyed and low-alloyed steels or stainless and heat resistant Cr-steels to austenitic steels. Not recommended for buffer layers on weld claddings or clad plates. Max. application temperature 300ºC.

Base materials

Combinations of austenitic steels with ferritic steels.

Typical analysis

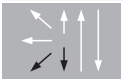
	C	Si	Mn	Cr	Ni	Mo
wt.-%	0.05	0.9	0.8	20.0	10.5	3.3

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

Condition	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation A (L_0=5d_0)	Impact energy ISO-V KV J
	MPa	MPa	%	20°C
u	510 (≥ 400)	650 (≥ 620)	40 (≥ 20)	50

u untreated, as-welded

Operating data



Polarity	DC+ / AC	Dimension mm	Current A
Electrode identification	Thermanit 20/10 W 140K E 20 10 3 R	3.2 × 350	90 – 120
		4.0 × 350	130 – 160

Suggested heat input is max.1.5 kJ/mm, interpass temperature max. 200ºC. High manganese steels become brittle at 400 – 600ºC so these should be welded as cold as possible.
Preheating only if required by the parent material.
Post-weld heat treatment generally not needed. In special cases, solution annealing can be performed at 1050ºC. Stress relieving only if allowed by the parent material.

Approvals

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