

Classifications

EN ISO 14172	Mat. No.
E Ni 8025 (NiCr29Fe30Mo)	2.4653

Characteristics and typical fields of application

Stainless; resistant to intercrystalline corrosion – wet corrosion up to 450 °C (842 °F). Good corrosion resistance, especially in reducing environments. In terms of hot cracking resistance (and corrosion resistance) Thermanit 30/40 E is superior to the fully austenitic X 6 NiCrCuNb 20 18 and X 5 CrNiMoNb 25 25 welding filler metals, which are very sensitive to hot cracking. For joining and surfacing work with matching and similar, non stabilized and stabilized fully austenitic steels / cast steel grades containing Mo (and Cu). For joining aforementioned steels to unalloyed / low alloy steels.

Base materials

1.4465 – X1CrNiMoN25-25-2;	1.4563 – X1NiCrMoCu31-27-4
1.4577 – X5CrNiMoTi25-25;	2.4858 – NiCr21Mo

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

	C	Si	Mn	Cr	Mo	Ni	Cu
wt-%	< 0.03	< 0.5	2.7	28.0	3.8	36.0	1.8

Structure: Austenite

Mechanical properties of all-weld metal

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	370	550	30	75

Operating data

	Polarity: DC (+)	ø (mm)	L mm	Amps A
		2.5	300	55 – 80
		3.2	350	80 – 105
		4.0	350	90 – 135

Welding instruction

Materials	Preheating	Postweld heat treatment
Matching metals	None (weld as cold as possible) cooling in air	Mostly none; if necessary solution annealing at 1120 °C (2048 °F)
Joining of matching austenitic steels to unalloyed / low alloy steels / cast steel grades	According to parent metal	None

Approvals

TÜV (00119), CE