

Classifications

EN ISO 3581-A	Material-No.
E Z 21 33 B 4 2	1.4850

Characteristics and typical fields of application

Basic coated electrode of E Z 21 33 B 4 2 type. Heat resistant up to 1050°C. Good resistance to carburizing atmospheres. For joining and surfacing applications with matching / similar heat resistant steels and cast steel grades.

Max. service temperature in °C	Sulfur-free	Max. 2 g S/Nm ³
Air and oxidizing combustion gases	1050°C	1000°C
Reducing combustion gases	1000°C	950°C

Base materials

1.4847 X8CrNiAlTi20-20, 1.4849 GX40NiCrSiNb38-18, 1.4958 X5NiCrAlTi31-20,
1.4859 GX10NiCrNb32-20 / GX10NiCrNb38-18, 1.4861 X10NiCr32-20, 1.4864 X12NiCrSi36-16 / X12NiCrSi 35-16,
1.4865 GX40NiCrSi38-18, 1.4876 X10NiCrAlTi32-20 / X10NiCrAlTi32-21
UNS N08810
AISI 330, 334
Alloy 800, 800H, 800HT

Typical analysis


	C	Si	Mn	Cr	Ni	Nb
wt.-%	0.15	0.5	4.5	22.0	33.0	1.3

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

Condition	Yield strength R _{0.2}	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact energy ISO-V KV J
	MPa	MPa	%	20°C
u	> 410 (≥ 410)	> 600 (≥ 600)	> 25 (≥ 25)	> 50 (≥ 32)

u untreated, as-welded

Operating data

	Polarity	DC+	Dimension mm	Current A
	Electrode identification	Thermanit 21/33 So	2.5 × 300	50 – 75
			3.2 × 350	70 – 110

Suggested heat input is max. 1.5 kJ/mm, interpass temperature max. 150°C.

Welding with stringer bead technique or limited weaving motion advisable.

Creep rupture properties according to matching heat resistant parent metals.

Post-weld heat treatment generally not needed. If required 875°C for 3 h followed by air cooling.

Approvals

TÜV (07255.), CE