

Classifications

EN ISO 17633-A	EN ISO 17633-B	AWS A5.22	Mat. No.
T 22 9 3 N L P M21 1 T 22 9 3 N L P C1 1	TS2209-FB1	E2209T1-4 E2209T1-1	1.4462

Characteristics and typical fields of application

Thermanit 22/09 PW is an austenitic-ferritic CrNiMo flux cored wire with rutile slag characteristic for the welding of Duplex steels. Because of fast freezing slag, this filler is useable for all positions when welding with M21 and C1 according EN ISO 14175. It is appropriate for joint and clad welding of matching and similar steels/cast steels. The weld metal is resistant to intercrystalline corrosion (wet corrosion to 250 °C (482 °F)) and displays especially good resistance to pitting corrosion and stress corrosion cracking in chloride bearing environment (CPT according to ASTM G 48 ... 25 °C (77 °F)). Above all this type of filler is used in chemical apparatus and plant construction, chemical tanker and for on and offshore application. It is also useable for joint welding of dissimilar steels. In comparison to stick electrode and solid wire the supportive effect of the fast freezing rutile slag offers higher deposition efficiency specially in out-of-position welding.

Base materials

1.4362 – X2CrNiN23-4	1.4417 – GX2CrNiMoN25-7-3
1.4462 – X2CrNiMoN22-5-3	1.4463 – GX6CrNiMo24-8-2

and similar alloyed ferrite-austenite materials with higher strength, as well as mixed joints between mentioned steels and ferrite steels like P235GH - P295GH, S255N - S355N, 16Mo3, shipbuilding steels grade A - E, AH32 - EH36, A40 – F40 and also included materials 1.4583 – X10CrNiMoTi18-12 acc. to VdTÜV-Kennblatt 1000.

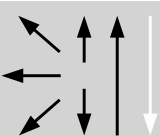
Typical analysis of all-weld metal (wt.-%)

	C	Si	Mn	Cr	Mo	Ni	N	Gas
wt-%	0.03	0.8	0.9	22.7	3.2	9.0	0.13	M21

Structure: Austenite Structure + Ferrite (FN 35 - 50)

Mechanical properties of all-weld metal

Heat-treatment	Shielding gas	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	-40 °C
aw	M21	480	550	690	25	47	32

Operating data						
	Polarity: DC (+)	Shielding gas: (EN ISO 14175) M21, C1	ø (mm) 1.2	Spool B300	Amps A 130 – 220	Voltage V 18 – 30
		Consumption: 15 – 18 l/min				
Approvals						
TÜV (09106), ABS, DNV, GL, LR, CE						