

Classifications

EN ISO 17633-A	EN ISO 17633-B	AWS A5.22
T 22 9 3 N L P M21 1/ T 22 9 3 N L P C1 1	TS2209-F M21 1/ F C1 1	E2209T1-4/ E2209T1-1

Characteristics and typical fields of application

BÖHLER CN 22/9 PW-FD is a rutile Duplex steel all-positional flux cored wire for GMAW the steel grades 1.4462 / S31803. It is suited for joint welding of similar alloyed austenitic-ferritic duplex steels as well as for dissimilar joints and weld cladding. The weld metal is resistant against intergranular corrosion (wet corrosion up to +250 °C). It features a good resistance against pitting (CPT ASTM G48/method A (24 h) up to 25 °C) and stress corrosion cracking in chloride-containing fluids i.e. sea water.

BÖHLER CN 22/9 PW-FD is an ideal completion of our high class range of Duplex Filler Metals. It is designed to satisfy the high demands of offshore fabricators, shipyards building chemical tankers as well as the chemical/petrochemical, pulp and paper industries. Service temperatures between – 46°C and +250°C are usable.

Good wetting characteristics (less grinding), easy slag release, very little temper discoloration & bead oxidation (less pickling expenses), and smooth and clean weld finish help to save additional costs especially when multi-pass welding Duplex stainless steels.

Base materials

Same and similar alloyed duplex steels, as well as dissimilar joints or weld claddings.

1.4462 X2CrNiMoN22-5-3, 1.4362 X2CrNiN23-4,

1.4462 X2CrNiMoN22-5-3 with 1.4583 X10CrNiMoNb18-12,

1.4462 X2CrNiMoN22-5-3 with P235GH/ P265GH, S255N, P295GH, S460N,

16Mo3, UNS S31803, S32205

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

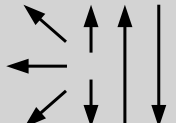
	C	Si	Mn	Cr	Ni	Mo	N		PRE _N	FN
wt-%	≤ 0.03	0.8	0.9	22.7	9.0	3.2	0.13		≥ 35	30 – 50

Mechanical properties of all-weld metal

Condition	Yield strength R _{p0.2}	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact work ISO-V KV J			
	MPa	MPa	%	+20 °C	–20 °C	–40 °C	–46 °C
u	600 (≥ 450)	800 (≥ 690)	27 (≥ 20)	80	65	55	45 (≥ 32)

u untreated, as welded – shielding gas Ar + 18 % CO₂

Operating data

	Polarity: DC (+)	Shielding gases: M1 – M3; C1	Redrying: possible, 150 °C / 24 h	ø (mm) 1.2	Amps A 100 – 220	Voltage V 20 – 31
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Welding with standard GMAW-facilities possible slightly trailing torch position (angel appr. 80°), slight weaving is recommended for all welding positions; when using 100 % CO₂ as shielding gas it is necessary to increase the voltage by 2 V; the gas flow should be 15 – 18 l/min

Approvals

TÜV (07666.), ABS (E 22 09 T1-4(1)), CWB (E2209T1-1(4)), DNV (- (M21, C1) Ø1,2 mm), GL (4462S (M21)), LR (X (M21, C1)), RINA (2209 S), SEPPOZ, CE