

Classification

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

Characteristics and typical fields of application

Avesta FCW 2205-PW is primarily designed for welding duplex stainless steels such as 2205.

Avesta FCW 2205-PW has a stronger arc and a faster slag compared to the 2D type. It is designed for all-round welding and can be used in all positions without changing the parameter settings. Weldability is excellent in the vertical-up and overhead welding positions.

Avesta FCW 2205-PW should be welded using direct current positive polarity (DC+) with a recommended wire stick-out of 15 – 20 mm.

The weldability of duplex steels is excellent, but the welding should be adapted to the base material, considering fluidity, joint design, heat input etc. For detailed welding recommendations, please see “How to weld duplex stainless steels” or contact voestalpine Böhler Welding.

Corrosion resistance:

Very good resistance to pitting and stress corrosion cracking in chloride containing environments. PREN >35. Meets the corrosion test requirements per ASTM G48 Methods A,B and E (22°C).

Base Materials

Outokumpu	EN	ASTM	BS	NF	SS
2205	1.4462	S32205	318S13	Z3 CND 22-05 Az	2377

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

	C	Si	Mn	Cr	Ni	Mo	N
wt.-%	0.025	0.7	1.0	23.0	9.1	3.2	0.13

Condition	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation ($L_0=5d_0$)	Impact work ISO-V KV J		Hardness
	MPa	MPa	%	+20°C	-40°C	
u	600 (≥ 450)	800 (≥ 690)	27 (≥ 20)	80	55	240

Operating data

	Polarity: DC (+)	Shielding gases: Ar + 15 – 25% CO ₂ 100 % CO ₂	Redrying: if necessary 150°C / 24 hrs	∅ (mm) 1.2	Amps A 150 - 240	Voltage V 24 – 32
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Ar + 15 – 25% CO₂ offers the best weldability, but 100% CO₂ can be also used (voltage should be increased by 2V). Gas flow rate 20 – 25 l/min.

Approvals

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