BÖHLER SAS 4 PW-FD

Flux-cored wire, high-alloyed, stabilized austenitic stainless

Classifications

EN ISO 17633-A	EN ISO 17633-B	AWS A5.22
T 19 12 3 Nb P M21/C1 1	TS 318-F M21/C1 1	- - -

Characteristics and typical fields of application

Rutile strip-alloyed flux-cored wire of T 19 12 3 Nb P / E347LT1 type for welding of CrNiMo(Ti/Cb) austenitic stainless steels. The fast freezing slag offers excellent weldability and slag control in all positions. Easy handling and high deposition rate result in high productivity with excellent welding performance and very low spatter formation. Increased travel speeds as well as self-releasing slag with little demand for cleaning and pickling provide considerable savings in time and money. The wide arc ensures even penetration and side-wall fusion to prevent lack of fusion.

Stabilized with niobium and suitable for service temperatures from –120°C to 400°C. For flat and horizontal welding positions (1G, 1F and 2F) BÖHLER SAS 4-FD may be preferred.

Base materials

EN 1.4401 X5CrNiMo17-12-2, 1.4404 X2CrNiMo17-12-2, 1.4409 GX2CrNiMo19-11-2, 1.4435 X2CrNiMo18-14-3, 1.4436 X3CrNiMo17-13-3, 1.4437 GX6CrNiMo18-12, 1.4571 X6CrNiMoTi17-12-2, 1.4580 X6CrNiMoNb17-12-2, 1.4581 GX5CrNiMoNb19-11-2, 1.4583 X10CrNiMoNb18-12

UNS S31600, S31603, S31635, S31640, S31653, AISI 316, 316L, 316Ti, 316Cb

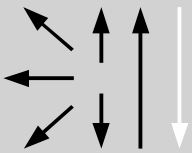
Typical analysis of all-weld metal								Ferrite WRC-92
	C	Si	Mn	Cr	Ni	Mo	Nb	FN
wt.-%	0.03	0.6	1.3	18.8	12.2	2.7	0.46	5 – 13

Mechanical properties of all-weld metal – typical values (minimum values)

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	–120°C
u	**430** (≥ 350)	**570** (≥ 550)	**35** (≥ 25)	**47**	**35** (≥ 32)

u untreated, as-welded – shielding gas Ar + 18 % CO_2

Operating data



Ø (mm)	Wire feed m/min	Arc length mm	Current A	Voltage V
1.2	6.0 – 13.0	~ 3	150 – 200	22 – 29

Welding with standard GMAW power source with DC+ polarity. No pulsing needed. Backhand (drag) technique preferred with a work angle of appr. 80°. Ar + 15 – 25 % CO_2 as shielding gas offers the best weldability. 100 % CO_2 can be also used, but the voltage should be increased by 2 V. The gas flow should be 15 – 18 l/min. The heat input should not exceed 2.0 kJ/mm, the interpass temperature be limited to max. 150°C and the wire stick-out 15 – 20 mm. Re-drying of the wire possible at 150°C for 24 h if necessary. The scaling temperature is approx. 850°C in air. Post-weld heat treatment generally not needed.

Approvals

CE