

Characteristics: designed for all SAW processes and welding of ordinary carbon-manganese, low alloy structural and boiler quality steel with yield strength up to 355 N/mm² (thickness < 25 mm) in combination with wire grades PITTARC S1, S2, S2Si, S2Mo and S2Cr1Mo. The flux is suitable for high speed, up to 2 meters/minute, and provides very good weld bead appearance and excellent slag release even with small angle preparation and fillet welds. The chemical nature of the FL182B provides high resistance to cracking on single pass applications. Additional features are resistance to porosity when welding rusty plates, heavy scale or other conditions of plate surface (e.g. special primers coatings) and low sensitivity towards arc blow.

Application: preferably used for single-run, two run and fillet SA-welding. Main field of applications are LP-gas cylinders, structural steel works, thin-walled containers and fin-tube walls.

Classification	ISO 14174: S A AR 1 76 AC
Basicity index	about 0.6 (according to Boniszewski)
Current	DC or AC, up to 800 Amp. using one wire electrode
Grain size	according to ISO 14174: 4-16 (0.4-1.6 mm.) Is also available different grain sizes on demand
Density	1.0 kg./dm ³ (lt)
Packaging	the flux is available in PE-bags of 25 kg
Redrying	flux that has picked up moisture has to be re-dried at 200 ± 50 °C effective flux temperature.

Main chemical constituents

SiO ₂ + TiO ₂	Al ₂ O ₃ + MnO	CaO + MgO	CaF ₂
25%	55%	5%	10%

Main characteristics

Chemical composition of all weld metal according to ISO 15972-1 and AWS A5.17/A5.23

In combination with wire electrode	C%	Si%	Mn%	Mo%	Cr%
PITTARC S1	0.04-0.08	0.3-0.6	0.8-1.1	-	-
PITTARC S2	0.04-0.08	0.3-0.6	1.0-1.4	-	-
PITTARC S2Si	0.04-0.08	0.4-0.8	1.0-1.4	-	-
PITTARC S2Mo	0.04-0.08	0.3-0.7	1.0-1.4	0.4-0.6	-
PITTARC S2Cr1Mo	0.04-0.08	0.3-0.7	0.9-1.3	0.4-0.6	1.0

Mechanical properties of all weld metal according to ISO 15972-1 and AWS A5.17/A5.23

In combination with wire electrode	YS [MPa]	UTS [Mpa]	Elong. [%]	Impact ISO-V [Joule]		
				RT	± 0 °C + 32 °F	-20 °C -4 °F
PITTARC S1	≥ 400	≥ 510	≥ 24	≥ 70	≥ 40	-
PITTARC S2	≥ 420	≥ 530	≥ 22	≥ 70	≥ 47	-
PITTARC S2Si	≥ 430	≥ 540	≥ 22	≥ 70	≥ 47	≥ 27
PITTARC S2Mo	≥ 480	≥ 580	≥ 20	≥ 60	≥ 47	≥ 27
PITTARC S2Cr1Mo ⁽²⁾	≥ 470	≥ 570	≥ 20	≥ 50	-	-

⁽²⁾ PWHT post weld heat treatment at 680° C / 10 hours

Classification

All weld metal multiple pass classification of wire-flux combinations

In combination with wire electrode	AWS A5.17 AWS A5.23	ISO 14171 ISO 24598	AWS A5.17M AWS A5.23M	AWS A5.17 AWS A5.23
PITTARC S1	EL12	S 38 A AR S1	F48A0-EL12	F7AZ-EL12
PITTARC S2	EM12K	S 42 A AR S2	F48A0-EM12K	F7AZ-EM12K
PITTARC S2Si	EM12K	S 42 2 AR S2Si	F48A2-EM12K	F7A0-EM12K
PITTARC S2Mo	EA2	S 46 2 AR S2Mo	F55A2-EA2-A2	F8A0-EA2-A2
PITTARC S2Cr1Mo	EB2	S S CrMo1 AR	F55PZ-EB2-B2	F8PZ-EB2-B2

Two-run classification of wire-flux combination

In combination with wire electrode	AWS A5.17 AWS A5.23	ISO 14171	AWS A5.17M AWS A5.23M	AWS A5.17 AWS A5.23
PITTARC S2	EM12K	S 3T A AR S2	F43TA0-EM12K	F6TAZ-EM12K
PITTARC S2Si	EM12K	S 3T 2 AR S2Si	F43TA2-EM12K	F6TA0-EM12K
PITTARC S2Mo	EA2	S 4T 2 AR S2Mo	F49TA2-EA2	F7TA0-EA2
PITTARC S4Mo	EA3	S 5T 2 AR S4Mo	F55TA2-EA3	F8TA0-EA3
PITTARC S2Cr1Mo	EB2	----	F49TPZ-EB2	F7TPZ-EB2

The above-mentioned values are indicative and may change without prior notice.

Edition: July 2018

