

SAW Fluxes Stainless and Heat resistant steels

OP 76 is a special agglomerated, fluoride-basic type flux for welding stainless and heat-resistant steels when used in conjunction with wires according to AWS A5.9. In terms of weld metal C content, the behaviour of OP 76 can be described as neutral, thus if suitable wires are used, ELC quality steels may be welded.

In terms of silicon and manganese, the metallurgical behaviour is neutral, i.e. there is neither pick-up nor burn-out. Manganese burn-out only occurs when wires with a high manganese content are used.

OP 76 is intended for joint welding large cross-sections. It is one of the range of hydrogen-controlled fluxes, which deposit a weld metal with a low diffusible hydrogen content.

OP 76 is particularly suited to tandem and multi-wire welding. Smooth welds with a good finish are deposited.

Suitable for welding on both DC+ and AC at up to 800A.

Damp flux should be re-dried at 300-350°C. Grain size in accordance with EN 760: 2-20.

Wire	Classification
	EN 760: SA FB 2 55 AC H5

Wire	Approvals	Grades

Flux Analysis	
Al ₂ O ₃ + MnO	20 %
CaO + MgO	40 %
CaF ₂	25 %
SiO ₂ + TiO ₂	15 %

Basicity to Boniszewski 2,7

Typical Applications

Wire	Materials
OE-20.16L	EN:10 Ni 14 (1.5637)
OE-S600	ASME: UNS N06600; UNS N08800; UNS N08810 EN: '2.4816; 1.4876; 1.4958
OE-S625	ASME: UNS N06625; UNS N08825, A 353-70, A 553-70 EN: '2.4816; 1.4876; 1.4958
OE-KV7M	ASME: Grade 91 (ASTM A 387), P 91 (ASTM A 335) EN:X10CrMoVNb9-1
OE-308L	ASME:AISI 304 - 304L - 302 EN:X 2 Cr Ni 18 9 (1.4306), X 2 Cr Ni 19 11 (1.4306), X 5 Cr Ni 18 8 (1.4301), 12 Ni 19 (1.5680)
OE-316L	ASME: ASTM A351 Grades CF3M, CF3MA EN:X 2 Cr Ni Mo 18 12 (1.4435), X 2 Cr Ni Mo 18 10 (1.4404), X 5 Cr Ni Mo 18 10 (1.4401)
OE-318	ASME: AISI 318L EN:X 10 Cr Ni Mo Nb 18 10 (1.4580), X 10 Cr Ni Mo Ti 18 10 (1.4571), X 10 Cr Ni Mo Ti 18 12 (1.4573), X 10 Cr Ni Mo Nb 18 12 (1.4583)
OE-347	ASME: ASTM A336 Grades F321, F347 EN:X 12 Cr Ni Ti 18 9 (1.4878), X 10 Cr Ni Ti 18 9 (1.4541), X 10 Cr Ni Nb 18 9 (1.4550), X 5 Cr Ni Nb 18 9 (1.4543),
OE-S 22 09	ASME:A182 Grade F51, UNS S31803 - S31500 - S31200 - S32304 EN:X 2 Cr Ni Mo N 22 5 8 (1.4462)
OE-S 25 10	EN:X 2 CrNiMoN 25 7 4 (1.4410)
OE-904L	ASME: AISI 904L; URANUS B6; EN: 1.4539 (X1NiCrMoCu25-20-5); 1.4439 (X2CrNiMoN17-13-5); 1.4537 (X1CrNiMoCuN25-25-5)

Analysis of all-weld metal (Typical values in %)

Wire	C	Mn	Si	Cr	Ni	Mo	Nb	N	Cu
OE-20 16L	0.03	-	-	20	16	3	-	0.15	-
OE-S600	0.03	-	-	22	74	-	2.50	-	-
OE-S625	0.03	-	-	23	60	10	3.50	-	-
OE-KV7M	0.13	1.10	-	9.50	≤ 1	1.20	0.30	0.07	0.25
OE-308L	0.03	-	-	-	9	-	-	-	-
OE-316L	0.03	-	-	-	10	-	-	-	-
OE-318	0.07	-	-	-	10	-	-	-	-
OE-347	0.07	-	-	-	9	-	-	-	-
OE-S 22 09	0.03	-	-	23	9	3	-	0.10	-
OE-S 25 10	0.04	0.50	-	25	10	4	0.02	0.25	-
OE-904L	0.025	-	-	20	25	4.60	-	0.13	1.50

All-weld metal Mechanical Properties

Wire	Heat Treatment	Yield Strength N/mm ²	Tensile Strength N/mm ²	Elongation A5 (%)
OE-20.16L	As Welded	≥ 410	≥ 600	≥ 30
OE-S625	As Welded	≥ 450	≥ 760	≥ 23
OE-KV7M	PWHT 760°Cx4h	≥ 550	≥ 680	≥ 22
OE-308L	As Welded	≥ 350	≥ 550	≥ 35
OE-316L	As Welded	≥ 370	≥ 550	≥ 30
OE-318	As Welded	≥ 370	≥ 600	≥ 30
OE-347	As Welded	≥ 370	≥ 575	≥ 30
OE-S 22 09	As Welded	≥ 550	≥ 750	≥ 25
OE-S 25 10	As Welded	≥ 550	≥ 650	≥ 20
OE-904L	As Welded	≥ 380	≥ 560	≥ 35

All-weld metal Mechanical Properties - Cv

Wire	Heat Treatment	Charpy V Notch Impact Toughness (J)							
		+20	0	- 20	- 30	- 40	- 60	- 80	- 101
OE-20.16L	As Welded	120 min	-	-	-	-	-	-	-
OE-S625	As Welded	60 min	-	-	-	-	-	-	-
OE-308L	As Welded	75 min	-	-	-	-	-	-	-
OE-316L	As Welded	75 min	-	-	-	-	-	-	-
OE-318	As Welded	65 min	-	-	-	-	-	-	-
OE-347	As Welded	65 min	-	-	-	-	-	-	-
OE-S 22 09	As Welded	-	-	-	-	90 min	-	-	-
OE-S 25 10	As Welded	-	-	-	-	50min	-	-	-
OE-904L	As Welded	60 min	-	70 min	-	-	-	-	-

Packaging data

25kg heavy duty sealed polythene sacks

Further forms of delivery on request.

Current condition

DC+; AC