

## SAW Basic and Semi-basic Fluxes C-Mn and low alloy steels

OP 41TT is an agglomerated fluoride-basic type flux for welding high-tensile fine grain steels as well as heat-resistant structural steels. In the nuclear sector it can be used for many applications in combination with different wires. It is best used for joint welding components such as reactor pressure vessels, steam generators, pressurizer, reactor safety tanks and pipes in the primary and secondary circuits as well as the auxiliary units. OP 41 TT should be welded on DC+ at up to approximately 800 A. Damp flux should be re-dried at 300-350°C. Grain size according to EN 760: 2-20.

Wire	Classification
OE-SD3	AWS A5.17: F7A8-F6P8 EH12K
OE-S2Mo	AWS A5.23: F8A8-F6P5 EA2
OE-S2 Ni1	AWS A5.23: F7A8 - F7P10 ENi1
	EN 760: SA FB 1 53 DC H5

Wire	Approvals	Grades
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Flux Analysis	
CaO + MgO	35 %
CaF <sub>2</sub>	30 %
Al <sub>2</sub> O <sub>3</sub> + MnO	20 %
SiO <sub>2</sub> + TiO <sub>2</sub>	10 %

Basicity to Boniszewski 3,1

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

Wire	C	Mn	Si	Cr	Ni	Mo	Nb	N	Cu
OE-SD3	0.05	1.20	0.20	-	-	-	-	-	-
OE-S2Mo	0.04	0.70	0.10	-	-	0.50	-	-	-
OE-S2 Ni1	0.05	0.90	0.20	0.15	1.15	0.30	-	-	-
OE-S2CrMo1	0.05	0.70	0.10	1	-	0.50	-	-	-
OE-S1CrMo2	0.05	0.40	0.10	2.20	-	1	-	-	-
OE-S1CrMo5	0.05	0.40	0.20	5	-	0.60	-	-	-

### All-weld metal Mechanical Properties

Wire	Heat Treatment	Yield Strength N/mm <sup>2</sup>	Tensile Strength N/mm <sup>2</sup>	Elongation A5 (%)
OE-SD3	As Welded	≥ 450	530 - 630	≥ 24
OE-S2Mo	As Welded	≥ 490	570 - 670	≥ 20
OE-S2 Ni1	PWHT	≥ 380	480 - 500	≥ 26
OE-S2 Ni1	As Welded	≥ 420	500-600	≥ 24
OE-S2CrMo1	PWHT 700-720°C	≥ 380	530-630	≥ 24
OE-S1CrMo2	PWHT 730-750°C	≥ 450	550 - 650	≥ 22
OE-S1CrMo5	PWHT 730-750°C	≥ 450	550 - 650	≥ 20

## All-weld metal Mechanical Properties - Cv

Wire	Heat Treatment	Charpy V Notch Impact Toughness (J)							
		+20	0	- 20	- 30	- 40	- 60	- 80	- 101
OE-SD3	As Welded	170 min	150 min	120 min	-	70 min	40 min	-	-
OE-S2Mo	As Welded	140 min	120 min	100 min	-	70 min	50 min	-	-
OE-S2 Ni1	PWHT	170 min	140 min	110 min	-	90 min	70 min	-	-
OE-S2 Ni1	As Welded	150 min	130 min	100 min	-	70 min	50 min	-	-
OE-S2CrMo1	PWHT	200 min	150 min	-	-	-	-	-	-
OE-S1CrMo2	PWHT	140 min	100 min	-	-	-	-	-	-
OE-S1CrMo5	PWHT	100 min	50 min	-	-	-	-	-	-

## Packaging data

25kg heavy duty sealed polythene sacks

Further forms of delivery on request.

## Current condition

DC+