

OP 128TT is a fully basic agglomerated submerged-arc welding flux that is recommended for high productive welding procedures in unalloyed and fine grained low alloy steels requiring high integrity welds with high toughness properties at low temperatures. OP 128TT flux, in combination with a range of Oerlikon submerged-arc wires, in particular with OE-SD3, is established for the welding of windtowers and giving a high level of consistency and mechanical property performance. The flux exhibits a low hydrogen content in the as manufactured condition and gives a high resistance to moisture pick up during exposure under workshop conditions. The flux promotes a very stable arc characteristic during use with excellent slag detachment. The weld is of a uniform even profile with regular fine ripple formation and smooth toe blending. OP 128TT flux is suitable for use with DC+ or AC and is ideal for single wire, twin wire, tandem arc [DC+/AC] and other multi-arc systems using up to 1000A with single wire welding. Grain size according to EN-ISO 14174: 2-20.

Classification		
	EN ISO	14174: SA FB 1 55 AC H5
OE-S2 Mo	AWS	A5.23: F8A4-EA2-A2
OE-S2	AWS	A5.17: F7A6-EM12K
OE-SD3	AWS	A5.17: F7A8-EH12K
OE-SD3 1Ni ¼Mo	AWS	A5.23: F8A10-EG-G
OE-SD3 1Ni ½Mo	AWS	A5.23: F9A8-EF3/EG-F3

Flux Main Components	
CaO + MgO	32 %
Al <sub>2</sub> O <sub>3</sub> + MnO	24 %
CaF <sub>2</sub>	22 %
SiO <sub>2</sub> + TiO <sub>2</sub>	16 %

**Boniszewski Basicity** 2.2

### Chemical analysis (Typical values in %)

		<b>C</b>	<b>Mn</b>	<b>Si</b>	<b>Ni</b>	<b>Mo</b>
All weld metal	OE-S2 Mo	0.07	0.9	0.2	-	0.5
All weld metal	OE-S2	0.07	0.9	0.2	-	-
All weld metal	OE-SD3	0.07	1.6	0.3	-	-
All weld metal	OE-SD3 1Ni ¼Mo	0.07	1.3	0.3	0.9	0.2
All weld metal	OE-SD3 1Ni ½Mo	0.07	1.5	0.3	0.95	0.5

### All-weld metal Mechanical Properties

	<b>Heat Treatment</b>	<b>Yield Strength (MPa)</b>	<b>Tensile Strength (MPa)</b>	<b>Elongation A5 (%)</b>
OE-S2 Mo	As Welded	≥ 470	550-680	≥ 24
OE-S2	As Welded	≥ 360	450-550	≥ 28
OE-SD3	As Welded	≥ 450	530-630	≥ 25
OE-SD3 1Ni ¼Mo	As Welded	≥ 500	560-680	≥ 22
OE-SD3 1Ni ½Mo	As Welded	≥ 550	650-750	≥ 20

## SAW Fluxes SAW Basic and Semi-basic Fluxes

### All-weld metal Mechanical Properties - CV

	Heat Treatment	Impact Energy (J)			
		0 °C	-20 °C	-40 °C	-60 °C
OE-S2 Mo	As Welded	≥ 120	≥ 100	≥ 50	
OE-S2	As Welded	≥ 160	≥ 100	≥ 50	
OE-SD3	As Welded	≥ 180		≥ 100	≥ 70
OE-SD3 1Ni ¼Mo	As Welded			≥ 145	≥ 70
OE-SD3 1Ni ½Mo	As Welded	≥ 120	≥ 90	≥ 70	≥ 47

### Typical applications

	Materials
OE-S2 Mo	ASME: X60, X65, ASTM A355 Gr. P1; A182M Gr. F1 EN: 16Mo3, S(P)355-S(P)460, L245-L450
OE-S2	ASME: ASTM A131 Grades A, B, D, DS; A253 all Grades; A529 Grades 42, 50; A570 all Grades; A572 Grades 42, 50; A709 Grades 36, 50 EN: S(P)235-S(P)355; L245-L360
OE-SD3	ASME: A516 all Grades EN: S(P)235-S(P)420
OE-SD3 1Ni ¼Mo	ASME: ASTM A131 AH40, DH40, EH40, X65, X70 EN: S(P)275-S(P)460
OE-SD3 1Ni ½Mo	ASME: X70, X80, N-A-XTRA 55, HY80, QIN EN: S(P)420-S(P)500; L245-L485; 20MnMoNi5-5, 15NiCuMoNb5

#### Redrying

300-350°Cx2-4h

#### Current Conditions

AC; DC+

### Packaging data

Packaging Type	PE	DRY
Weight (kg)	25	25
-	●	●