Part I : Welding electrodes
Mild steel

ESAB 4301

Ilmenite

SMAW
E6019

Description

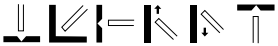
ESAB 4301 is designed attaching importance to weldability. As its crack resistibility, pitting resistibility and X-ray performance are excellent among ilmenite type electrodes, it can be used for welding of structural steels of heavy sections up to 25mm in thickness. Pay attention not to exceed the range of proper currents in case of welding structures, which require weld metal of high X-ray soundness. ESAB 4301 is suitable where the highest reliability is required, as strength members of ship hulls pressure vessels and buildings.

Recovery

125%

Welding current

DC+, AC OCV 65V



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
4301253NR0	2.5	5.0	20.0	1000.0
4301323NR0	3.2	5.0	20.0	1000.0
430140HNR0	4.0	5.0	20.0	1000.0
430150HNR0	5.0	5.0	20.0	1000.0

Classifications

AWS A5.1	E 6019

Typical all weld metal composition, %

C	Si	Mn
0.08	0.2	0.48

Typical properties of all weld metal

Yield stress, Mpa	400
Tensile strength, MPa	450
Elongation, %	32

Charpy V

Test temps, ˚C	Impact values, J
0	110

Approvals

ABS	3
DNV	3
LR	3m
NK	KMW3
GL	3
BV	3

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	45-85	24	0.65	77	0.9	51
3.2	350	60-130	32	0.63	53	1.2	57
4.0	400	100-180	32	0.60	33	1.5	70
5.0	400	130-250	34	0.63	20	2.4	78

ESAB 6013

Rutile

SMAW

E6013

Description

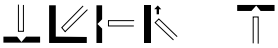
ESAB 6013 is a multi-purpose rutile electrode. It can be used on all mild steels, relatively insensitive to rust or other surface impurity. It is easy to strike and re-strike, making it ideal for short weld, root runs and tacking. It deposits smooth weld beads in all positions except vertical down.

Recovery

95%

Welding current

DC+ (-), AC OCV 50V



Classifications

AWS A5.1	E6013
EN 499	E38 0 RC 11

Typical all weld metal composition, %

C	Si	Mn
0.09	0.25	0.4

Typical properties of all weld metal

Yield stress, Mpa	400
Tensile strength, MPa	510
Elongation, %	28

Charpy V

Test temps, ˚C	Impact values, J
0	70
-20	35

Approvals

ABS	2
BV	2
DNV	2
GL	2
LR	2M
NK	KMW2

Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
4626253NR0	2.5	5.0	20.0	1000.0
4626323NR0	3.2	5.0	20.0	1000.0
462640HNR0	4.0	5.0	20.0	1000.0
462650HNR0	5.0	5.0	20.0	1000.0

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	60-100	22	0.65	86.0	0.8	50
3.2	350	110-140	22	0.65	53.0	1.3	57
4.0	400	140-200	22	0.60	39.0	1.6	65
5.0	400	150-290	24	0.60	24.0	2.3	87

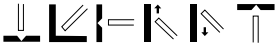
OK 46.00
Rutile

SMAW
E6013

Description
OK 46.00 is the best, all-round, rutile electrode and it is relatively insensitive to rust or other surface impurities. It deposits smooth weld beads in all positions, including vertical down, and the slag is easy to remove. OK 46.00 is very easy to strike and restrike, making it ideal for short welds, root runs and tacking.

Recovery
95%

Welding current
AC, DC + - OCV 50 V



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
4600162110	1.6	2.0	12.0	924.0
4600202110	2.0	2.0	12.0	924.0
4600253NR0	2.5	5.0	20.0	1000.0
4600323NR0	3.2	5.0	20.0	1000.0
460040HNR0	4.0	5.0	20.0	1000.0
460050HNR0	5.0	5.0	20.0	1000.0

Classifications

SFA/AWS A5.1	E6013
ISO 2560-A	E 38 0 RC 11

Typical all weld metal composition, %

C	Si	Mn
0.08	0.3	0.4

Typical properties of all weld metal

Yield stress, Mpa	400
Tensile strength, MPa	510
Elongation, %	28

Charpy V

Test temps, ˚C	Impact values, J
0	70
-20	35

Approvals

ABS	2
BV	2
DNV	2
GL	2
LR	2M
NK	KMW2

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
1.6	300	30-60	20	0.63	263	0.38	36
2.0	300	50-70	21	0.60	172	0.55	38
2.5	350	60-100	22	0.65	86.0	0.8	50
3.2	350	80-150	22	0.65	53.0	1.3	57
4.0	350	100-200	22	0.60	39.0	1.6	65
5.0	350	150-290	24	0.60	24.0	2.3	87
5.0	450	170-220	24	0.60	31.0	2.3	114

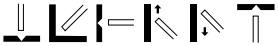
OK 46.16
Rutile

SMAW
E7014

Description
OK 46.16 is an all-round, all positional rutile electrode for thin and medium thick plates. It has good striking and re-striking properties and a relatively thick coating that causes the electrode to weld quietly with little spatter.

Recovery
100%

Welding current
DC+ (-), AC OCV 50V



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
4616253010	2.5	2.4	14.4	950.4
4616323000	3.2	5.0	15.0	990.0
4616403000	4.0	5.0	15.0	990.0

Classifications

AWS A5.1	E7014
ISO 2560-A	E 38 0 RC 11

Typical all weld metal composition, %

C	Si	Mn
0.09	0.4	0.5

Typical properties of all weld metal

Yield stress, Mpa	440
Tensile strength, MPa	505
Elongation, %	28

Charpy V

Test temps, ˚C	Impact values, J
+20	75
0	70
-20	40

Approvals

ABS	2
BV	2
DB	80.039.03
DNV	2
DS	EN 499
GL	2
LR	2
PRS	2
SS	EN 499
VdT‹V	02528
U	10.039/1

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.0	300	50-70	24	0.57	167	0.54	40
2.5	350	60-100	22	0.58	84.0	0.70	40
3.2	350	80-150	23	0.58	52.0	1.30	59
4.0	350	100-200	24	0.59	34.0	1.80	65
4.0	450	100-200	24	0.61	26.0	1.80	77
5.0	450	150-260	26	0.63	17.0	2.30	105

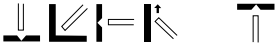
OK 48.04
Lime-basic

SMAW
E7018

Description
OK 48.04 is an AC/DC, general purpose, LMA electrode for welding mild and low-alloy steels. It has very good welding properties and deposits a high quality weld metal with very good mechanical properties. The electrode can be used for welding restrained structures where high welding stresses cannot be avoided.

Recovery
125%

Welding current
AC, DC+(-) OCV 65V



Classifications

SFA/AWS A5.1	E7018
ISO 2560-A	E 42 4 B 32 H5

Typical all weld metal composition, %

C	Si	Mn
0.06	0.5	1.1

Typical properties of all weld metal

Yield stress, Mpa	480
Tensile strength, MPa	560
Elongation, %	30

Charpy V

Test temps, ˚C	Impact values, J
-20	150
-40	100

Approvals

ABS	3H5, 3Y
BV	3YHH
DNV	3 YH10
GL	3YH10
LR	3, 3YH15

Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
3380324N00	3.2	6.0	18.0	972.0
3380404N00	4.0	6.0	18.0	972.0
3380504N00	5.0	6.0	18.0	972.0
33805070C0	5.0	16.0	16.0	1056.0

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.0	300	50-80	23	0.61	125	0.67	44
2.5	350	70-110	23	0.64	67.0	1.0	59
3.2	350	110-150	22	0.63	42.3	1.37	62.4
3.2	450	110-150	25	0.67	30.0	1.5	92
4.0	450	150-200	26	0.68	20.0	2.0	101
5.0	450	190-260	26	0.72	13.0	2.8	105

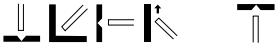
OK 53.04
Basic

SMAW
E7016

Description
A low-hydrogen electrode with especially good running characteristics and very good mechanical properties. OK 53.04 offers tough crack resistant welds in mild and low-alloyed steels.

Recovery
105%

Welding current
DC+, AC



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
5304253NRS	2.5	5.0	20.0	1000.0
5304323NR0	3.2	5.0	20.0	1000.0
5304403NR0	4.0	5.0	20.0	1000.0
530450HNR0	5.0	5.0	20.0	1000.0
VacPac				
5304253NV0	2.5	3.0	12.0	600.0
5304323NV0	3.2	3.3	13.2	620.0
5304403NV0	4.0	3.3	13.2	660.0

Classifications

AWS A5.1	E 7016
EN 499	E42 4 B 12 H5

Typical all weld metal composition, %

C	Si	Mn
0.07	0.6	1.0

Typical properties of all weld metal

Yield stress, Mpa	500
Tensile strength, MPa	590
Elongation, %	27

Charpy V

Test temps, ˚C	Impact values, J
-20	150
-40	110

Approvals

ABS	3Y, 3H5
GL	3Y H10
LR	3M, 3YM, H15
DNV	3Y H10
BKI	3Y H15

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	70-110	24	0.56	81	0.9	50
3.2	350	90-140	25	0.60	48	1.2	62
4.0	350	120-190	26	0.61	33	1.7	66
5.0	400	105-240	26	0.63	18	2.4	87

OK 53.70
Lime-basic

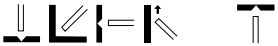
SMAW
E7016-1

Description

A low-hydrogen AC/DC electrode for the one-sided welding of pipes and general structures. The root penetration is good, leaving a flat bead with easily removable slag. The stable arc and the well-balanced slag system make the electrode easy to weld in all positions. Suitable for welding transmission pipelines made from pipe steels up to API 5LX56. It is also suitable for welding the root in higher strength pipes, API 5LX60, 5LX65, 5LX70.

Recovery
100%

Welding current
AC, DC+(-) OCV 60V



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
5370253NV0	2.5	3.0	12.0	600.0
5370323NV0	3.2	3.3	13.2	660.0
537040HNV0	4.0	4.0	16.0	800.0

Classifications

SFA/AWS A5.1	E 7016-1
DIN 1913	E 51 55 B10
EN 499	E 42 5 B 12 H5
GOST 9467-75	E50A
ISO 2560	E 51 5 B 24 H

Typical all weld metal composition, %

C	Si	Mn
0.06	0.5	1.2

Typical properties of all weld metal

Yield stress, Mpa	440
Tensile strength, MPa	530
Elongation, %	30

Charpy V

Test temps, ˚C	Impact values, J
-20	150
-40	120
-50	100

Approvals

ABS	3Y, 3H5
DNV	3Y

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	60-85	26	0.63	87.7	0.7	57
3.2	350	80-130	28	0.60	53.6	1.1	60
3.2	450	80-130	-	-	-	-	-
4.0	450	115-190	24	0.63	24.6	1.7	86

OK 55.00
Lime-basic

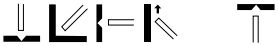
SMAW
E7018-1

Description

OK 55.00 is a reliable, high-quality, LMA electrode, particularly suitable for welding high strength low-alloy steels. The good, low-temperature impact strength of the weld metal should be noted. The weld metal is also very resistant to hot cracking. The electrode is also suitable for welding high strength ship's steel, grades A, D and E.

Recovery
125%

Welding current
AC, DC+ OCV 65V



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
5500253NR0	2.5	5.0	20.0	1000.0
550032HNR0	3.2	5.0	20.0	1000.0
550040HNR0	4.0	5.0	20.0	1000.0
550050HNR0	5.0	5.0	20.0	1000.0
VacPac				
5500253NV0	2.5	3.0	12.0	600.0
550032HNV0	3.2	3.7	14.8	740.0
550040HNV0	4.0	3.7	14.8	740.0
550050HNV0	5.0	4.0	16.0	800.0

Classifications

SFA/AWS A5.1	E7018-1
CSA W48	E4918-1
CSN 05 5010	E 55.93
EN ISO 2560-A	E 46 5 B 32 H5

Typical all weld metal composition, %

C	Si	Mn
0.07	0.5	1.4

Typical properties of all weld metal

Yield stress, Mpa	480
Tensile strength, MPa	590
Elongation, %	28

Charpy V

Test temps, ˚C	Impact values, J
-20	115
-50	50

Approvals

ABS	3H5, 3Y H5
BV	3Y H5
DNV	4Y H5
LR	3M, 3YM, M5

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	80-110	23	0.64	65.8	0.86	64
3.2	350	110-140	23	0.62	41.1	1.22	72
3.2	450	110-140	24	0.69	30.0	1.4	88
4.0	350	140-200	23	0.62	28.0	1.77	72
4.0	450	140-200	24	0.70	19.0	2.0	94
5.0	450	200-270	24	0.72	13.0	3.0	94
6.0	450	215-360	25	0.72	9.0	4.0	98

OK Femax 33.80

Rutile

SMAW

E7024

Description

High-recovery rutile electrode for the high productivity welding of fillets in the horizontal-vertical position. Particularly suitable for welding thick plates and for long run-out lengths. Good bead appearance. Easy slag removal.

Recovery

180%

Welding current

AC, DC (+ -) OCV 50 V

Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
3380324N00	3.2	6.0	18.0	972.0
3380404N00	4.0	6.0	18.0	972.0
3380504N00	5.0	6.0	18.0	972.0
33805070C0	5.0	16.0	16.0	1056.0

Classifications

SFA/AWS A5.1	E7024
EN ISO 2560-A	E 42 0 RR 73

Typical all weld metal composition, %

C	Si	Mn
<0.12	0.5	0.7

Typical properties of all weld metal

Yield stress, Mpa	450
Tensile strength, MPa	550
Elongation, %	26

Charpy V

Test temps, ˚C	Impact values, J
0	50

Approvals

ABS	2
BV	2
DNV	2
GL	2
LR	3

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	85-125	27	0.64	53.0	1.6	43
3.2	450	130-170	28	0.68	21.0	2.5	69
4.0	450	180-230	30	0.68	13.5	3.8	69
4.5	700	180-230	30	0.69	6.8	3.7	141
5.0	450	250-340	30	0.67	9.1	5.8	68
5.0	700	210-260	31	0.69	5.6	4.4	146
5.6	700	250-300	35	0.69	4.7	4.5	171
6.0	450	300-430	35	0.68	6.4	7.1	79
6.0	700	280-400	34	0.72	4.0	6.9	131

Pipeweld 6010 Plus

Cellulosic

SMAW

E6010

Description

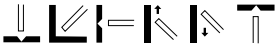
Cellulosic-coated electrode designed for the welding of pipes and pipelines in all positions, using conventional and stovepipe techniques with AC or DC.

Recovery

97%

Welding current

AC, DC+



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
2768253B40	2.5	20.0	20.0	1120.0
2768323B40	3.2	20.0	20.0	1120.0
2768403B40	4.0	20.0	20.0	1120.0
2768503B40	5.0	20.0	20.0	1120.0

Classifications

EN 499	E 38 2 C 21
SFA/AWS A5.1	E6010

Typical all weld metal composition, %

C	Si	Mn
0.08	0.05	0.4

Typical properties of all weld metal

Yield stress, Mpa	410
Tensile strength, MPa	495
Elongation, %	26

Charpy V

Test temps, ˚C	Impact values, J
-20	60
-29	40

Approvals

ABS	3
LR	3

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	50-70	31.5	0.69	91	0.71	55
3.2	350	65-120	29	0.71	54	0.9	76
4.0	350	90-180	28	0.72	36	1.3	78
5.0	350	150-240	29	0.71	23	1.58	98

Part I : Welding electrodes
Low alloyed steel

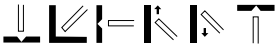
OK 22.46P
Cellulosic

SMAW
E7010-G

Description
Cellulosic-coated electrode designed for the site welding of pipe and pipelines in API 5L X52 and X56 in all positions, using conventional stovepipe techniques. DC only.

Recovery
90%

Welding current
DC+



Classifications

SFA/AWS A5.5	E7010-G
EN 499	E 42 2 C 21
BS 639 (1986)	E 51 43 C (10)

Typical all weld metal composition, %

C	Si	Mn	Ni	Mo
0.1	0.14	0.5	0.4	0.3

Typical properties of all weld metal

Yield stress, Mpa	476
Tensile strength, MPa	544
Elongation, %	24

Charpy V

Test temps, ˚C	Impact values, J
-20	60

Approvals

LR	3, 3Y
BV	3, 3Y

Packing/Ordering Information

Part Number	Dia mm	Carton Weight (kg)	Pallet Weight (kg)
2246323B40	3.2	20.0	1,120.0
2246403B40	4.0	20.0	1,120.0
2246503B40	5.0	20.0	1,120.0

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
3.2	350	65-120	31	0.58	65	0.62	90
4.0	350	90-180	30.5	0.59	42	0.93	93
5.0	350	150-240	28.6	0.67	24	1.47	100

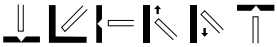
OK 22.47P
Cellulosic

SMAW
E8010-G

Description
Cellulosic-coated electrode designed for the site welding of pipe and pipelines in API 5L X60 and X70 in all positions, using conventional stovepipe techniques. DC only.

Recovery
90%

Welding current
DC+



Classifications

SFA/AWS A5.5	E8010-G
EN 499	E 46 3 Ni C 21
BS 639 (1986)	E 51 42 C (10)

Typical all weld metal composition, %

C	Si	Mn	Ni	Mo
0.08	0.2	0.6	0.8	0.3

Typical properties of all weld metal

Yield stress, Mpa	513
Tensile strength, MPa	600
Elongation, %	24

Charpy V

Test temps, ˚C	Impact values, J
-20	80
-30	70

Approvals

LR	3, 3Y

Packing/Ordering Information

Part Number	Dia mm	Carton Weight (kg)	Pallet Weight (kg)
2247323B40	3.2	20.0	1,120.0
2247403B40	4.0	20.0	1,120.0
2247503B40	5.0	20.0	1,120.0

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
3.2	350	65-120	30	0.62	61	0.68	86
4.0	350	90-180	29	0.68	37	1.15	84
5.0	350	150-240	29	0.68	24	1.55	97

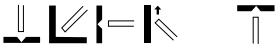
OK 48.08
Lime-basic

SMAW
E7018-G

Description
OK 48.08 is an LMA electrode with very good mechanical properties suitable for demanding applications, such as offshore. The weld metal contains approximately 1% Ni for high impact values down to -40˚C. The coating is of the latest LMA type for optimum resistance to porosity and hydrogen cracking. OK 48.08 is CTOD tested.

Recovery
125%

Welding current
AC, DC (+ -) OCV 65 V



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
4808253NV0	2.5	2.9	11.6	580.0
480832HNV0	3.2	3.5	14.0	700.0
480840HNV0	4.0	3.7	14.8	740.0
480850HNV0	5.0	4.0	16.0	800.0

Classifications

SFA/AWS A5.5	E7018-G
EN ISO 2560-A	E 46 5 Ni B 32 H5

Typical all weld metal composition, %

C	Si	Mn	Ni
0.06	0.4	1.2	0.8

Typical properties of all weld metal

Yield stress, Mpa	540
Tensile strength, MPa	600
Elongation, %	26

Charpy V

Test temps, ˚C	Impact values, J
-20	160
-40	130
-50	100
-60	60

Approvals

ABS	3H5 3Y H5
DNV	4 Y40H10
GL	4YH5
LR	4Y40M H5

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.0	300	55-80	22	0.57	135.1	0.6	42
2.5	350	75-110	27	0.57	88.2	1.0	41
3.2	350	110-150	22	0.62	42.3	1.3	66
3.2	450	110-150	22	0.66	30.0	1.4	85
4.0	350	150-200	22	0.66	26.5	2.0	68
4.0	450	150-200	22	0.69	20.3	2.0	90
5.0	450	190-275	23	0.69	14.0	3.0	85
6.0	450	220-360	26	0.66	10.0	3.8	95

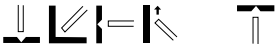
OK 73.08
Lime-basic

SMAW
E8018-G

Description
OK 73.08 is a NiCu-alloyed LMA electrode, which deposits a weld metal with good corrosion resistance to sea-water and flue gases, for the welding of weathering steel and for ship's hull structural steel. The weld metal has excellent mechanical properties. It is particularly suitable for welding the shell plating of ice-breakers and other ships, which work under conditions where the protective paint coating wears off.

Recovery
125%

Welding current
AC, DC(+) OCV 65 V



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
73082531K0	2.5	0.7	6.3	422.1
73083240G0	3.2	2.3	13.8	676.2
73084040G0	4.0	2.2	13.2	646.8

Classifications

SFA/AWS A5.5	E8018-G
EN ISO 2560-A	E 46 5 Z B 32

Typical all weld metal composition, %

C	Si	Mn	Ni	Cu
0.06	0.4	1.0	0.7	0.4

Typical properties of all weld metal

Yield stress, Mpa	500
Tensile strength, MPa	590
Elongation, %	27

Charpy V

Test temps, ˚C	Impact values, J
-20	160
-40	130
-50	70

Approvals

ABS	3H5, 3Y
BV	3Y HH
DB	10.039.20
DNV	3 YH10
CE	EN 13479
GL	3YH15
LR	3, 3Y H15
RS	3YHH
Sepros	UNA 409819
VdTUV	02115

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.0	300	60-90	20	0.62	113.0	0.7	42
2.5	350	80-115	21	0.62	66.0	0.9	59
3.2	350	100-150	23	0.62	43	1.2	68
3.2	450	100-150	22	0.66	30.5	1.3	90
4.0	450	130-200	23	0.68	20.0	1.8	100
5.0	450	190-280	27	0.70	13.5	2.6	106
6.0	450	240-370	28	0.68	9.5	3.3	115

OK 73.68
Lime-basic

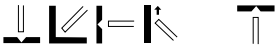
SMAW
E8018-C1

Description

OK 73.68 is a 2.5% nickel-alloyed LMA electrode suitable for the welding of low-alloy steels with impact requirements down to -60˚C. The composition of the weld metal is such that good, low-temperature impact properties are obtained, even when welding vertically up. The weld metal of OK 73.68 is also noted for its good corrosion resistance to sea-water and sulphuric acid fumes. The electrode is CTOD - tested.

Recovery
120%

Welding current
AC, DC+ OCV 65 V



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
73682530K0	2.5	0.6	5.4	361.8
73683240G0	3.2	2.1	12.6	617.4
73684040G0	4.0	2.0	12.0	588.0
73685040G0	5.0	2.0	12.0	588.0

Classifications

SFA/AWS A5.5	E8018-C1
EN ISO 2560-A	E 46 6 2Ni B 32 H5

Typical all weld metal composition, %

C	Si	Mn	Ni
0.05	0.3	1.0	2.4

Typical properties of all weld metal

Yield stress, Mpa	520
Tensile strength, MPa	610
Elongation, %	26

Charpy V

Test temps, ˚C	Impact values, J
-55	110
-60	105

Approvals

ABS	3H5, 3Y400
BV	5Y40MH5
CE	EN 13479
DNV	5 YH10
GL	6Y55H10
LR	5Y40H5
PRS	4YH10
RS	3YHH
Sepros	UNA 409819
VdTUV	01529

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.0	300	55-75	21	0.62	130.0	0.6	46
2.5	350	70-110	23	0.62	70.0	0.9	55
3.2	450	105-150	23	0.62	32.0	1.4	81
4.0	450	140-190	23	0.65	21.0	2.0	88
5.0	450	190-270	27	0.65	13.5	2.5	104

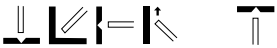
OK 73.79
Lime-basic

SMAW
E8016-C2

Description
OK 73.79 is a nickel-alloyed, LMA electrode for welding 3.5 Ni steel with impact requirements down to -101˚C. It is used, for example, for ethane tanks and chemical plants.

Recovery
100%

Welding current
AC, DC(+-) OCV 65 V



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
73793240G0	3.2	2.2	13.2	646.8
73794040G0	4.0	2.3	13.8	676.2
73795040G0	5.0	2.1	12.6	617.4

Classifications

SFA/AWS A5.5	E8016-C2
EN 499	E 46 6 3Ni B12 H5

Typical all weld metal composition, %

C	Si	Mn	Ni
0.06	0.3	0.6	3.3

Typical properties of all weld metal

Yield stress, Mpa	520
Tensile strength, MPa	610
Elongation, %	26

Charpy V

Test temps, ˚C	Impact values, J
-55	170
-60	160
-73	90
-95	40
-101	35

Approvals

DNV	5 YH10
RS	5Y46HH

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	70-110	25	0.60	76	0.8	60
3.2	350	80-150	25	0.60	39	1.4	71
3.2	450	80-150	25	0.60	37	1.5	77
4.0	450	90-190	27	0.63	26	1.8	88
5.0	450	110-240	29	0.60	15	2.1	100

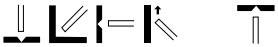
OK 74.46
Lime-basic

SMAW
E7018-A1

Description
OK 74.46 is an LMA electrode alloyed with 0.5% Mo for welding steels for pressure vessels.
The running characteristics make it suitable for welding joints in inclined positions. The composition of the coating is adapted for welding with low currents, making OK 74.46 very suitable for the welding of pipes.

Recovery
115%

Welding current
DC+, AC OCV 65 V



Classifications

SFA/AWS A5.5	E7018-A1
EN 1599	E Mo B 42 H5

Typical all weld metal composition, %

C	Si	Mn	Mo
0.06	0.5	0.7	0.5

Typical properties of all weld metal

Yield stress, Mpa	460
Tensile strength, MPa	560
Elongation, %	27

Charpy V

Test temps, ˚C	Impact values, J
+20	175
0	>31

Approvals

CE	EN 13479
VdTUV	01043

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
74462020K0	2.0	0.6	5.4	415.8
74462530K0	2.5	0.6	5.4	361.8
74463240G0	3.2	2.0	12.0	588.0
74464040G0	4.0	2.3	13.8	676.2
74465040G0	5.0	2.3	13.8	676.2

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.0	300	55-80	22	0.59	136.0	0.7	40
2.5	350	75-110	23	0.59	73.0	0.9	55
3.2	350	105-150	23	0.54	53.0	1.0	66
3.2	450	105-150	25	0.59	37.0	1.2	81
4.0	450	140-200	26	0.65	22.5	1.8	90
5.0	450	190-270	27	0.65	14.5	2.4	104
6.0	450	260-370	28	0.65	10.0	3.4	108

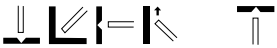
OK 74.70
Lime-basic

SMAW
E8018-G

Description
OK 74.70 is an LMA electrode used for welding high strength, low-alloyed steel. The electrode is designed for various applications, including pipelines.

Recovery
115%

Welding current
DC+(-)



Classifications

SFA/AWS A5.5	E8018-G
EN 499	E 50 4 MnMo B 42 H5

Typical all weld metal composition, %

C	Si	Mn	Mo
0.08	0.4	1.5	0.4

Typical properties of all weld metal

Yield stress, Mpa	540
Tensile strength, MPa	630
Elongation, %	26

Charpy V

Test temps, ˚C	Impact values, J
-20	110
-40	80
-60	50

Approvals

Sepros	UNA 485155
VNIIST	

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
74703230G0	3.2	1.7	10.2	683.4
74704040G0	4.0	2.2	13.2	646.8

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
3.2	350	80-140	23	0.58	50.0	1.14	63
4.0	350	90-190	23	0.61	31.6	1.60	71
4.0	450	90-190	24	0.63	23.4	1.66	93
5.0	450	150-250	23	0.65	15.0	2.30	102

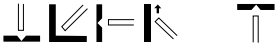
OK 74.78
Lime-basic

SMAW
E9018-D1

Description
OK 74.78 is an LMA electrode suitable for welding high tensile steels used in low-temperature applications. Good notch toughness down to -40˚C. Very suitable for both the enclosed welding and cladding of rails, when a hardness of about 250 HV is required. The moisture content of the coating is very low, which makes OK 74.78 suitable when preheating cannot be applied.

Recovery
125%

Welding current
AC, DC+ OCV 70 V



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
7478253ND0	2.5	3.6	10.8	756.0
7478324NM0	3.2	5.2	15.6	842.4
7478404NM0	4.0	5.0	15.0	810.0

Classifications

SFA/AWS A5.5	E9018-D1
EN 757	E 55 4 MnMo B 32H5

Typical all weld metal composition, %

C	Si	Mn	Mo
0.06	0.4	1.5	0.4

Typical properties of all weld metal

Yield stress, Mpa	600
Tensile strength, MPa	650
Elongation, %	24

Charpy V

Test temps, ˚C	Impact values, J
0	100
-20	90
-51	60

Approvals

ABS	3H5, 3Y
BV	3Y HH
DB	10.039.17
DB	20.039.02
DNV	3 YH10
CE	EN 13479
LR	3, 3Y H15
Sepros	UNA 409819
VdTUV	01027

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.0	300	55-80	22	0.62	136.0	0.7	38
2.5	350	75-100	22	0.62	73.0	0.9	55
3.2	450	105-140	23	0.65	32.0	1.3	86
4.0	450	140-190	23	0.65	20.5	1.8	97
5.0	450	190-260	24	0.68	14.0	2.6	100
6.0	450	240-340	24	0.69	10.0	3.6	103

OK 74.86 Tensitrode

Basic

SMAW
E10018-D2

Description

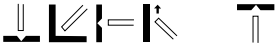
A basic coated electrode for steels and castings with U.T.S. of min. 690 Mpa.

Recovery

120%

Welding current

DC+, AC OCV 70 V



Classifications

SFA/AWS A5.5	E10018-D2
BS 2493 (1985)	2Mn Mo BH

Typical all weld metal composition, %

C	Si	Mn	Ni	Mo
0.07	0.6	1.8	0.7	0.4

Typical properties of all weld metal (Stress relieved)

Yield stress, Mpa	>610
Tensile strength, MPa	>690
Elongation, %	>16

Charpy V

Test temps, ˚C	Impact values, J
-51	>30

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
74862533K3	2.5	0.7	6.3	422.1
74863243G3	3.2	2.4	14.4	705.6
74864043G3	4.0	2.2	13.2	646.8
74865043G3	5.0	2.3	13.8	676.2

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	75-100	22	0.61	69.4	0.86	60.1
3.2	450	110-140	22	0.62	33.0	1.3	84.0
4.0	450	150-190	23	0.62	22.4	1.72	93.4
5.0	450	190-260	23	0.68	14.3	2.72	92.6
6.0	450	240-340	23	0.69	9.7	3.9	94.8

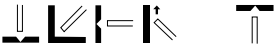
OK 75.75
Lime-basic

SMAW
E11018-G

Description
OK 75.75 is an LMA electrode dried to a very low moisture content and is suitable for the welding of high-strength, low-alloyed steels at room temperature or with moderate preheating.

Recovery
125%

Welding current
DC+



Classifications

SFA/AWS A5.5	E11018-G
EN 757	E 69 4 Mn2NiCrMoB 42 H5

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Mo
0.06	0.3	1.7	0.4	2.2	0.4

Typical properties of all weld metal

Yield stress, Mpa	755
Tensile strength, MPa	820
Elongation, %	20

Charpy V

Test temps, ˚C	Impact values, J
+20	115
-20	85
-40	70
-51	55
-60	45

Approvals

ABS	E11018-G
DB	10.039.19
RS	4Y62HH
Sepros	UNA 409819
VdTUV	01028
CE	EN 13479

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
75752530K0	2.5	0.6	5.4	361.8
75753240G0	3.2	2.2	13.2	646.8
75754040G0	4.0	2.2	13.2	646.8
75755040G0	5.0	2.1	12.6	617.4

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	70-110	22	0.67	66.0	1.0	54
3.2	450	100-150	23	0.67	31.5	1.4	80
4.0	450	135-200	24	0.65	21.0	1.9	92
5.0	450	180-260	25	0.63	12.0	2.5	105

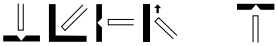
OK 76.16
Lime-basic

SMAW
E8018-B2-H4R

Description
Basic, low-hydrogen electrode for the DC welding of creep-resistant steels of the 1.25% Cr, 0.5% Mo type, such as SA-387 Grade 11/A 335 P11. The weld metal has an extra-low impurity level.

Recovery
115%

Welding current
DC+(-)



Classifications

SFA/AWS A5.5	E8018-B2-H4R

Typical all weld metal composition, %

C	Si	Mn	Cr	Mo
0.07	0.4	0.6	1.4	0.6

Typical properties of all weld metal

	PWTH 690˚C/1h
Yield stress, Mpa	550
Tensile strength, MPa	620
Elongation, %	22

Charpy V

Test temps, ˚C	Impact values, J
-20	70

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
76162530G0	2.5	1.5	9.0	603.0
76163230G0	3.2	1.7	10.2	683.4
76164030G0	4.0	1.8	10.8	723.6

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	70-110	23	0.6	74	0.65	75
3.2	350	95-150	23	0.59	48	1.07	71
4.0	350	130-190	22	0.89	30	1.55	78

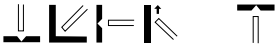
OK 76.18
Basic

SMAW
E8018-B2

Description
OK 76.18 is an LMA electrode for welding creep-resistant steels of the 1.25%Cr 0.5%Mo type. The electrode welds with a quiet and stable arc, giving a minimum amount of spatter loss while welding. OK 76.18 deposits a weld metal resistant to cracking as well as porosity. The scaling temperature of the weld metal is about 575˚C.

Recovery
115%

Welding current
DC(+)



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
7618253ND0	2.5	1.5	9.0	630.0
7618323NM0	3.2	3.8	11.4	798.0
7618404NM0	4.0	5.4	16.2	874.8
7618504NM0	5.0	5.5	16.5	891.0
VacPac				
76182020K0	2.0	0.5	4.5	346.5
76182520K0	2.5	0.6	5.4	415.8
76183230G0	3.2	1.7	10.2	683.4
76184040G0	4.0	2.4	14.4	705.6

Classifications

SFA/AWS A5.5	E8018-B2
EN 1599	E CrMo 1B 42 H5

Typical all weld metal composition, %

C	Si	Mn	Cr	Mo
0.07	0.3	0.7	1.3	0.5

Typical properties of all weld metal

Yield stress, Mpa	530
Tensile strength, MPa	620
Elongation, %	20

Charpy V

Test temps, ˚C	Impact values, J
+20	55
-20	38
-40	19

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	70-110	24	0.58	88	0.8	52
3.2	350	95-150	25	0.59	49	1.1	65
4.0	450	130-190	27	0.64	23	1.7	90
5.0	450	150-260	28	0.64	14	2.7	95

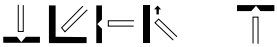
OK 76.26
Lime-basic

SMAW
E9018-B3

Description
Basic low-hydrogen electrode for the AC/DC welding of creep-resistant steels of the 2.3% Cr/1% Mo type, such as SA – 387 Grade 22/A 335 Grade P22 or similar. The weld metal has the extra-low impurity levels specified in step-cooling requirements.

Recovery
110%

Welding current
AC, DC+ OCV 65 V



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
76263230G0	3.2	1.6	9.6	643.2
76264040G0	4.0	2.1	12.6	617.4
76265040G0	5.0	2.2	13.2	646.8

Classifications

SFA/AWS A5.5	E9018-B3
EN 1599	E CrMo2 B 42 H5

Typical all weld metal composition, %

C	Si	Mn	Cr	Mo
0.08	0.3	0.7	2.3	1.1

Typical properties of all weld metal (Stress Relieved)

Yield stress, Mpa	650
Tensile strength, MPa	740
Elongation, %	18

Charpy V

Test temps, ˚C	Impact values, J
-20	60

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
3.2	350	90-130	23	0.60	49	1.11	66
4.0	450	130-190	25	0.61	23	1.90	83
5.0	450	150-260	27	0.62	15	2.60	92

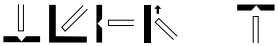
OK 76.28
Basic

SMAW
E9018-B3

Description
OK 76.28 is an LMA electrode for welding creep-resistant steels containing approx. 2.25%Cr1%Mo. The electrode runs with a quiet, stable arc and gives a minimum amount of spatter loss.
OK 76.28 deposits a weld metal with good crack-resistance. The scaling temperature of the weld metal is about 625˚C.

Recovery
115%

Welding current
DC(+)



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
7628253ND0	2.5	1.5	9.0	630.0
7628323NM0	3.2	3.8	11.4	798.0
7628404NM0	4.0	5.4	16.2	874.8
VacPac				
76282020K0	2.0	0.5	4.5	346.5
76282520K0	2.5	0.6	5.4	415.8
76283230G0	3.2	1.7	10.2	683.4
76284040G0	4.0	2.3	13.8	676.2

Classifications

SFA/AWS A5.5	E9018-B3
EN 1599	E CrMo 2 B 42 H5

Typical all weld metal composition, %

C	Si	Mn	Cr	Mo
0.07	0.3	0.7	2.3	1.1

Typical properties of all weld metal

Yield stress, Mpa	550
Tensile strength, MPa	650
Elongation, %	>18

Charpy V

Test temps, ˚C	Impact values, J
+20	50
-20	25

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	70-110	25	0.58	88	0.8	52
3.2	350	95-150	26	0.59	49	1.1	62
4.0	450	130-190	28	0.64	23	1.8	88
5.0	450	150-260	29	0.64	14	2.7	92

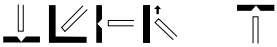
OK 76.35
Lime-basic

SMAW
E8015-B6

Description
OK 76.35 is an LMA electrode containing 5%Cr0.5%Mo for welding creep-resistant steels. It is especially suitable for pipe welding.
The electrode runs with a quiet, stable arc and gives a minimum amount of spatter loss.
A preheating and interpass temperature of 150-260˚C is normally required. The mechanical properties stated here are after one hour of heat treatment at 740˚C.

Recovery
115%

Welding current
DC(+-)



Classifications

SFA/AWS A5.5	E8015-B6
EN 1599	E CrMo5 B 42 H5

Typical all weld metal composition, %

C	Si	Mn	Cr	Mo
0.08	0.4	0.8	5.0	0.6

Typical properties of all weld metal

	PWHT 740˚C/1h
Yield stress, Mpa	>460
Tensile strength, MPa	>550
Elongation, %	>19

Charpy V

Test temps, ˚C	Impact values, J
+20	>47

Approvals

Sepros UNA 485155

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
76352020K0	2.0	0.6	5.4	415.8
76352520K0	2.5	0.6	5.4	415.8
76353230G0	3.2	1.6	9.6	643.2
76354040G0	4.0	2.2	13.2	646.8
76355040G0	5.0	2.1	12.6	617.4

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.0	300	50-70	23	0.57	139.0	0.49	53
2.5	300	65-95	23	0.57	16.9	0.7	63
3.2	350	90-130	24	0.56	50.0	1.0	70
4.0	450	125-165	24	0.58	33.3	1.3	80
5.0	450	190-220	24	0.59	16.9	2.2	98

OK 76.96
Basic

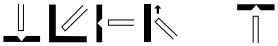
SMAW
E8015-B8

Description

OK 76.96 is an LMA electrode containing 9%Cr1%Mo for the welding of creep-resistant steels. It is especially suitable for pipe welding. The electrode runs with a quiet, stable arc and gives a minimum amount of spatter.
A preheating and interpass temperature of 150-260˚C is normally required. The mechanical properties stated here are after one hour of heat treatment at 740˚C.

Recovery
115%

Welding current
DC(+)



Classifications

SFA/AWS A5.5	E8015-B8
EN 1599	E CrMo9 B 42 H5

Typical all weld metal composition, %

C	Si	Mn	Cr	Mo
0.05	0.5	0.8	9.5	1.0

Typical properties of all weld metal

	PWHT 740˚C/1h
Yield stress, Mpa	>460
Tensile strength, MPa	>550
Elongation, %	>20

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
76962520K0	2.5	0.6	5.4	415.8
76963230G0	3.2	1.7	10.2	683.4
76964040G0	4.0	2.3	13.8	676.2
76965040G0	5.0	2.1	12.6	617.4

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.0	300	55-75	23	0.58	131.0	0.5	49
2.5	300	70-100	25	0.55	92.0	0.8	51
3.2	350	90-135	26	0.55	50.0	1.1	70
4.0	450	130-200	21	0.64	22.5	1.9	80
5.0	450	160-270	25	0.64	14.5	2.7	92

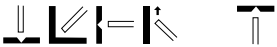
OK 76.98
Basic

SMAW
(E9015-B9)

Description
OK 76.98 is a low-hydrogen electrode for welding modified 9 Cr steels like T91/P91. The electrode is suitable for all-positional welding in pipes and plates. The mechanical properties stated here are after two hours of heat treatment at 750˚C.

Recovery
115%

Welding current
DC+



Classifications

SFA/AWS A5.5-96	(E9015-B9)
EN 1599	ECrMo 91 B 42 H5

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni
0.1	0.4	0.7	9.0	0.7

Mo	N	V	Nb
1.0	0.05	0.2	0.06

Typical properties of all weld metal

	PWHT 750˚C/2h
Yield stress, Mpa	650
Tensile strength, MPa	760
Elongation, %	18

Charpy V

Test temps, ˚C	Impact values, J
+20	70
0	50

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
76982530K0	2.5	0.8	7.2	482.4
76983230G0	3.2	1.7	10.2	683.4
76984040G0	4.0	2.3	13.8	676.2

Approvals

UDT	EN 1599
VdTUV	07687

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	70-100	21	0.66	71.4	0.9	56
3.2	350	90-135	22	0.6	45.5	1.2	68
4.0	450	130-200	23	0.64	22.6	1.9	85

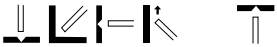
OK 78.16
Basic

SMAW
E9018-G

Description
OK 78.16 is a CrMo-alloyed electrode for the welding of 0.25%C-1%Cr-0.3%Mo-alloyed quenched and tempered steel grades. The heat treatment requirements for the weld metal are the same as those for the parent plate. The weld metal of OK 78.16 is also suitable for flame hardening. The welding of high tensile strength steel with OK 78.16 should be carried out at a preheating temperature of minimum 200˚C.

Recovery
120%

Welding current
DC(+)



Classifications
SFA/AWS A5.5 E9018-G

Typical all weld metal composition, %

C	Si	Mn	Cr	Mo
0.18	0.4	0.8	1.0	0.2

Typical properties of all weld metal

Yield stress, Mpa	870
Tensile strength, MPa	900
Elongation, %	18

Charpy V

Test temps, ˚C	Impact values, J
+20	50

Approvals

DB	10.039.16
U	10.039/1

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
78162530K0	2.5	0.8	7.2	482.4
78163240G0	3.2	2.2	13.2	646.8
78164040G0	4.0	2.3	13.8	676.2
78165040G0	5.0	2.6	15.6	764.4
78166040G0	6.0	2.6	15.6	764.4

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
1.6	300	50-65	-	-	-	-	-
2.5	350	75-100	20	0.64	70.0	0.9	58
3.2	450	105-140	21	0.64	32.5	1.4	78
4.0	450	145-195	22	0.66	22.5	1.9	83
5.0	450	190-260	23	0.68	15.0	2.8	86
6.0	450	240-330	25	0.70	10.0	3.6	98

Part I : Welding electrodes
Stainless & high alloyed steel

ESAB E310

Lime titania

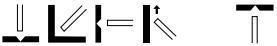
SMAW
E310-16

Description

ESAB E310 is a lime-titania type electrode with weld deposit that has a flat, regular bead and its slag is easily removable. ESAB E310 is heat – resistant up to 1,200˚C (2,200˚F) in oxidising and sulfur-free atmosphere. This electrode is especially suited for welding of austenitic, heat resistant Cr-Ni steels of the type 25% Cr-20% Ni such as AISI 310, in fabrication and repair of furnace linings, furnace grates, burners and the like.

Welding current

DC+, AC



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
642224301A	2.4	2.0	20.0	1000.0
642232302A	3.2	5.0	20.0	1000.0
642240302A	4.0	5.0	20.0	1000.0

Classifications

SFA/AWS A5.4 E310-16

Typical all weld metal composition, %

C	Mn	Si	P	S	Cr	Ni
0.10	2.0	0.6	0.018	0.008	26.0	20.8

Typical properties of all weld metal

Yield stress, Mpa	400
Tensile strength, MPa	590
Elongation, %	45

Welding parameters

Diameter, mm	Length, mm	Welding Current, A
2.5	250	25-50
2.6	300	40-70
3.2	350	65-120
4.0	350	100-150
5.0	350	130-220

ESAB E312

Lime titania

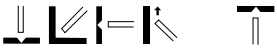
SMAW
E312-16

Description

ESAB E312 is an all positional lime titania type electrode designed to give smooth arc, very little spatter and easily detachable slag. It deposits weld metal having 29%Cr-9%Ni which provides excellent crack resistance and good mechanical properties. ESAB E312 is mainly used for dissimilar welding and problem steels, e.g. high alloy and unalloyed steels. It is also highly suitable for stress compensation buffer layers on parent metals sensitive to cracking.

Welding current

DC+, AC



Classifications

SFA/AWS A5.4 E312-16

Typical all weld metal composition, %

C	Si	Mn	P	S
0.98	0.875	1.004	0.022	0.012

Ni	Cr	Mo	Cu
8.71	28.50	0.154	0.144

Typical properties of all weld metal

Yield stress, Mpa	615
Tensile strength, MPa	780
Elongation, %	30

Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
642624301A	2.4	2.0	20.0	1000.0
642632302A	3.2	5.0	20.0	1000.0
642640302A	4.0	5.0	20.0	1000.0

Welding parameters

Diameter, mm	Length, mm	Welding Current, A
2.5	300	50-85
3.2	350	75-120
4.0	350	100-150
5.0	350	140-200

ESAB E347

Acid-rutile

SMAW

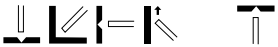
E347-17

Description

ESAB E347-17 is a specially formulated heavy-coated electrode that has outstanding bead appearance and operator appeal in the flat and horizontal positions. The electrode is ideally suited to types 347, 348 and 321 stainless steels where service temperatures are below 316˚C. The electrode produces a concave and finely rippled bead with low spatter, self-peeling slag and minimal clean up.

Welding current

DC+, AC OCV 60V



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
642424301A	2.4	2.0	20.0	1000.0
642432302A	3.2	5.0	20.0	1000.0
642440302A	4.0	5.0	20.0	1000.0

Classifications

SFA/AWS A5.4 E 347-17

Typical all weld metal composition, %

C	Mn	Si	Cr	Ni	Cb
0.02	0.60	0.80	19.7	10.0	0.65

Typical properties of all weld metal

Yield stress, Mpa	450
Tensile strength, MPa	630
Elongation, %	36

Welding parameters

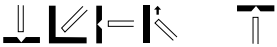
Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.0	250	30-50	21	0.60	167	0.6	36
2.4	305	50-85	21	0.60	83	1.0	44
3.2	350	70-120	22	0.67	50	1.3	56
4.0	350	110-165	23	0.60	33	1.6	68

OK 308L
Acid-rutile

SMAW
E308L-16

Description
OK 308L has a heavy coating, produces a concave bead with a fine ripple and the slag is virtually self-cleaning. It is suitable for welding types 304, 304L, 308 and 308L with good bead appearance. The excellent wetting action and very fine ripple minimises crevice corrosion and grinding time. The low carbon content helps to prevent carbide precipitation.

Welding current
DC+, AC OCV 50V



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
6198252030	2.5	1.5	9.0	693.0
6198323020	3.2	4.1	12.3	811.8
6198403020	4.0	4.1	12.3	811.8
6198503020	5.0	3.9	11.7	772.2

Classifications

SFA/AWS A5.4	E308L-16
JIS Z3221	D308L-16

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni
0.02	0.8	0.7	19.5	10.0

Typical properties of all weld metal

Yield stress, Mpa	420
Tensile strength, MPa	570
Elongation, %	45

Charpy V

Test temps, ˚C	Impact values, J
+20˚C	70 J

Welding parameters

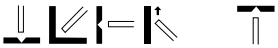
Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	60-90	31	0.55	99.0	1.1	36
3.2	350	80-120	31	0.60	49.0	1.4	54
4.0	350	120-170	32	0.60	33.0	2.0	60
5.0	350	150-240	33	0.60	20.0	3.0	60

OK 309L
Acid-rutile

SMAW
E309L-16

Description
OK 309L electrodes have a heavy coating and produce a concave weld bead with fine ripple. The slag is virtually self-cleaning. They are suitable for welding carbon to stainless steel and as the first layer when cladding.

Welding current
DC+, AC OCV 55V



Classifications

SFA/AWS A5.4	E309L-16
EN 1600	E23 12 L R 3 2

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni
0.02	0.8	0.9	24.0	12.5

Typical properties of all weld metal

Yield stress, Mpa	470
Tensile strength, MPa	580
Elongation, %	32

Charpy V

Test temps, ˚C	Impact values, J
+20˚C	50 J
-10˚C	40 J

Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
6498252030	2.5	1.7	10.2	785.4
6498323020	3.2	4.3	12.9	851.4
6498403020	4.0	4.3	12.9	851.4

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	50-90	28	0.60	85.0	1.1	38
3.2	350	90-120	29	0.60	45.0	1.6	51
4.0	350	130-180	31	0.60	29.0	2.5	51
5.0	350	160-240	32	0.60	19.0	3.3	58

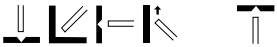
OK 316L
Acid-rutile

SMAW
E316L-16

Description

OK 316L electrodes have a heavy coating and produce a concave bead with fine ripple.
The slag is virtually self-cleaning, and the Molybdenum content increases the resistance to pitting corrosion caused by corrosive media such as sulfuric and sulfurous acids, sulphites, chlorides and cellulose solutions. It is for welding 316 and 316L stainless steel with good bead appearance.

Welding current
DC+, AC OCV 50V



Classifications

SFA/AWS A5.4	E316L-16
JIS Z3221	D316L-16

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Mo
0.02	0.8	0.6	18.0	12.0	2.8

Typical properties of all weld metal

Yield stress, Mpa	435
Tensile strength, MPa	580
Elongation, %	40

Charpy V

Test temps, ˚C	Impact values, J
+20	60
-125	min. 32

Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
6398252030	2.5	1.7	10.2	785.4
6398323020	3.2	4.1	12.3	811.8
6398403020	4.0	4.3	12.9	851.4

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	60-90	30	0.56	97.0	1.1	35
3.2	350	80-125	31	0.61	48.0	1.4	54
4.0	350	120-170	32	0.61	32.0	2.1	55
5.0	350	150-240	34	0.61	20.0	3.1	58

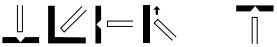
OK 61.30
Acid-rutile

SMAW
E308L-17

Description

OK 61.30 is an extra-low carbon, AC/DC, LMA electrode for welding steel of the 19Cr10Ni type. It is also suitable for welding stabilised stainless steels of similar composition, except when the full creep resistance of the base material is to be met. OK 61.30 is very easy to strike and restrike and produces weld beads with an excellent appearance and self-relieving slag.

Welding current
DC+, AC OCV 50V



Classifications

SFA/AWS A5.4	E308L-17
EN 1600	E19 9 LR12
Werkstoff Nr.	1.4316

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni
<0.03	0.7	0.9	19.5	10.0

Ferrite content FN 3-10

Typical properties of all weld metal

Yield stress, Mpa	430
Tensile strength, MPa	560
Elongation, %	43

Charpy V

Test temps, ˚C	Impact values, J
+20	70

Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
6130162030	1.6	1.6	9.6	739.2
6130202030	2.0	1.6	9.6	739.2
6130252030	2.5	1.5	9.0	693.0
6130323020	3.2	4.1	12.3	811.8
6130403020	4.0	4.1	12.3	811.8

Approvals

ABS	Stainless
CE	EN 13479
CWB	CSA W48
DB	30.039.02
DNV	308L
Sepros	UNA 409820
UDT	EN 1600
VdTUV	00792

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
1.6	300	35-50	27	0.55	240	0.6	24
2.0	300	45-65	29	0.55	160	0.8	29
2.5	300	60-90	31	0.55	99	1.1	36
3.2	350	80-120	31	0.60	49	1.4	54
4.0	350	120-170	32	0.60	33	2.0	60
5.0	350	150-240	33	0.60	20	3.0	60

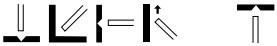
OK 61.35
Basic

SMAW
E308L-15

Description

OK 61.35 is a basic, low-carbon, stainless electrode of the E308L type with very good welding properties in the vertical and overhead positions. The high impact toughness at cryogenic temperature (-196˚C) makes OK 61.35 excellent in LNG applications.

Welding current
DC+



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
61352520K0	2.5	0.7	6.3	485.1
61353230G0	3.2	1.7	10.2	683.4
61354030G0	4.0	1.7	10.2	683.4
61355030G0	5.0	1.6	9.6	643.2

Classifications

SFA/AWS A5.4	E308L-15
EN 1600	E19 9 C B 22
Werkstoff Nr.	1.43.6

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni
<0.04	0.5	1.7	19.0	10.0

Ferrite content FN 4-8

Typical properties of all weld metal

Yield stress, Mpa	460
Tensile strength, MPa	610
Elongation, %	40

Charpy V

Test temps, ˚C	Impact values, J
+20	100
-120	70
-196	>32

Approvals

Sepros	UNA 409820
VdTUV	04811

Welding parameters

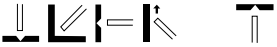
Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	55-85	22	0.61	92	0.9	37
3.2	350	75-110	25	0.61	50	1.3	54
4.0	350	110-155	27	0.61	33	1.9	58
5.0	350	160-210	26	0.51	25	2.2	66

OK 61.81
Rutile

SMAW
E347-16

Description
OK 61.81 is a niobium-stabilised, stainless welding electrode for titanium and niobium-stabilised 18-8 steel. It is particularly suitable for high temperature applications.

Welding current
DC+, AC OCV 60V



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
61812020K0	2.0	0.6	5.4	415.8
61812520K0	2.5	0.7	6.3	485.1
61813230G0	3.2	2.0	12.0	804.0
61814030G0	4.0	2.0	12.0	804.0
61815030G0	5.0	1.7	10.2	683.4

Classifications

SFA/AWS A5.4	E347-16
EN 1600	E 19 9 Nb R 3 2
Werkstoff Nr.	1.4551

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Nb
0.06	0.7	1.6	20	10	>8XC

Ferrite content FN 6-12

Typical properties of all weld metal

Yield stress, Mpa	560
Tensile strength, MPa	700
Elongation A4, %	31

500˚C /10,000h: 300

Charpy V

Test temps, ˚C	Impact values, J
+20	60

Approvals

DNV	347
CE	EN 13479

Welding parameters

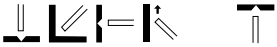
Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.0	300	40-60	26.2	0.60	147	0.6	39
2.5	300	50-80	28.8	0.59	82	1.2	36
3.2	350	75-115	23	0.60	44	1.2	66
4.0	350	110-160	24	0.60	32	1.7	66
5.0	350	140-210	25	0.60	20	2.3	78

OK 61.85
Basic

SMAW
E347-15

Description
OK 61.85 is a basic-coated, niobium-stabilised electrode of the E347-type, specially designed for welding niobium or titanium-stabilised steels. OK 61.85 has outstanding welding properties in the vertical and overhead positions, making it suitable for pipewelding, for example.

Welding current
DC+



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
61852520K0	2.5	0.7	6.3	485.1
61853230G0	3.2	1.7	10.2	683.4
61854030G0	4.0	1.7	10.2	683.4

Classifications

SFA/AWS A5.4	E347-15
EN 1600	E 19 9 Nb B 2 2
Werkstoff Nr.	1.4551

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Nb
<0.07	0.5	1.7	19.5	10.0	>8XC

Ferrite content FN 6-12

Typical properties of all weld metal

Yield stress, Mpa	500
Tensile strength, MPa	620
Elongation, %	40

Charpy V

Test temps, ˚C	Impact values, J
+20	100
-60	70
-120	>32

Approvals

Sepros	UNA 409820
VdTUV	05663

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	55-85	25	0.60	98	0.9	42
3.2	350	75-110	23.3	0.62	49	1.1	64
4.0	350	110-150	23.5	0.61	33	1.6	70
5.0	350	150-200	23.1	0.61	21	2.3	76

OK 61.86
Acid-rutile

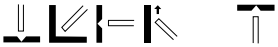
SMAW
E347-17

Description

Stainless-steel electrode for welding niobium- or titanium-stabilised steels of the 19Cr10Ni type. Controlled low ferrite content level.

Welding current

AC, DC+ OCV 50V



Classifications

SFA/AWS A5.4	E347-17
EN 1600	E 19 9 Nb R 1 2
Werkstoff Nr.	1.4551

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Nb
<0.03	0.7	0.9	19.0	10.0	>8XC

Ferrite content FN 3-8

Typical properties of all weld metal

Yield stress, Mpa	520
Tensile strength, MPa	660
Elongation A5, %	35

Charpy V

Test temps, ˚C	Impact values, J
+20	55

Approvals

Sepros UNA 409820

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
61862520K0	2.5	0.7	6.3	485.1
61863230G0	3.2	1.7	10.2	683.4
61864030G0	4.0	1.7	10.2	683.4

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	60-90	27	0.58	98	0.8	47
3.2	350	70-120	27	0.55	53	1.1	62
4.0	350	120-170	28	0.54	34	1.7	64

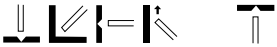
OK 63.30
Acid-rutile

SMAW
E316L-17

Description

OK 63.30 is an extra-low carbon, LMA electrode of the 18Cr12Ni2.8Mo type. It is also suitable for welding stabilised steels of similar composition, except when the full creep resistance of the base material has to be met. OK 63.30 is very easy to strike and restrike and produces weld beads with an excellent appearance and self-relieving slag.

Welding current
DC+, AC OCV 50V



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
6330162030	1.6	1.6	9.6	739.2
6330202030	2.0	1.6	9.6	739.2
6330252030	2.5	1.7	10.2	785.4
6330323020	3.2	4.1	12.3	811.8
6330403020	4.0	4.3	12.9	851.4
6330503020	5.0	4.3	12.9	851.4

Classifications

SFA/AWS A5.4	E316L-17
EN 1600	E 19 12 3 L R 1 2
Werkstoff Nr.	1.4430
CSA W48	E316L-17

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Mo
<0.03	<0.9	0.9	18.0	12.0	2.8

Ferrite content FN 3-10

Typical properties of all weld metal

Yield stress, Mpa	460
Tensile strength, MPa	570
Elongation A%, %	40

Charpy V

Test temps, ˚C	Impact values, J
+20	60
-20	55
-125	>32

Approvals

ABS	E316L-17
BV	316L
CE	EN 13479
CWB	CSA W48
DB	30.039.06
DNV	316L
GL	4571
LR	316L
Sepros	UNA 409820
VdTUV	00262

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
1.6	300	35-50	29	0.56	250	0.4	37
2.0	300	45-65	29	0.60	147	0.6	39
2.5	300	60-90	29	0.55	96	0.9	45
2.5	350	60-90	30	0.56	83	1.1	41
3.2	350	80-125	30	0.55	52	1.4	57
4.0	350	120-170	32	0.56	34	2.0	57
5.0	350	150-240	32	0.56	21	3.0	63

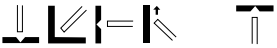
OK 63.35
Basic

SMAW
E316L-15

Description

OK 63.35 is a low-carbon, basic, stainless electrode designed for welding steel of the 18Cr12Ni3Mo type. The high impact toughness at cryogenic temperatures (-196˚C) makes OK 63.35 excellent in LNG applications. The weld metal is very resistant to cracking and porosity. OK 63.35 has outstanding welding properties in the vertical and overhead positions.

Welding current
DC+



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
63352520K0	2.5	0.7	6.3	485.1
63353230G0	3.2	1.7	10.2	683.4
63354030G0	4.0	1.7	10.2	683.4
63355030G0	5.0	1.6	9.6	643.2

Classifications

SFA/AWS A5.4	E316L-15
EN 1600	E 19 12 3 L B 2 2
Werkstoff Nr.	1.4430

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Mo
<0.04	0.5	1.7	18.5	12.0	2.8

Ferrite content FN 3-8

Typical properties of all weld metal

Yield stress, Mpa	430
Tensile strength, MPa	560
Elongation, %	40

Charpy V

Test temps, ˚C	Impact values, J
+20	95
-60	75
-120	60
-196	35

Approvals

ABS	Stainless
DNV	316L
CE	EN 13479
VdTUV	04812

Welding parameters

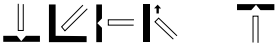
Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	55-85	24	0.63	91	0.9	42
3.2	350	75-110	24	0.63	47	1.3	58
4.0	350	110-150	24	0.62	32	1.8	63
5.0	350	150-200	24	0.62	20	2.6	68

OK 67.15
Lime-basic

SMAW
E310-15

Description
OK 67.15 is a stainless-steel electrode for welding 25Cr20Ni steels. It is also suitable for welding armour steel, austenitic-manganese steel and for joining dissimilar steels. OK 67.15 deposits a very crack-resistant weld metal.

Welding current
DC+



Classifications

SFA/AWS A5.4	E310-15
EN 1600	E 25 20 B 2 2
Werkstoff Nr.	1.4842

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni
0.12	0.5	2.2	26.0	21.0

Ferrite content FN 0

Typical properties of all weld metal

Yield stress, Mpa	410
Tensile strength, MPa	590
Elongation, %	35

Charpy V

Test temps, ˚C	Impact values, J
+20	100

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
67152020K0	2.0	0.6	5.4	415.8
67152520K0	2.5	0.6	5.4	415.8
67153230G0	3.2	1.7	10.2	683.4
67154030G0	4.0	1.7	10.2	683.4

Approvals

DB	30.039.01
Sepros	UNA 409820
CE	EN 13479
VdTUV	01025

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.0	300	35-55	24	0.62	162	0.6	36
2.5	300	55-85	25	0.61	96	0.9	40
3.2	350	70-110	25	0.59	50	1.2	60
4.0	350	110-150	26	0.59	28	1.8	62
5.0	350	150-200	26	0.60	22	2.5	65

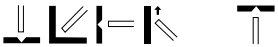
OK 67.45
Lime Basic

SMAW
(E307-15)

Description

Austenitic stainless-steel electrode producing a weld metal with less than 5% ferrite. The tough weld metal has excellent crack resistance, even when welding steels with very poor weldability. Suitable for joining 12-14% manganese steel to itself or other steels. It is also suitable for buffer layers before hardfacing.

Welding current
DC+



Packing/Ordering Information

Part Number VaPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
67452520K0	2.5	0.7	6.3	485.1
67453230G0	3.2	1.7	10.2	683.4
67454030G0	4.0	1.7	10.2	683.4
67455030G0	5.0	1.6	9.6	643.2

Classifications

SFA/AWS A5.4	(E307-15)
EN 1600	E 18 8 Mn B 4 2

Typical all weld metal composition, %

C	Si	Mn	Ni	Cr
0.11	0.5	6.0	8.5	18.5

Ferrite content FN <5

Typical properties of all weld metal

Yield stress, Mpa	470
Tensile strength, MPa	605
Elongation, %	35

Charpy V

Test temps, ˚C	Impact values, J
+20	85

Approvals

ABS	Stainless
Sepros	UNA 409820
UDT	EN 1600
VdTUV	01580

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	50-80	23	0.58	102	0.7	50
3.2	350	70-100	24	0.60	51	1.1	71
4.0	350	100-140	24	0.60	33	1.5	73
5.0	350	150-200	25	0.60	22	2.2	80

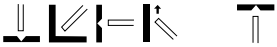
OK 67.50
Acid-rutile

SMAW
E2209-17

Description

OK 67.50 is a rutile-coated electrode for welding ferritic-austenitic stainless steels, e.g. UNS S31803. Special applications include the welding of pipes with high resistance to stress corrosion up to 300˚C, the so-called Duplex steels. OK 67.50 is particularly suitable for welding duplex cargo tanks.

Welding current
DC+, AC OCV 60V



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
67502020K0	2.0	0.6	5.4	415.8
67502520K0	2.5	0.7	6.3	485.1
67503230G0	3.2	1.7	10.2	683.4
67504030G0	4.0	1.7	10.2	683.4
67505030G0	5.0	1.7	10.2	683.4

Classifications

SFA/AWS A5.4	E2209-17
EN 1600	E 22 9 3 N L R 3 2
Werkstoff Nr.	1.4462
CSA W48	E2209-17

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Mo	Cu	N
<0.03	0.7	0.9	22.3	9.5	3.0	<0.3	0.16

Ferrite content FN 25-40

Typical properties of all weld metal

Yield stress, Mpa	691
Tensile strength, MPa	857
Elongation, %	25

Charpy V

Test temps, ˚C	Impact values, J
+20	50

Approvals

ABS	For welding duplex steels
BV	2209
CWB	CSA W48
DNV	For duplex SS
GL	4462
RINA	2209
Sepros	UNA 409820
VdTUV	04368
CE	EN 13479

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.0	300	30-65	29	0.55	152	0.7	33
2.5	300	50-90	27	0.58	91	1.0	38
3.2	350	80-120	28	0.58	47	1.4	55
4.0	350	100-160	29	0.58	32	1.9	59
5.0	350	150-220	30	0.58	20	2.8	64

OK 67.51
Acid-rutile

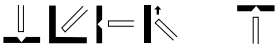
SMAW
E2209-26

Description

High–recovery, stainless electrode for welding ferritic-austenitic (duplex) stainless steels, such as UNS S31803 or the equivalence. Also excellent for joining duplex to CMn steels.

Welding current

AC, DC+ OCV 60V



Classifications

SFA/AWS A5.4	E2209-26
EN 1600	E 22 9 3 N L R 53
Werkstoffnummer	1.4462

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Mo	Cu	N
<0.03	0.7	0.9	22.5	9.5	3.0	<0.2	0.16

Typical properties of all weld metal

Yield stress, Mpa	645
Tensile strength, MPa	800
Elongation, %	25

Charpy V

Test temps, ˚C	Impact values, J
+20	50
Ferrite content	FN 30-45

Approvals

DNV	For Duplex SS

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
67512520K0	2.5	0.7	6.3	485.1
67513230G0	3.2	1.7	10.2	683.4
67514030G0	4.0	1.4	8.4	562.8

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	60-100	27	0.59	69	1.4	38
3.2	350	80-130	28	0.59	37	2.1	55
4.0	350	110-170	31	0.59	24	2.4	62

OK 67.52
Zirconium-basic

SMAW
(E307-25)

Description
OK 67.52 is a synthetic, high-recovery electrode of the 18Cr8Ni6Mn type for welding dissimilar steels, 13Mn steels, steels with reduced weldability and for cladding carbon steels.

Welding current
DC+, AC OCV 70 V

Classifications

SFA/AWS A5.4	(E307-25)
EN 1600	E 18 8 Mn B 8 3
Werkstoff Nr.	1.4370

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	N
<0.05	1.1	6.0	18.0	9.0	<0.2

Ferrite content FN <3

Typical properties of all weld metal

Yield stress, Mpa	420
Tensile strength, MPa	630
Elongation, %	45

Charpy V

Test temps, ˚C	Impact values, J
+20	70

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
67522530K0	2.5	0.8	7.2	482.4
67523240G0	3.2	2.3	13.8	676.2
67524040G0	4.0	2.2	13.2	646.8
67525040V0	5.0	3.5	14.0	686.0

Welding parameters

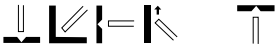
Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	90-115	25	0.64	49.0	1.4	52
3.2	450	120-165	34	0.68	20.5	2.3	76
4.0	450	150-240	40	0.68	13.5	3.7	72
5.0	450	200-340	48	0.65	9.0	6.0	66

OK 67.55
Basic

SMAW
E2209-15

Description
OK 67.55 is a basic-coated electrode specially designed for the welding of duplex stainless steel, e.g. UNS S31803. The deposited weld metal gives very high ductility down to -50˚C/ -60˚C. Particularly suitable for welding duplex pipes in offshore applications.

Welding current
DC+



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
67552520K0	2.5	0.6	5.4	415.8
67553230G0	3.2	1.7	10.2	683.4
67554030G0	4.0	1.6	9.6	643.2

Classifications

SFA/AWS A5.4	E2209-15
EN 1600	E 22 9 3 N L B 2 2
Werkstoff Nr.	1.4462

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Mo	N
<0.04	0.5	0.9	22.5	9.3	3.0	0.15

Typical properties of all weld metal

Yield stress, Mpa	650
Tensile strength, MPa	800
Elongation, %	28

Charpy V

Test temps, ˚C	Impact values, J
+20	100
-20	85
-40	75
-60	65
Ferrite content	FN 35-50

Approvals

DNV	For duplex SS
Sepros	UNA 409820
UDT	EN 1600
VdTUV	06774

Welding parameters

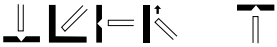
Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	50-80	21	0.58	98	0.8	46
3.2	350	60-100	21	0.58	50	1.0	71
4.0	350	100-140	21	0.58	32	1.5	74

OK 67.60
Acid-rutile

SMAW
E309L-17

Description
OK 67.60 is an over-alloyed, stainless electrode for welding stainless to mild steel and low-alloyed steels or welding the root runs in clad steel. The electrode has excellent weldability in all positions except vertical down, on both AC and DC.

Welding current
DC+, AC OCV 55 V



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
67602520K0	2.5	0.6	5.4	415.8
67603230G0	3.2	1.8	10.8	723.6
67604030G0	4.0	1.7	10.2	683.4
67605030G0	5.0	1.8	10.8	723.6

Classifications

SFA/AWS A5.4	E309L-17
EN 1600	E 23 12 L R 3 2
Werkstoff Nr.	1.4332
CSA W48	E309L-17

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni
<0.03	0.7	0.9	24.0	13.0

Ferrite content FN 10-22

Typical properties of all weld metal

Yield stress, Mpa	470
Tensile strength, MPa	580
Elongation, %	32

Charpy V

Test temps, ˚C	Impact values, J
+20	50
-10	40

Approvals

CE	EN 13479
CWB	CSA W48
Sepros	UNA 409820
VdTUV	00898

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.0	300	30-60	27	0.60	136	0.7	38
2.5	300	50-90	28	0.60	85	1.1	38
3.2	350	90-120	29	0.60	45	1.6	51
4.0	350	130-180	31	0.60	29	2.5	51
4.0	450	130-180	31	0.60	23	2.5	65
5.0	350	160-240	32	0.60	19	3.3	58

OK 67.62
Rutile

SMAW
E309-26

Description
OK 67.62 is a synthetic, stainless, high-recovery electrode of the 24Cr12Ni type for welding stainless steel to unalloyed steel. The composition is balanced to produce good crack resistance when welding stainless steel to mild steel. The bead appearance is outstanding in both butt welds and fillet welds.

Welding current
DC+, AC OCV 55 V

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
67622530K0	2.5	0.7	6.3	422.1
67623240G0	3.2	2.0	12.0	588.0
67624040G0	4.0	1.9	11.4	558.6
67625040G0	5.0	2.0	12.0	588.0

Classifications

SFA/AWS A5.4	E309-26
EN 1600	E Z 23 12 12 R7 3
Werkstoff Nr.	1.4332

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Cu
<0.07	0.7	0.9	24.0	13.0	<0.2

Ferrite content FN 12-22

Typical properties of all weld metal

Yield stress, Mpa	440
Tensile strength, MPa	560
Elongation A5, %	36

Charpy V

Test temps, ˚C	Impact values, J
+20	60
-60	42

Approvals

BV	UP (min Kv –60˚C)
DNV	309
GL	4332
LR	CMn/SS
UDT	EN 1600
VdTUV	03729

Welding parameters

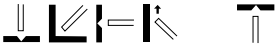
Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	70-120	25	0.64	49.0	1.2	60
3.2	450	110-165	30	0.64	21.0	2.0	82
4.0	450	150-230	35	0.67	14.5	3.1	82
5.0	450	200-310	38	0.66	9.5	4.5	86

OK 67.70
Acid-rutile

SMAW
E309MoL-17

Description
OK 67.70 is an over-alloyed, stainless-steel electrode for use as a buffer layer when welding acid-resistant clad steels and stainless steels to other types of steel. OK 67.70 has outstanding welding properties on both AC and DC. The electrode can be used in all positions apart from vertical down.

Welding current
DC+, AC OCV 55V



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
6770202030	2.0	1.7	10.2	785.4
6770252030	2.5	1.7	10.2	785.4
6770323020	3.2	4.3	12.9	851.4
6770403020	4.0	4.4	13.2	871.2

Classifications

SFA/AWS A5.4	E309MoL-17
EN 1600	E 23 12 2 L R 3 2
Werkstoff Nr.	1.4459
CSA W48	E309LMo-17

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Mo	Cu
<0.03	0.7	0.9	23.0	13.0	2.8	<0.3

Ferrite content FN 12-22

Typical properties of all weld metal

Yield stress, Mpa	510
Tensile strength, MPa	610
Elongation, %	32

Charpy V

Test temps, ˚C	Impact values, J
+20	50
-20	35

Approvals

ABS	SS to C&C/Mn steels
CE	EN 13479
CWB	CSA W48
DB	30.039.05
DNV	309 Mo
LR	SS/CMn
RINA	E 309Mo
Sepros	UNA 409820
VdTUV	02424
BV	309Mo

Welding parameters

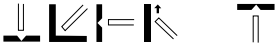
Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.0	300	30-60	26	0.58	147	0.6	48
2.5	300	50-90	29	0.57	94	0.9	45
3.2	350	90-120	27	0.59	47	1.4	61
4.0	350	130-180	31	0.61	32	2.0	56
5.0	350	160-240	30	0.59	20	2.7	64
5.0	450	160-240	30	0.57	15	2.7	85

OK 67.75
Basic

SMAW
E309L-15

Description
OK 67.75 is a basic coated, stainless electrode for welding steels of the 24Cr13Ni type, for welding transition layers when surfacing mild steel with stainless, for joining dissimilar steels and welding root runs in the stainless side of clad steels.

Welding current
DC+



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
67752520K0	2.5	0.7	6.3	485.1
67753230G0	3.2	1.8	10.8	723.6
67754030G0	4.0	2.0	12.0	804.0

Classifications

SFA/AWS A5.4	E309L-15
EN 1600	E 23 12 L B 4 2
Werkstoff Nr.	1.4332

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Mo	Cu
<0.04	0.5	2.2	24.0	13.0	<0.5	<0.3

Ferrite content FN 12-22

Typical properties of all weld metal

Yield stress, Mpa	470
Tensile strength, MPa	600
Elongation A5, %	35

Charpy V

Test temps, ˚C	Impact values, J
+20	75
-80	55

Approvals

ABS	Stainless
DNV	309
LR	SS to C/Mn Steels
Sepros	UNA 409820
UDT	EN 1600
VdTUV	00633

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	50-80	22	0.73	78.0	1.1	42
3.2	350	80-110	24	0.73	39.0	1.5	60
4.0	350	100-150	26	0.73	25.0	2.3	62
5.0	350	160-220	27	0.73	16.5	3.4	65

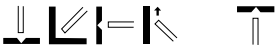
OK 68.15
Lime-basic

SMAW
E410-15

Description

OK 68.15 is a stainless-steel electrode, which deposits a ferritic 13Cr weld metal. OK 68.15 is designed for welding steels of similar composition, when CrNi-alloyed austenitic stainless steel electrodes cannot be used, e.g. when the structure is going to be exposed to aggressive sulphuric gases. Depending on the welding parameters, the structure and consequently the mechanical properties of untreated weld metal can vary within fairly large limits.

Welding current
DC+



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
68152530K0	2.5	0.8	7.2	482.4
68153240G0	3.2	2.2	13.2	646.8
68154040G0	4.0	2.2	13.2	646.8

Classifications

SFA/AWS A5.4	E410-15
EN 1600	E 13 B 4 2
Werkstoff Nr.	1.4009

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Mo	Cu
<0.06	<0.7	<1.0	12.5	<0.6	<0.5	<0.2

Typical properties of all weld metal

PWHT 750 °C/ 1h	
Yield stress, Mpa	370
Tensile strength, MPa	520
Elongation A4, %	25

Charpy V

Test temps, ˚C	Impact values, J
+20	55
0	35
-20	20

Approvals

Sepros	UNA 409820
UDT	EN 1600

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	65-115	25	0.62	73	1.0	48
3.2	450	90-160	25	0.63	33	1.5	71
4.0	450	120-220	30	0.57	24	2.0	73
5.0	450	170-270	30	0.60	15	2.5	85

OK 68.17
Rutile-basic

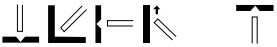
SMAW
E410NiMo-16

Description
OK 68.17 is a coated electrode designed for the welding of stainless-steel castings of the 13Cr4NiMo type, for example. OK 68.17 can be welded in all positions apart from vertical down.

Typical all weld metal hardness

As welded:	36 HRC
After PWHT:	600 °C/ 1h
	600 °C/ 8h
	29 HRC
	25 HRC

Welding current
DC+, AC OCV 55 V



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
68172530K0	2.5	0.7	6.3	422.1
68173230G0	3.2	1.7	10.2	683.4
68174040G0	4.0	2.1	12.6	617.4

Classifications

SFA/AWS A5.4	E410NiMo-16
EN 1600	E 13 4 R 3 2
Werkstoff Nr.	1.4351

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Mo	Cu
<0.03	0.5	0.8	11.8	4.5	0.6	<0.3

Typical properties of all weld metal

PWHT (600˚C/ 8h)	
Yield stress, Mpa	650
Tensile strength, MPa	870
Elongation A5, %	17

Charpy V

Test temps, ˚C	Impact values, J
+20	45
-10	45
-40	40

Welding parameters

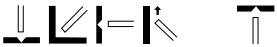
Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	55-100	21	0.62	72.5	0.8	61
3.2	350	65-135	21	0.59	44.8	1.2	66
4.0	450	90-190	24	0.59	22.7	1.7	92

OK 68.25
Basic

SMAW
E410NiMo-15

Description
OK 68.25 is an electrode for welding corrosion-resistant, martensitic and martensitic-ferritic rolled, forged and cast steels, such as castings of 13Cr4NiMo type.

Welding current
DC+



Classifications

SFA/AWS A5.4	E410NiMo-15
EN 1600	E 13 4 B 4 2
Werkstoff Nr.	1.4351

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Mo
<0.04	0.5	0.8	12.0	4.5	0.6

Typical properties of all weld metal

PWHT 600˚C/8h

Yield stress, Mpa	680
Tensile strength, MPa	880
Elongation A5, %	17

Charpy V

Test temps, ˚C	Impact values, J
+20	60
0	56
-20	53

Approvals

Sepros UNA 409820

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
68253240G0	3.2	2.5	15.0	735.0
68254040G0	4.0	2.5	15.0	735.0
68255040G0	5.0	2.4	14.4	705.6

Welding parameters

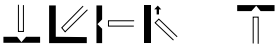
Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
3.2	450	90-150	28	0.64	34.5	1.6	63
4.0	450	110-190	28	0.66	21.6	2.2	73
5.0	450	140-250	27	0.67	13.7	3.1	86

OK 68.53
Basic-rutile

SMAW
E 25 9 4 N L R 3 2

Description
OK 68.53 is a coated electrode for welding austenitic-ferritic steels of Super Duplex types, e.g. SAF 2507 and Zeron 100. OK 68.53 has good welding characteristics in all positions and the slag is easily detachable.

Welding current
DC+, AC OCV 60 V



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
68532520K0	2.5	0.6	5.4	415.8
68533230G0	3.2	1.8	10.8	723.6
68534030G0	4.0	1.7	10.2	683.4

Classifications

EN 1600	E 25 9 4 N L R 3 2
Werkstoff Nr.	(1.4410)

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Mo	Cu
<0.04	0.6	0.8	25.2	9.8	4.0	0.25

Ferrite content FN 35-50

Typical properties of all weld metal

Yield stress, Mpa	700
Tensile strength, MPa	850
Elongation A5, %	30

Charpy V

Test temps, ˚C	Impact values, J
+20	50
-40	40

Approvals

UDT	EN 1600
VdTUV	07377

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	55-85	22	0.60	94	0.9	43
3.2	350	70-110	22	0.60	47	1.2	62
4.0	350	110-150	23	0.60	32	1.7	67

OK 68.55
Basic

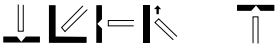
SMAW
E 25 9 4 N L B 4 2

Description

OK 68.55 is a basic coated electrode for welding austenitc-ferritic steels of the Super Duplex type, e.g. SAF 2507 and Zeron 100. OK 68.55 deposits a weld metal with high ductility.

Welding current

DC+



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
68552520K0	2.5	0.7	6.3	485.1
68553230G0	3.2	1.8	10.8	723.6
68554030G0	4.0	1.6	9.6	643.2

Classifications

EN 1600	E 25 9 4 N L B 4 2
Werkstoff Nr.	(1.4410)

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Mo	Cu
<0.04	0.5	0.8	25.3	9.8	4.0	0.25

Ferrite content FN 35-50

Typical properties of all weld metal

PWHT 600˚C/8h

Yield stress, Mpa	700
Tensile strength, MPa	900
Elongation A5, %	28

Charpy V

Test temps, ˚C	Impact values, J
+20	90
-20	70
-40	55
-60	45

Welding parameters

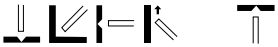
Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	50-80	23	0.62	93	0.8	48
3.2	350	60-100	23	0.63	46	1.1	68
4.0	350	100-140	23	0.62	32	1.6	70

OK 68.81
Acid-rutile

SMAW
E312-17

Description
OK 68.81 is a high-alloyed electrode which deposits a ferritic-austenitic duplex weld metal with approx. 40% ferrite. It is resistant to stress corrosion and is highly insensitive to dilution. Good scaling resistance up to 1150˚C. OK 68.81 is used for joining dissimilar steels, steels with reduced weldability and buffer layers prior to hardfacing. Applications: rolls, forging dies, hot-work tools, dies for plastics and so on.

Welding current
DC+, AC OCV 60 V



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
68812020K0	2.0	0.6	5.4	415.8
68812520K0	2.5	0.7	6.3	485.1
68813230G0	3.2	1.7	10.2	683.4
68814030G0	4.0	1.8	10.8	723.6
68815030G0	5.0	1.7	10.2	683.4

Classifications

SFA/AWS A5.4	E312-17
EN 1600	E 29 9 R 3 2
Werkstoff Nr.	1.4337

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni	Mo	Cu
0.12	0.7	0.8	29.0	9.8	<0.5	<0.3

Ferrite content FN 50-80

Typical properties of all weld metal

Yield stress, Mpa	610
Tensile strength, MPa	790
Elongation A5, %	22

Charpy V

Test temps, ˚C	Impact values, J
+20	30

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.0	300	35-60	22	0.64	123.0	0.7	41
2.5	300	50-85	24	0.64	78.0	0.9	48
3.2	350	80-125	25	0.62	42.0	1.3	65
4.0	350	110-175	26	0.62	26.0	2.0	66
5.0	350	150-240	28	0.65	16.5	3.2	68

Part I : Welding electrodes Repair & maintenance

ESAB 13Mn

Basic

SMAW

E7-UM-200-K

Description

ESAB 13Mn deposits an austenitic manganese steel alloy, which work-hardens under impact and compressive stresses. The electrode is primarily used for surfacing and building up manganese steel components such as crusher, jaws and hammers. The interpass temperature should be kept as low as possible.

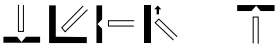
Applications:

For hardfacing on parts, subject to gritty abrasive wear combined with very high impact:

- Buckets and teeth
- Plates for rock and ore crushers
- Repairing of cast defects in Mn steel
- Crusher rolls
- Hammers

Welding current

DC+, AC OCV 70V



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
8608324NM0	3.2	5.4	16.2	874.8
8608404NM0	4.0	5.4	16.2	874.8
8608504NM0	5.0	5.5	16.5	891

Classifications

DIN 8555	E7-UM-200-K

Typical all weld metal composition, %

C	Si	Mn
1.1	0.8	13.0

Typical properties of all weld metal

Weld metal hardness, a w	180-200 HB
Weld metal hardness, w h	44-48 HRC
Machinability	Grinding
Impact resistance	Excellent
Metal-to-metal wear resistance	Very good

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V
3.2	450	95-135	23
4.0	450	130-180	23
5.0	450	170-230	25

ESAB 13Mn-Ni

Rutile-basic

SMAW

E7-UM-200-K

Description

ESAB 13Mn-Ni is an austenitic manganese steel electrode with nickel and chromium for surfacing and building-up manganese steel components exposed to severe impact and moderate abrasion. The deposit has better initial resistance to abrasion compared with plain austenitic manganese steel weld metal. Applications include crusher plates and rolls, cones and mantles of rotary crushers, rail crossings and the like.

Welding current

DC+ (-), AC OCV 60V

Classifications

DIN 8555	E7-UM-200-K

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni
0.8	0.4	13.0	4.5	3.5

Typical properties of all weld metal

Weld metal hardness	200-220 HB
Weld metal hardness	37-41 HRC
Machinability	Grinding
Impact resistance	Excellent

Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
8620404NM0	4.0	5.4	16.2	891
8620504NM0	5.0	5.8	17.4	939.6

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
3.2	450	125-160	21	0.61	33.0	1.40	86
4.0	450	160-220	23	0.61	21.0	2.00	91

ESAB 350

Rutile

SMAW

E1-UM-350

Description

ESAB 350 is a rutile electrode for hardfacing and cladding when hardness of 30-35 HRC is required from the weld metal.

Applications:

For hardfacing parts, subject to metal-to-metal wear, impact and also mild abrasion:

- Details in rolling mills
- Grooved rollers, connectors
- Rail materials
- Clutches and big cog wheels of cast steel
- Brake shoes
- Tracks
- Shafts
- Mine car and crane wheels

Welding current

DC+, AC OCV 55V OCV 70 V

Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
8330253ND0	2.5	2.1	12.6	882.0
8330323NM0	3.2	4.5	13.5	945.0
8330404NM0	4.0	5.5	16.5	891.0
8330504NM0	5.0	5.6	16.8	907.2

Classifications

DIN 8555	E1-UM-350

Typical all weld metal composition, %

C	Si	Mn	Cr
0.1	0.7	1.1	3.4

Typical properties of all weld metal

Weld metal hardness, a w	= 35 HRC
Machinability	Good
Impact resistance	Very good
Metal-to-metal wear resistance	Very good

Tempering resistance

Test temps, ˚C	HRC(1h)	HRC(24h)
100	33	33
300	33	33
400	34	34
500	35	28
600	27	17
700	18	

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V
2.5	350	70-120	25
3.2	350	90-180	26
4.0	450	140-240	26
5.0	450	160-310	27

ESAB 550

Basic

SMAW

E6-UM-55-G

Description

ESAB 550 is a hardfacing electrode depositing a semi-corrosion-resistant martensitic steel. Full hardness is obtained even in the first bead, irrespective of the cooling rate.

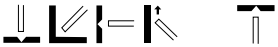
Applications:

For hardfacing parts exposed to abrasive and impact wear, such as:

- Farm equipment
- Forestry tools
- Loading machines
- Mixers

Welding current

DC+, AC OCV 65 V



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
8458253ND0	2.5	4.0	12.0	840.0
8458324NM0	3.2	5.2	15.6	842.4
8458404NM0	4.0	5.0	15.0	810.0
8458504NM0	5.0	5.0	15.0	810.0

Classifications

DIN 8555	E 6-UM-55-G

Typical all weld metal composition, %

C	Si	Mn	Cr
0.7	0.6	0.7	10.0

Typical properties of all weld metal

Weld metal hardness, a w	53-59 HRC
Machinability	Grinding only
Abrasion resistance	Very good
High temp. wear resistance	Good
Corrosion resistance	Good

Tempering resistance

Temp˚C/1h	HRC
100	55
200	55
300	52
400	50
500	54
600	46
700	31
Hardening temperature ˚C	950-1000
Quenching Medium	oil/air
Soft annealing ˚C	840-860

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V
2.5	350	75-110	23
3.2	450	110-150	23
4.0	450	145-200	24
5.0	450	190-270	26

ESAB 650

Rutile-basic

SMAW

E10-UM-60-CZ

Description

Electrode producing a weld metal with coarse chromium carbides in an austenitic matrix, suitable for surfacing worn parts exposed to abrasion but also in corrosive environment and/or elevated temperatures.

Applications:

- Earth moving machines
- Dust exhausters
- Mixers
- Feeder screws
- Crushers
- The parts exposed to wear by coal, ore and other minerals.

Welding current

DC+, AC OCV 50V

Classifications

DIN 8555	E10-UM-60-CZ

Typical all weld metal composition, %

C	Si	Mn	Cr
4.5	0.8	1.0	33.0

Typical properties of all weld metal

Weld metal hardness, a w	59-63 HRC
Machinability	Grinding only
Abrasion resistance	Excellent
High temp. wear resistance	Good
Corrosion resistance	Excellent

Tempering resistance

Test temps, ˚C	HRC
100	58
300	58
400	58
500	58
600	58
700	58

Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
8478323NM0	3.2	3.4	10.2	714.0
8478404NM0	4.0	5.0	15.0	810.0
8478504NM0	5.0	4.8	14.4	777.6

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V
2.5	350	90-120	24
3.2	350	115-170	24
4.0	450	130-210	26
5.0	450	150-300	26

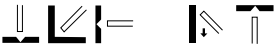
OK 21.03 Gouging

Description

OK 21.03 is designed for gouging, cutting and piercing mild and alloyed steel, cast iron and non-ferrous metals, with the exception of pure copper, using standard welding equipment. The electrode can be used in a wide variety of applications, such as beveling, the preparation of cracked areas before welding and the back gouging of root runs.

Welding current

AC, DC- OCV 70 V



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
2103323NM0	3.2	3.5	10.5	735.0
2103403NM0	4.0	3.3	9.9	693.0
2103504NM0	5.0	3.3	9.9	729.0

Procedure

The arc is struck with the electrode perpendicular to the work piece, after which the electrode is pointed in the direction of travel at an angle of about 15-20° and pushed forward. Gouging speed 100-150 cm/minute depending on the depth of the groove. Deep grooves can be made by repeated gouging. Welding can follow without further preparation, but, when gouging in stainless steel, a thin layer with increased carbon content is obtained and it should be removed by grinding. When using OK 21.03 indoors, it is necessary to have very good ventilation or fume extraction.

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V
2.5	350	100-120	43
3.2	350	130-180	43
4.0	350	170-230	48
5.0	450	230-300	48

OK 84.42
Rutile-basic

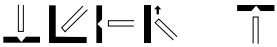
SMAW
E5-UM-45-R

Description
OK 84.42 is a hardfacing electrode depositing a corrosion-resistant, martensitic-ferritic stainless steel. Suitable for hardfacing shafts, wheel conveyors, racks and pinions, links and pins and valve seats of cast steel

Annealing and hardening of weld metal:
Soft annealing, ˚C: 780-800

Rehardening procedure:
Hardening temperature, ˚C: 950-1000
Quenching medium: compressed air or oil

Welding current
AC, DC+ OCV 70 V



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
8442253030	2.5	2.0	12.0	792.0
8442324030	3.2	2.5	15.0	735.0
8442404020	4.0	5.5	16.5	808.5
8442504020	5.0	5.3	15.9	779.1

Classifications
DIN 8555 E5-UM-45-R

Typical all weld metal composition, %

C	Si	Mn	Cr
0.12	0.5	<0.5	13.0

Typical properties of all weld metal

Weld metal hardness, a w 39-45 HRC

(no preheat, interpass temperature 250˚C)

1st layer:	35-41 HRC
2nd layer:	37-43 HRC
3rd layer:	39-45 HRC
Machinability	By cemented carbide tools
Metal-to-metal wear resistance	Very good
Abrasion resistance	Good
High temp. wear resistance	Very good
Corrosion resistance	Very good

Tempering resistance

Test temps, ˚C/1h	HRC
100	45
200	44
300	44
400	45
500	46
600	41
700	34

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	70-110	22	0.57	77.0	1.0	46
3.2	450	100-160	24	0.60	34.0	1.5	69
4.0	450	140-220	25	0.60	22.5	2.1	78
5.0	450	220-310	31	0.62	14.0	3.2	80

OK 84.52
Rutile-basic

SMAW
E6-UM-55-GR

Description

A general-purpose, hardfacing electrode depositing a corrosion-resistant, fully martensitic steel. The electrode is suitable for hardfacing shafts, racks and pinions, links and pins, valve seats of cast steel, mixer arms, feed gear, knives, loading buckets and track rollers. Generally, a preheat and interpass temperature of about 200˚C is recommended for most applications.

Annealing and hardening of weld metal:

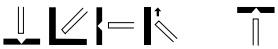
Soft annealing, ˚C:	780-800

Rehardening procedure:

Hardening temperature, ˚C:	950-1000
Quenching medium:	compressed air or oil

Welding current

AC, DC+ OCV 70 V



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
8452253030	2.5	2.0	12.0	792.0
8452324030	3.2	2.6	15.6	764.4
8452404020	4.0	5.5	16.5	808.5

Classifications

DIN 8555	E6-UM-55-GR

Typical all weld metal composition, %

C	Si	Mn	Cr
0.25	0.5	<0.5	13.0

Typical properties of all weld metal

Weld metal hardness, a w	49-55HRC

(no preheat, interpass temperature 250˚C)

1st layer:	43-49 HRC
2nd layer:	46-52 HRC
3rd layer:	49-55 HRC
Machinability	Grinding only
Abrasion resistance	Very good
High temp. wear resistance	Very good
Corrosion resistance	Very good

Tempering resistance

Test temps, ˚C/1h	HRC
100	52
200	50
300	50
400	53
500	55
600	47
700	35

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	70-110	22	0.55	80.0	0.9	48
3.2	450	100-160	24	0.58	35.0	1.4	70
4.0	450	140-220	25	0.58	23.0	2.0	80
5.0	450	220-310	31	0.60	14.5	3.0	80

OK 84.58
Lime-basic

SMAW
E6-UM-55-G

Description
OK 84.58 is a hardfacing electrode depositing a semi-corrosion-resistant martensitic steel. Full hardness is obtained even in the first bead, irrespective of the cooling rate. Suitable for hardfacing parts exposed to abrasive and impact wear, such as farm equipment, forestry tools, loading machines and mixers.

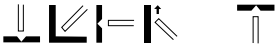
Annealing and hardening of weld metal:

Soft annealing, ˚C:	840-860

Rehardening procedure:

Hardening temperature, ˚C:	950-1000
Quenching medium:	compressed air or oil

Welding current
AC, DC+ OCV 65 V



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
8458253030	2.5	1.8	10.8	712.8
8458324030	3.2	2.4	14.4	705.6
8458404020	4.0	5.0	15.0	735.0
8458504020	5.0	5.0	15.0	735.0

Classifications

DIN 8555	E6-UM-55-G

Typical all weld metal composition, %

C	Si	Mn	Cr
0.7	0.6	0.7	10.0

Typical properties of all weld metal

Weld metal hardness, a w	53-59 HRC

(no preheat, interpass temperature 250˚C)

1st layer:	52-59 HRC
2nd layer:	52-59 HRC
3rd layer:	53-59 HRC
Machinability	Grinding only
Abrasion resistance	Very good
High temp. wear resistance	Good
Corrosion resistance	Good

Tempering resistance

Test temps, ˚C/1h	HRC
100	55
200	55
300	52
400	50
500	54
600	46
700	31

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	75-110	23	0.67	58.0	1.0	62
3.2	450	110-150	23	0.67	27.0	1.4	95
4.0	450	145-200	24	0.67	17.5	1.9	107
5.0	450	190-270	26	0.66	11.5	2.8	110
6.0	450	250-370	28	0.65	8.5	4.0	110

OK 84.76
Basic-special

SMAW
E6-UM-55-GR

Description

OK 84.76 is better known as “Sugar Electrode”, a special purpose electrode for roughening the side wall on sugar cane crushing rolls in order to reduce sugar cane slippage. The electrode deposits a dispersion of small, hard and highly wear resistant globules. Deposition can be done during maintenance periods when the roll is free from cane, either when running or stationary, or during milling operation directly on the sugar-impregnated surfaces.

Applications:

- Earth-drilling equipment
- Feeder screws
- Dredging parts
- Shovel bucket

Welding current

DC +, AC OCV 65V

Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
8476404NM0	4.0	4.5	13.5	729.0

Classifications

DIN 8555	E6-UM-55-GR

Typical all weld metal composition, %

C	Si	Cr	Mn
3.5	1.5	33	0.2

Typical properties of all weld metal

Weld metal hardness, a w	56-60 HRC
Machinability	Grinding only
Impact resistance	Very good
Abrasion resistance	Excellent

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V
4.0	450	140-220	32

OK 84.78
Rutile-basic

SMAW
E10-UM-60-CZ

Description

Electrode producing a weld metal with coarse chromium carbides in an austenitic matrix. Suitable for surfacing worn parts exposed to abrasion and wear by coal, ore or other minerals. Typical applications include earth-moving machines, mixers, feeder screws, dust exhausters and crushers. It can also be used on components operating in corrosive environments and/or at elevated temperatures.

Welding current
AC, DC+ OCV 50 V

Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
8478253030	2.5	1.8	10.8	712.8
8478323030	3.2	1.7	10.2	673.2
8478404020	4.0	5.0	15.0	735.0
8478504020	5.0	4.8	14.4	705.6

Classifications

DIN 8555 E10-UM-60-CZ

Typical all weld metal composition, %

C	Si	Mn	Cr
4.5	0.8	<1.6	33

Typical properties of all weld metal

Weld metal hardness, a w 59-63 HRC

(no preheat, interpass temperature 100˚C)
3rd layer: 59-63 HRC
(no preheat, interpass temperature 500˚C)
3rd layer: 55-61 HRC
Machinability Grinding only
Abrasion resistance Excellent
High temp. wear resistance Good
Corrosion resistance Excellent

Tempering resistance

Test temps, ˚C/1h	HRC
100	58
300	59
400	57
490	59
600	57
700	58

Welding parameters

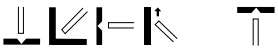
Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	90-120	24	0.62	48.0	1.2	60
3.2	350	115-170	24	0.62	26.0	1.6	85
4.0	450	130-210	26	0.64	13.5	2.0	135
5.0	450	150-300	26	0.64	9.0	2.9	140

OK 84.80
Special

SMAW
E10-UM-65-GZ

Description
OK 84.80 is a high-recovery electrode which deposits a high density of wear-resistant carbides in an austenitic matrix, resistant to extreme abrasion up to 700˚C. Typical applications include exhaust fans, ash ploughs, conveyor screws and sinter plant components.

Welding current
DC+



Classifications
DIN 8555 E10-UM-65-GZ

Typical all weld metal composition, %

C	Si	Mn	Cr	Mo	Nb	W	V
5.0	2.0	0.7	23.0	7.0	7.0	2.0	1.0

Typical properties of all weld metal

Weld metal hardness, a w (deposited on mild steel)	62-66 HRC
No preheat, interpass temperature 100˚C:	
1st layer:	57-61 HRC
2nd layer:	61-65 HRC
3rd layer:	62-66 HRC
Preheat and interpass temperature 60˚C:	
3rd layer	50-54 HRC
Machinability	Grinding only
Abrasion resistance	Excellent
High temp. wear resistance	Very good
Corrosion resistance	Excellent

Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
8480323030	3.2	1.7	10.2	673.2
8480403020	4.0	3.7	11.1	732.6

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
3.2	350	150-170	22	0.72	21.6	1.2	132
4.0	350	220-250	23	0.71	14.9	2.0	123

OK 84.84
Basic

SMAW
E10-UM-60-GP

Description
OK 84.84 is a hardfacing electrode depositing a weld metal with a high volume fraction of fine carbides in a martensitic matrix. It is designed for the protection of components subjected to severe abrasive wear. Typical applications: earth-drilling equipment, hammers, scrapers and knives, shovel buckets and shovel teeth.

Welding current
AC, DC+ - OCV 45 V

Classifications
DIN 8555 E10-UM-60-GP

Typical all weld metal composition, %

C	Si	Mn	Cr	V	Ti
3.0	2.0	<0.5	6.3	5.0	4.8

Typical properties of all weld metal

Weld metal hardness, a w	60-62 HRC
(deposited on mild steel, no preheat):	
1st layer:	62 HRC
Machinability	Grinding only
Impact resistance	Very good
Abrasion resistance	Excellent

Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
8484253030	2.5	1.9	11.4	752.4
8484323030	3.2	1.9	11.4	752.4
8484403020	4.0	4.2	12.6	831.6

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	70-100	17	0.63	71	0.5	105
3.2	350	100-150	17	0.60	44	0.7	110
4.0	350	115-200	17	0.64	27	1.0	120

OK 85.58
Lime-basic

SMAW
E3-UM-50-ST

Description

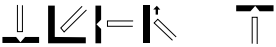
OK 85.58 is a hardfacing electrode for the repair welding of hot-working tools, hot trimming tools, punches and so on. The weld metal hardness can be increased by hardening and tempering, or by tempering alone. The weld metal can be step hardened. To avoid cracking, the preheat and interpass temperature should be at least 300˚C and preferably 500˚C.

Annealing and hardening of weld metal:

Soft annealing: 850˚C
Cooling:
10C/h down to 650˚C, then cooling in air
Hardening temperature, ˚C: 1100-1150
Quenching: 850˚C In air or oil

Welding current

AC, DC+ OCV 70 V



Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
8558253030	2.5	2.0	12.0	792.0
8558323030	3.2	1.9	11.4	752.4
8558403020	4.0	4.4	13.2	871.2
8558503020	5.0	4.4	13.2	871.2

Classifications

DIN 8555 E3-UM-50-ST

Typical all weld metal composition, %

C	Si	Mn	Cr	W	Co	Nb
0.32	1.1	1.0	1.8	8.0	2.0	0.8

Typical properties of all weld metal

Weld metal hardness, a w (deposited on mild steel) 42-50 HRC

preheat, interpass temperature 350˚C:
1st layer: 47-52 HRC
2nd layer: 47-52 HRC
3rd layer: 47-52 HRC
Machinability Grinding only
Abrasion resistance Good
High temp. wear resistance Very good

Tempering resistance

Test temps, ˚C	HRC
100	51
200	51
300	52
400	53
500	53
550	55
600	53
650	45
700	35

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	70-110	22	0.65	72.0	0.9	53
3.2	350	100-150	23	0.63	45.0	1.3	62
4.0	350	130-190	23	0.63	29.5	1.7	75
5.0	350	180-250	25	0.66	18.0	2.2	88

OK 85.65
Lime-basic

SMAW
E4-UM-60-S

Description
OK 85.65 deposits molybdenum-alloyed, high-speed steel. Suitable for metal cutting tools, punching tools, drills and stamping machines. Welded cutting edges can be put into use without tempering. For shaping machine tools and large cutting tools, untempered weld metal is recommended. To avoid cracking, the working temperature should be at least 300˚C, preferably between 400-500˚C.

Welding current
AC, DC+ OCV 70 V

Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
8565253030	2.5	1.8	10.8	712.8
8565323030	3.2	1.7	10.2	673.2
8565403020	4.0	3.8	11.4	752.4

Classifications
DIN 8555 E4-UM-60-S

Typical all weld metal composition, %

C	Si	Mn	Cr	Mo	W	V
0.9	1.5	1.3	4.5	7.5	1.8	1.5

Typical properties of all weld metal

Weld metal hardness, a w 59-61 HRC

(top of a three-layer deposit on mild steel, preheat, interpass temperature 450C)

As welded:	59-61 HRC
Tempered:	65-67 HRC
Soft annealed:	37-40 HRC
Machinability	Grinding only
Abrasion resistance	Good
High temp. wear resistance	Very good

Tempering resistance

Test temps, ˚C	HRC(1h)	HRC(2h)
20	60	60
100	60	60
300	60	60
400	58	58
550	62	66
700	40	40

Welding parameters

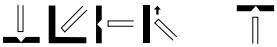
Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	80-110	23	0.55	67.0	0.8	67
3.2	350	100-150	23	0.57	40.0	1.1	82
4.0	350	120-190	25	0.58	26.5	1.4	97

OK 86.08
Lime-basic

SMAW
E7-UM-200-K

Description
OK 86.08 deposits an austenitic-manganese steel alloy which work-hardens under impact and compressive stresses. The electrode is primarily used for surfacing and building up manganese steel components such as crusher jaws and hammers. The interpass temperature should be kept as low as possible.

Welding current
AC, DC+ OCV 70 V



Classifications

DIN 8555	E7-UM-200-K

Typical all weld metal composition, %

C	Si	Mn
1.1	0.8	13.0

Typical properties of all weld metal

Weld metal hardness, a w (no preheat, interpass temperature 100-150˚C)	180-200 HB
Weld metal hardness, w h (approx. 25% reduction)	44-48 HRC
Machinability	Grinding
Impact resistance	Excellent
Metal-to-metal wear resistance	Very good

Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
8608324030	3.2	2.4	14.4	705.6
8608404020	4.0	5.9	17.7	867.3
8608504020	5.0	5.5	16.5	808.5

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
3.2	450	95-135	23	0.60	35.5	1.1	95
4.0	450	130-180	23	0.60	24.0	1.4	109
5.0	450	170-230	25	0.60	15.0	1.8	132

OK 86.28
Zirconium-basic

SMAW
EFeMn-A

Description

OK 86.28 is a high-recovery, austenitic-manganese steel electrode containing nickel. It produces a crack-resistant weld metal, which work-hardens under compressive stresses. It is intended for surfacing and building up Mn-steel components exposed to severe impact and moderate abrasion. Typical applications include crusher plates and rolls, bulldozer teeth, cones and mantels of rotary crushers, dredger buckets, rail crossings and so on. The interpass temperature should be kept as low as possible.

Welding current
AC, DC+ OCV 70 V

Packing/Ordering Information

Part Number	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
8628324030	3.2	2.2	13.2	646.8
8628404020	4.0	5.0	15.0	735.0
8628504020	5.0	5.0	15.0	735.0

Classifications

SFA/AWS A5.13 EFeMn-A

Typical all weld metal composition, %

C	Si	Mn	Ni
0.8	<0.3	14.0	3.5

Typical properties of all weld metal

Weld metal hardness, a w (no preheat, interpass temperature 100-150˚C)	160-180 HB
Weld metal hardness, w h (approx. 25% reduction)	42-46 HRC
Machinability (overheating must be avoided)	Grinding
Impact resistance	Excellent

Approvals

DB	20.039.05
Sepros	UNA 409820

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
3.2	450	100-160	30	0.54	26.5	1.5	90
4.0	450	130-210	30	0.54	17.5	2.0	105
5.0	450	170-300	31	0.56	11.0	2.9	114

Part I : Welding electrodes Nickel based alloys & Other non-ferrous

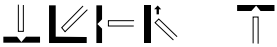
OK 92.15
Basic

SMAW
ENiCrFe-2

Description

OK 92.15 is a nickel-based electrode for welding Inconel 600 and similar alloys, cryogenic steels (e.g. 9%Ni and 5%Ni steels), martensitic to austenitic steels, dissimilar steels, heat-resistant steel castings of limited weldability and so on. The weldability is good in all positions, even in the overhead position.

Welding current
DC+



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
92152520K0	2.5	0.7	6.3	485.1
92153230K0	3.2	0.8	7.2	482.4
92154030G0	4.0	2.0	12.0	804.0

Classifications

SFA/AWS A5.11	ENiCrFe-2
EN ISO 14172	E Ni 6133 (NiCr16Fe12NbMo)

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni
<0.1	<0.75	2.3	15.5	70

Mo	Nb	Cu	Fe
1.5	2.0	<0.5	9.0

Typical properties of all weld metal

Yield stress, Mpa	420
Tensile strength, MPa	660
Elongation A4, %	45

Charpy V

Test temps, ˚C	Impact values, J
+20	110
-196	90

Approvals

ABS

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	50-80	22	0.63	91	0.9	45
3.2	350	70-105	23	0.62	57	1.3	57
4.0	350	95-140	24	0.65	31	2.1	58

OK 92.18

Basic special, high graphite

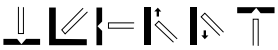
SMAW
ENi-CI

Description

A nickel-cored electrode for welding normal grades of cast iron. The weld metal is soft and easily machinable. Deposition is performed on cold or slightly preheated material. The electrode is suitable for joining cast iron for the rectification of casting and the repair of broken parts.

Welding current

AC, DC+ OCV 50 V



Classifications

SFA/AWS A5.15	ENi-CI
EN ISO 1071	E C Ni-CI 3

Typical all weld metal composition, %

C	Si	Mn	Ni	Fe
0.9	<0.9	<0.6	>92.0	3.5

Typical properties of all weld metal

Yield stress, Mpa	300
Hardness:	150 HB

Approvals

Sepros	UNA 409820

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
92182520K0	2.5	0.7	6.3	485.1
92183230K0	3.2	0.8	7.2	482.4
92184030G0	4.0	2.3	13.8	924.6

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	55-110	20	0.71	83.3	0.9	46
3.2	350	80-140	20	0.68	44.8	1.2	66
4.0	350	100-190	20	0.70	29.4	1.7	71

OK 92.26
Basic

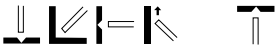
SMAW
ENiCrFe-3

Description

A nickel-based electrode for welding nickel alloys such as Inconel 600 and similar Inconel alloys, cryogenic steels, martensitic to austenitic steels, dissimilar steels, heat-resistant steels and castings with limited weldability.

Welding current

DC+



Classifications

SFA/AWS A5.11	ENiCrFe-3
EN ISO 14172	E Ni 6182 (NiCr15Fe6Mn)

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni
0.03	0.5	6.6	15.8	67

Nb	Cu	Ti	Ta	Fe
1.7	<0.5	<0.5	<0.3	8.8

Typical properties of all weld metal

Yield stress, Mpa	410
Tensile strength, MPa	640
Elongation A4, %	40

Charpy V

Test temps, ˚C	Impact values, J
+20	100
-196	80

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
92262520K0	2.5	0.7	6.3	485.1
92263230K0	3.2	0.7	6.3	422.1
92264030G0	4.0	2.0	12.0	804.0
92265030G0	5.0	1.9	11.4	763.8

Approvals

ABS	ENiCrFe-3
Sepros	UNA 409820
UDT	DIN 1736

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	45-70	22	0.63	88	0.9	50
3.2	350	70-105	23	0.62	57	1.2	60
4.0	350	90-130	24	0.64	31	2.0	60
5.0	350	120-170	25	0.64	20	2.7	68

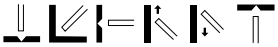
OK 92.45
Basic

SMAW
ENiCrMo-3

Description

OK 92.45 is a NiCrMoNb-based electrode for welding nickel alloys of the same or similar type, like Inconel 625, and for welding 5%Ni and 9%Ni steel. OK 92.45 is also suitable for welding of 254 SMO, ie. UNS S31254 steel.

Welding current
DC+



Classifications

SFA/AWS A5.11	ENiCrMo-3
EN ISO 14172	E Ni 6625 (NiCr22Mo9Nb)

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni
0.03	0.4	0.2	21.7	63

Mo	Nb	Cu	Ai	Fe
9.3	3.3	<0.3	<0.4	2.0

Typical properties of all weld metal

Yield stress, Mpa	500
Tensile strength, MPa	780
Elongation A5, %	35

Charpy V

Test temps, ˚C	Impact values, J
+20	70
-196	50

Approvals

VdTUV	06833

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
92452520K0	2.5	0.6	5.4	415.8
92453230K0	3.2	0.7	6.3	422.1
92454030G0	4.0	1.8	10.8	723.6
92455030G0	5.0	2.0	12.0	804.0

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	50-80	23	0.6	100	0.9	40
3.2	350	70-110	25	0.6	49	1.4	52
4.0	350	100-140	27	0.6	33	1.9	57
5.0	350	120-170	24	0.6	21	2.1	72

OK 92.55
Basic

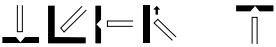
SMAW
ENiCrMo-6

Description

Ok 92.55 is an all-positional, basic-coated electrode which deposits a NiCr-based alloy with additions of Mo, W and Nb. The electrode is specifically designed for welding 9%Ni steels for cryogenic applications down to -196˚C.

Welding current

AC, DC+- OCV 55 V



Classifications

SFA/AWS A5.11	ENiCrMo-6
EN ISO 14172	E Ni 6620 (NiCr14Mo7Fe)

Typical all weld metal composition, %

C	Si	Mn	Cr	Ni
0.05	0.3	3.0	13.0	69

Mo	W	Nb	Cu	Fe
6.2	1.6	1.3	<0.3	5.0

Typical properties of all weld metal

Yield stress, Mpa	>430
Tensile strength, MPa	>690
Elongation A4, %	>35

Charpy V

Test temps, ˚C	Impact values, J
-196	>70

Approvals

ABS	ENiCrMo-6
BV	N50, N90
DNV	For welding NV 1.5 Ni to NV 9Ni

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
92552530K0	2.5	0.8	7.2	482.4
92553230G0	3.2	2.0	12.0	804.0
92554030G0	4.0	2.0	12.0	804.0
92555030G0	5.0	2.1	12.6	844.2

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	65-115	22	0.66	34	1.5	68
3.2	350	70-150	22	0.66	34	1.5	68
4.0	350	120-200	22	0.67	23	1.9	82
5.0	350	150-240	23	0.68	14	2.8	91

OK 92.58
Basic special high graphite

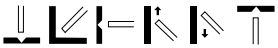
SMAW
ENiFe-CI-A

Description

A nickel-iron-cored electrode for joining normal grades of cast iron, such as grey, ductile and malleable irons. It is also suitable for the rectification and repair of these grades and for joining them to steel. Deposition is performed on cold or slightly preheated cast iron. The weld metal is stronger and more resistant to impurities than the nickel-cored type.

Welding current

AC, DC+- OCV 50 V



Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
92582520K0	2.5	0.7	6.3	485.1
92583230K0	3.2	0.7	6.3	422.1
92584030G0	4.0	1.9	11.4	763.8

Classifications

SFA/AWS A5.15	ENiFe-CI-A
EN ISO 1071	E C NiFe-CI-A 1

Typical all weld metal composition, %

C	Si	Mn	Ni	Ai	Fe
1.5	0.7	0.8	51	1.4	46

Typical properties of all weld metal

Tensile strength, MPa	375
Hardness (HB), %	180

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	55-75	21	0.70	90	0.6	70
3.2	350	75-100	23	0.70	45	0.9	90
4.0	350	85-160	24	0.70	30	1.8	70

OK 92.60

Basic special high graphite

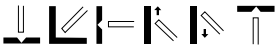
SMAW
ENiFe-C1

Description

OK 92.60 is a nickel-iron electrode for welding normal grades of cast iron and for joining them to steel. Its special iron jacketed Ni core wire gives the electrode much-improved current carrying capacity when compared to electrodes with a homogenous core wire. OK 92.60 produces a weld metal that is stronger and more resistant to solidification cracking than the nickel electrodes types, and is also used for welding of cast iron.

Welding current

DC+, AC OCV 45V



Classifications

AWS A5.15	ENiFe-CI
DIN 8573	E NiFe-1-BG 11

Typical all weld metal composition, %

C	Si	Mn	P	S
0.95	0.4	0.7	0.01	0.005

Ni	Nb	Cu	Ai	Fe
52	0.2	0.95	0.3	44

Typical properties of all weld metal

Yield stress, Mpa	380
Tensile strength, MPa	560
Elongation, %	>15

Approvals

Sepros	UNA 409820

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
92602520K0	2.5	0.8	7.2	554.4
92603230K0	3.2	0.7	6.3	422.1
92604030G0	4.0	2.1	12.6	844.2
92605030G0	5.0	2.0	12.0	804.0

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	300	60-100	22	0.70	85.0	0.80	45
3.2	350	80-150	23	0.70	44.0	1.20	56
4.0	350	100-200	23	0.70	30.0	1.60	59
5.0	350	150-250	23	0.70	19.0	2.40	66

OK 94.25
Basic

SMAW
EL-CuSn7

Description

Electrode for welding copper and bronzes, especially tin bronzes. It is also suitable for cladding steels and for small-scale repair work in weldable cast irons.

Welding current
DC+

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
94252530K0	2.5	0.9	8.1	542.7
94253230K0	3.2	0.8	7.2	482.4
94254030G0	4.0	2.6	15.6	1045.2

Classifications

DIN 1733 EL-CuSn7

Typical all weld metal composition, %

Mn	P	Cu	Sn	Fe
<0.5	<0.1	92.5	7.0	<0.2

Typical properties of all weld metal

Yield stress, Mpa	235
Tensile strength, MPa	330-390
Elongation A5, %	25

Hardness(HB):
(Preheat and interpass temp. 300˚C) 95

Charpy V

Test temps, ˚C	Impact values, J
+20	25
0	20

Approvals

Sepros UNA 409820

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Elec-todes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	60-90	22	0.71	77.0	1.2	39
3.2	350	90-125	24	0.72	46.0	1.9	40
4.0	350	125-170	25	0.74	30.5	2.9	41

OK 94.55
Basic

SMAW
EL - CuSi3

Description
OK 94.55 is an electrode for welding silicon bronzes and certain special types of brass. It is also suitable for overlaying bearing surfaces and corrosion-resistant surfacing on steel.

Welding current
DC+

Classifications

DIN 1733	EL-CuSi3
Werkstoff	Nr.2.1461

Typical all weld metal composition, %

C	Si	Cu	P
3.0	<1.5	95.5	<0.02

Packing/Ordering Information

Part Number VacPac	Dia mm	Inner Carton (kg)	Carton Weight (kg)	Pallet Weight (kg)
94552530K0	2.5	0.7	6.3	422.1
94553230K0	3.2	0.7	6.3	422.1

Welding parameters

Diameter, mm	Length, mm	Welding Current, A	Arc Voltage, V	N. Kg Weld Metal/(kg) Electrodes	B. No. of Electodes/ (kg) Weld metal	H. Kg weld Metal/(hour) Arc Time	T. Burn-off time, (secs)/ Electrode
2.5	350	55-95	25	0.67	77	1.1	42
3.2	350	85-130	28	0.67	47	1.7	45
4.0	350	110-165	28	0.67	32	2.3	50