OK 61.25

OK 61.25 is a basic coated, stainless-steel electrode of the 308H type. The electrode is designed for high-temperature applications in petrochemical and chemical process plants.

Classifications:	EN 1600:E 19 9 H B 2 2, SFA/AWS A5.4:E308H-15
Approvals:	Seproz UNA 272580

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	430 MPa (62 ksi)	600 MPa (87 ksi)	45 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As Welded	20 °C (68 °F)	95 J (70 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Ferrite FN	N
0.06	1.7	0.3	9.8	18.8	4	0.06

Deposition Data

Diameter	Current	Voltage	kg weld metal/ kg electrodes	Number of electrodes/ kg weld metal	Fusion time per electrode at 90% I max	Deposition rate 90% I max
2.5 x 300 mm (3/32 x 12 in.)	55-85 A	23 V	0.62	93	47 s	0.9 kg/h (2.0 lb/h)
3.2 x 350 mm (1/8 x 14 in.)	75-110 A	23 V	0.59	49	66 s	1.2 kg/h (2.6 lb/h)
4.0 x 350 mm (5/32 x 14 in.)	80-160 A	24 V	0.61	32	68 s	1.8 kg/h (4.0 lb/h)

OK 61.81

Nb-stabilized MMA-electrode for welding Nb- or Ti-stabilized stainless steel of the 19Cr10Ni-type. OK 61.81 has a better hot cracking resistance compared with OK 61.80. Owing to the quite high ferrite content level, the working temperature should be limited to maximum 400°C.

Classifications:	EN ISO 3581-A:E 19 9 Nb R 3 2, SFA/AWS A5.4:E347-16, Werkstoffnummer :1.4551
Approvals:	CE EN 13479, DNV 347, NAKS/HAKC 3.2 mm

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As welded	560 MPa (81 ksi)	700 MPa (101.5 ksi)	31 %
Creep resistance++ 500°C (932°F) 20000h	-	310 MPa (45 ksi)	-
Creep resistance 600°C (1112°F) 10000h	-	135 MPa (19.5 ksi)	-
Creep resistance++ 500°C (932°F) 10000h	-	330 MPa (48 ksi)	-

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As welded	20 °C (68 °F)	60 J (44 ft-lb)
As welded	-10 °C (14 °F)	71 J (52 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	N	Nb	Ferrite FN
0.06	1.7	0.7	9.7	20.2	0.08	0.72	7

Deposition Data

Diameter	Current	Voltage	kg weld metal/ kg electrodes	Number of electrodes/kg weld metal	Fusion time per electrode at 90% I max	Deposition rate 90% I max
2.0 x 300 mm (5/64 x 12 in.)	40-60 A	26 V	0.60	147	39 s	0.6 kg/h (1.3 lb/h)
2.5 x 300 mm (3/32 x 12 in.)	50-80 A	29 V	0.59	82	36 s	1.2 kg/h (2.6 lb/h)
3.2 x 350 mm (1/8 x 14 in.)	75-115 A	23 V	0.60	44	66 s	1.2 kg/h (2.6 lb/h)
4.0 x 350 mm (5/32 x 14 in.)	80-160 A	24 V	0.60	32	66 s	1.7 kg/h (3.7 lb/h)
5.0 x 350 mm (3/16 x 14 in.)	140-210 A	25 V	0.60	20	78 s	2.3 kg/h (5.1 lb/h)

OK 61.85

Nb-stabilized basic coated electrode designed for welding of Nb- or Ti-stabilized stainless steels of the 19Cr10Ni-type. OK 61.85 provides the best hot cracking resistance of the products belonging to the 347 range. Due to the relatively high ferrite content level, the maximum working temperature should be limited to 400°C.

Classifications:	Werkstoffnummer :1.4551, EN ISO 3581-A:E 19 9 Nb B 2 2, SFA/AWS A5.4:E347-15
Approvals:	Seproz UNA 272580, NAKS/HAKC 2.5-4.0 mm, VdTÜV 05663

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As welded	500 MPa (72.5 ksi)	620 MPa (90 ksi)	40 %
Stress relieved 16 hr 600 °C (1112 °F)	500 MPa (72.5 ksi)	640 MPa (93 ksi)	40 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As welded	20 °C (68 °F)	100 J (74 ft-lb)
As welded	-60 °C (-76 °F)	70 J (52 ft-lb)
Stress relieved 16 hr 600 °C (1112 °F)	20 °C (68 °F)	80 J (59 ft-lb)
Stress relieved 16 hr 600 °C (1112 °F)	-60 °C (-76 °F)	40 J (29.5 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	N	Nb	Ferrite FN
0.04	1.7	0.4	10.2	19.5	0.07	0.61	6

Deposition Data

Diameter	Current	Voltage	kg weld metal/ kg electrodes	Number of electrodes/ kg weld metal	Fusion time per electrode at 90% I max	Deposition rate 90% I max
2.5 x 300 mm (3/32 x 12 in.)	55-80 A	25 V	0.60	98	42 s	0.9 kg/h (2.0 lb/h)
3.2 x 350 mm (1/8 x 14 in.)	75-110 A	23 V	0.62	49	64 s	1.2 kg/h (2.6 lb/h)
4.0 x 350 mm (5/32 x 14 in.)	80-150 A	24 V	0.61	33	70 s	1.6 kg/h (3.5 lb/h)

OK 67.13

OK 67.13 is an austenitic, stainless-steel electrode for welding 25Cr20Ni steels. The weld metal resists scaling up to 1100-1150°C and does not contain any measureable ferrite. OK 67.13 can also be used for welding certain air-hardening steels such as armour plate and for welding stainless to unalloyed steel.

Classifications:	EN ISO 3581-A:E 25 20 R 1 2, SFA/AWS A5.4:E310-16, Werkstoffnummer :1.4842

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As welded	430 MPa (62 ksi)	600 MPa (87 ksi)	35 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As welded	20 °C (68 °F)	90 J (66 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr
0.12	1.9	0.6	21.1	25.6

Deposition Data

Diameter	Current	Voltage	kg weld metal/ kg electrodes	Number of electrodes/ kg weld metal	Fusion time per electrode at 90% I max	Deposition rate 90% I max
2.5 x 300 mm (3/32 x 12 in.)	50-85 A	21 V	0.51	101	42 s	0.8 kg/h (1.8 lb/h)
3.2 x 350 mm (1/8 x 14 in.)	65-120 A	24 V	0.51	53	58 s	1.2 kg/h (2.6 lb/h)
4.0 x 350 mm (5/32 x 14 in.)	70-160 A	28 V	0.51	34	61 s	1.7 kg/h (3.7 lb/h)
5.0 x 350 mm (3/16 x 14 in.)	150-220 A	31 V	0.54	21	67 s	2.6 kg/h (5.7 lb/h)

OK 67.43

OK 67.43 is an austentitic, stainless steel, AC/DC electrode, which deposits a weld metal with a small amount of uniformly distributed ferrite. The tough weld metal has excellent crack resistance, even when welding steels with very poor weldability. Suitable for welding 13Mn steels and steels of this kind to other steels.

Classifications:	EN 14700:E Fe10, EN ISO 3581-A:E 18 8 Mn R 1 2, SFA/AWS A5.4:(E307-16), Werkstoffnummer :1.4370
Approvals:	CE EN 13479, DB 30.039.07, VdTÜV 06797

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As welded	440 MPa (64 ksi)	630 MPa (91 ksi)	35 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As welded	20 °C (68 °F)	80 J (59 ft-lb)
As welded	-60 °C (-76 °F)	52 J (38 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	N	Ferrite FN
0.08	5.4	0.8	9.1	18.4	0.08	0

Deposition Data

Diameter	Current	Voltage	kg weld metal/ kg electrodes	Number of electrodes/ kg weld metal	Fusion time per electrode at 90% I max	Deposition rate 90% I max
2.5 x 300 mm (3/32 x 12 in.)	60-80 A	22 V	0.51	106	46 s	0.8 kg/h (1.8 lb/h)
3.2 x 350 mm (1/8 x 14 in.)	90-115 A	23 V	0.54	57	54 s	1.3 kg/h (2.8 lb/h)
4.0 x 350 mm (5/32 x 14 in.)	100-150 A	23 V	0.56	35	61 s	1.7 kg/h (3.7 lb/h)
5.0 x 350 mm (3/16 x 14 in.)	130-210 A	24 V	0.60	17	86 s	2.8 kg/h (6.2 lb/h)

OK 67.45

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. Also suitable for buffer layers before hardfacing.

Classifications:	EN 1600:E 18 8 Mn B 4 2, SFA/AWS A5.4:(E307-15)
Approvals:	CE EN 13479 , ABS Stainless , Sepros UNA 272580 , VdTÜV 01580

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	470 MPa (68 ksi)	605 MPa (88 ksi)	35 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As Welded	20 °C (68 °F)	85 J (63 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	N	Ferrite FN
0.09	6.3	0.3	9.1	18.8	0.06	1

Deposition Data

Diameter	Current	Voltage	kg weld metal/ kg electrodes	Number of electrodes/ kg weld metal	Fusion time per electrode at 90% I max	Deposition rate 90% I max
2.5 x 300 mm (3/32 x 12 in.)	50-80 A	23 V	0.58	102	50 s	0.7 kg/h (1.5 lb/h)
3.2 x 350 mm (1/8 x 14 in.)	70-100 A	24 V	0.60	51	71 s	1.1 kg/h (2.4 lb/h)
4.0 x 350 mm (5/32 x 14 in.)	80-140 A	24 V	0.60	33	73 s	1.5 kg/h (3.3 lb/h)
5.0 x 350 mm (3/16 x 14 in.)	150-200 A	25 V	0.60	22	80 s	2.2 kg/h (4.8 lb/h)

OK 67.50

OK 67.50 is an acid rutile coated type for welding of austenitic-ferritic stainless steels of CrNiMoN 22 5 3 - and CrNiN 23 4-types. The duplex all weld metal offers a high strength level combined with good ductility. The pitting corrosion resistance is good and the all weld metal is not sensitive for stress corrosion cracking.

Classifications:	EN ISO 3581-A:E 22 9 3 N L R 3 2, SFA/AWS A5.4:E2209-17, CSA W48:E2209-17, Werkstoffnummer :1.4462
Approvals:	CE EN 13479, Seproz UNA 272580, ABS Stainless*, BV 2209, CWB CSA W48: E2209-17, DNV For duplex SS, GL 4462, VdTÜV 04368

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	660 MPa (96 ksi)	857 MPa (124 ksi)	25 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As Welded	20 °C (68 °F)	50 J (37 ft-lb)
As Welded	-30 °C (22 °F)	41 J (30 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Mo	N	Ferrite FN
0.03	0.8	0.8	8.8	23.2	3.2	0.16	42

Deposition Data

Diameter	Current	Voltage	Efficiency (%)
2 mm (5/64 in.)	30-65 A	29 V	0-108 %
2.5 mm (3/32 in.)	50-90 A	27 V	0-108 %
3.2 mm (1/8 in.)	80-120 A	28 V	0-108 %
4 mm (5/32 in.)	100-160 A	29 V	0-108 %
5 mm (3/16 in.)	150-220 A	30 V	0-108 %

OK 67.55

OK 67.55 is a basic coated electrode especially designed for welding duplex stainless steels i, e. 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.

Classifications:	Werkstoff Nr.:1.4462, EN 1600:E 22 9 3 N L B 2 2, SFA/AWS A5.4:E2209-15
Approvals:	Sepros UNA 272580 , DNV For duplex SS , VdTÜV 06774

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	650 MPa (94 ksi)	800 MPa (116 ksi)	28 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As Welded	20 °C (68 °F)	100 J (74 ft-lb)
As Welded	-20 °C (-4 °F)	85 J (63 ft-lb)
As Welded	-40 °C (-40 °F)	75 J (55 ft-lb)
As Welded	-60 °C (-76 °F)	65 J (48 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Mo	N	Ferrite FN
0.04	1.0	0.7	9.1	23.2	3.2	0.15	41

Deposition Data

Diameter	Current	Voltage	kg weld metal/ kg electrodes	Number of electrodes/ kg weld metal	Fusion time per electrode at 90% I max	Deposition rate 90% I max
2.5 x 300 mm (3/32 x 12 in.)	50-80 A	23 V	0.59	96	49 s	0.8 kg/h (1.8 lb/h)
3.2 x 350 mm (1/8 x 14 in.)	65-115 A	24 V	0.59	50	61 s	1.2 kg/h (2.6 lb/h)
4.0 x 350 mm (5/32 x 14 in.)	80-140 A	24 V	0.60	33	74 s	1.5 kg/h (3.3 lb/h)

OK 67.70

Acid rutile MMA-electrode giving an over alloyed weld metal. Suitable for welding acid resistant stainless steels to mild and low alloyed steels. Also suitable for welding buffer layers when surfacing mild steel with acid resistant stainless steel weld metal.

Classifications:	EN ISO 3581-A:E 23 12 2 L R 3 2, SFA/AWS A5.4:E309LMo-17, CSA W48:E309LMo-17, Werkstoffnummer :1.4459
Approvals:	CE EN 13479, Seproz UNA 272580, ABS SS to C&C/Mn steels, BV 309Mo, CWB CSA W48: E309LMo-17, DB 30.039.05, DNV 309 Mo, LR SS/CMn, RINA 309Mo, VdTÜV 02424

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	510 MPa (74 ksi)	610 MPa (88.5 ksi)	32 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As Welded	20 °C (68 °F)	50 J (37 ft-lb)
As Welded	-20 °C (-4 °F)	> 32 J (24 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Mo	N	Ferrite FN
0.02	0.6	0.8	13.4	22.5	2.8	0.09	18

Deposition Data

Diameter	Current	Voltage	Efficiency (%)
2 mm (5/64 in.)	40-60 A	26 V	120 %
2.5 mm (3/32 in.)	50-90 A	29 V	120 %
3.2 mm (1/8 in.)	60-120 A	27 V	120 %
4 mm (5/32 in.)	85-180 A	31 V	120 %
5 mm (3/16 in.)	110-250 A	30 V	120 %

OK 68.17

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.

Classifications:	EN 14700:E Fe7, EN ISO 3581-A:E 13 4 R 3 2, SFA/AWS A5.4:E410NiMo-16, Werkstoffnummer :1.4351
Approvals:	Seproz UNA 272580

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	650 MPa (94 ksi)	870 MPa (126 ksi)	17 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As Welded	+20 °C (68 °F)	45 J (33 ft-lb)
As Welded	-10 °C (14 °F)	45 J (33 ft-lb)
As Welded	-40 °C (-40 °F)	40 J (29.5 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Mo
0.02	0.6	0.4	4.6	12.0	0.6

Deposition Data

Diameter	Current	Voltage	Efficiency (%)
2.5 mm (3/32 in.)	55-100 A	21 V	110-118 %
3.2 mm (1/8 in.)	65-135 A	21 V	110-118 %
4 mm (5/32 in.)	90-190 A	24 V	110-118 %

OK 68.53

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.

Classifications:	EN ISO 3581-A:E 25 9 4 N L R 32, SFA/AWS A5.4:E2594-16, Werkstoffnummer :(1.4410)
Approvals:	DNV , CE EN 13479, VdTÜV 07377

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	700 MPa (101.5 ksi)	850 MPa (123 ksi)	30 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As Welded	+20 °C (68 °F)	50 J (37 ft-lb)
As Welded	-40 °C (-40 °F)	40 J (29.5 ft-lb)

Typical Weld Metal Analysis %

C	Si	Ni	Cr	Mo	N	Ferrite FN
0.03	0.6	10.3	25.2	4	0.25	39

Deposition Data

Diameter	Current	Voltage	Efficiency (%)
2.5 mm (3/32 in.)	55-85 A	22 V	106 %
3.2 mm (1/8 in.)	70-110 A	22 V	106 %
4 mm (5/32 in.)	80-150 A	23 V	106 %

OK 68.81

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.

Classifications:	EN 14700:E Fe11, EN ISO 3581-A:E 29 9 R 3 2, SFA/AWS A5.4:E312-17, Werkstoffnummer :1.4337
Approvals:	CE EN 13479, Seproz UNA 272580

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	610 MPa (88.5 ksi)	790 MPa (114.5 ksi)	22 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As Welded	+20 °C (68 °F)	30 J (22 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Mo	N	Ferrite FN
0.13	0.9	0.7	10.2	28.9	0.04	0.09	40

Deposition Data

Diameter	Current	Voltage
2 mm (5/64 in.)	40-60 A	22 V
2.5 mm (3/32 in.)	50-85 A	24 V
3.2 mm (1/8 in.)	60-125 A	25 V
4 mm (5/32 in.)	80-175 A	26 V
5 mm (3/16 in.)	150-240 A	28 V

OK Ni-1

OK Ni-1 is a stick electrode for joining commercial pure nickel in wrought and cast forms. It can also be used to join dissimilar metals such as nickel to steel, nickel to copper and copper to steel. Moreover, this electrode can be used for surfacing steel.

Classifications:	SFA/AWS A5.11:ENi-1, EN ISO 14172:E Ni 2061 (NiTi3)

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As welded	330 MPa (48 ksi)	470 MPa (68 ksi)	30 %

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Al	Fe	Ti
0.04	0.4	0.7	96	0.10	0.4	1.5

Deposition Data

Diameter	Current	kg weld metal/ kg electrodes	Number of electrodes/ kg weld metal	Fusion time per electrode at 90% I max	Deposition rate 90% I max
2.5 x 300 mm (3/32 x 12 in.)	70-95 A	0.55	96	47 s	0.8 kg/h (1.8 lb/h)
3.2 x 350 mm (1/8 x 14 in.)	90-135 A	0.55	53	56 s	1.2 kg/h (2.6 lb/h)

OK NiCu 1

OK NiCu 1 is a nickel-copper electrode of the monel-alloy type for welding all types of cast iron with or without low preheat. The weld metal is easily machinable and produces a colour very similar to that of cast iron.

Classifications:	EN ISO 1071:E C NiCu 1

Typical Tensile Properties

Condition	Tensile Strength	Elongation
As Welded	300-350 MPa (43.5-51 ksi)	15 %

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cu	Fe
0.45	0.9	<0.2	63.5	32	3

Deposition Data

Diameter	Current	Voltage	Efficiency (%)
2.5 mm (3/32 in.)	50-100 A	18 V	95 %
3.2 mm (1/8 in.)	60-125 A	18 V	95 %
4 mm (5/32 in.)	90-140 A	18 V	95 %

OK NiCu-7

A nickel-copper electrode for welding NiCu alloys to themselves and to steels and for corrosion-resistant surfacing. The weld metal of OK NiCu-7 is crack resistant and ductile and meets rigorous requirements relating to corrosion resistance in sea water and in reducing and oxidising acids. OK NiCu-7 is used for welding corrosion-resistant monel alloys within the petroleum and ammonium sulphate industry and in power plants.

Classifications:	SFA/AWS A5.11:ENiCu-7, EN ISO 14172:E Ni 4060 (NiCu30Mn3Ti)

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As Welded	410 MPa (59.5 ksi)	640 MPa (93 ksi)	40 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As Welded	+20 °C (68 °F)	100 J (74 ft-lb)
As Welded	-196 °C (-321 °F)	80 J (59 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cu	Fe	Ti
0.02	3.0	0.5	66	29	1.9	0.4

Deposition Data

Diameter	Current	Voltage	Efficiency (%)
2.5 mm (3/32 in.)	50-70 A	22 V	105 %
3.2 mm (1/8 in.)	70-120 A	26 V	105 %
4 mm (5/32 in.)	120-140 A	28 V	105 %

OK NiCrFe-2

Nickel based electrode for welding Inconel 600 and similar alloys, cryogenic steels (e.g. 9% and 5% Ni steel), martensitic to austenitic steels, dissimilar steels, heat resisting steel castings of limited weldability etc. Good weldability in all positions, including overhead.

Classifications:	SFA/AWS A5.11:ENiCrFe-2, EN ISO 14172:E Ni 6133 (NiCr16Fe12NbMo)
Approvals:	ABS

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As welded	420 MPa (61 ksi)	660 MPa (96 ksi)	45 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As welded	20 °C (68 °F)	110 J (81 ft-lb)
As welded	-196 °C (-321 °F)	90 J (66 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Mo	Fe	Nb
0.03	2.7	0.5	69	16.1	1.9	7.7	1.9

Deposition Data

Diameter	Current	Voltage	kg weld metal/ kg electrodes	Number of electrodes/ kg weld metal	Fusion time per electrode at 90% I max	Deposition rate 90% I max
2.5 x 300 mm (3/32 x 12 in.)	50-80 A	22 V	0.63	91.0	45 s	0.9 kg/h (2.0 lb/h)
3.2 x 350 mm (1/8 x 14 in.)	70-105 A	23 V	0.62	57.0	57 s	1.3 kg/h (2.9 lb/h)
4.0 x 350 mm (5/32 x 14 in.)	95-140 A	24 V	0.65	31.0	58 s	2.1 kg/h (4.6 lb/h)

OK NiCrFe-3

Nickel based electrode for welding Inconel 600 and similar Inconel alloys, cryogenic steels, martensitic to austenitic steels, dissimilar steels, heat resisting steel castings of limited weldability.

Classifications:	SFA/AWS A5.11:ENiCrFe-3, EN ISO 14172:E Ni 6182 (NiCr15Fe6Mn)
Approvals:	ABS ENiCrFe-3, NAKS/HAKC 4.0 mm

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As welded	410 MPa (59 ksi)	640 MPa (93 ksi)	40 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As welded	20 °C (68 °F)	100 J (74 ft-lb)
As welded	-196 °C (-321 °F)	80 J (59 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Fe	Nb
0.04	6.7	0.8	71	15.6	6.3	1.7

Deposition Data

Diameter	Current	Voltage	kg weld metal/ kg electrodes	Number of electrodes/ kg weld metal	Fusion time per electrode at 90% I max	Deposition rate 90% I max
2.5 x 300 mm (3/32 x 12 in.)	50-70 A	22 V	0.63	88	50 s	0.9 kg/h (2.0 lb/h)
3.2 x 350 mm (1/8 x 14 in.)	65-105 A	23 V	0.62	57	60 s	1.2 kg/h (2.6 lb/h)
4.0 x 350 mm (5/32 x 14 in.)	75-150 A	24 V	0.64	31	60 s	2.0 kg/h (4.4 lb/h)
5.0 x 350 mm (3/16 x 14 in.)	120-170 A	25 V	0.64	20	68 s	2.7 kg/h (6.0 lb/h)

OK NiCrMo-3

Ni-based CrMoNb electrode for welding of Ni-alloys of the same or similar type as e.g. Inconel 625, for welding of 5% and 9% Ni steel. The electrode is very suitable for welding of 254 SMO, i.e. UNS S31254 steel.

Classifications:	SFA/AWS A5.11:ENiCrMo-3, EN ISO 14172:E Ni 6625 (NiCr22Mo9Nb)
Approvals:	CE EN 13479, DNV -(H5), VdTÜV 12414

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As welded	500 MPa (72.5 ksi)	780 MPa (113 ksi)	35 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As welded	20 °C (68 °F)	70 J (52 ft-lb)
As welded	-196 °C (-321 °F)	50 J (37 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Mo	Fe	Nb
0.03	0.2	0.4	62.8	21.7	9.3	2.0	3.3

OK NiCrMo-5

OK NiCrMo-5 deposits an all weld metal that is similar to AWS classification ENiCrMo-5. The all weld metal consists of a Ni-Cr-Mo-W alloy of Hastelloy C type. The weld metal is tough and work hardens. The high temperature properties regarding tensile strength, hardness, thermal shock and scaling are good. It is resistant to damp chlorine gas and to hydrochloric-, nitric-, sulphuric- and phosphoric acids at room temperature.

Classifications:	EN 14700:E Z Ni2

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As welded	515 MPa (75 ksi)	750 MPa (109 ksi)	17 %

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Mo	Fe	W
0.05	0.9	0.5	57.5	15.5	16.4	5.5	3.5

Deposition Data

Diameter	Current	Voltage	kg weld metal/ kg electrodes	Number of electrodes/ kg weld metal	Fusion time per electrode at 90% I max	Deposition rate 90% I max
2.5 x 300 mm (3/32 x 12 in.)	65-110 A	18 V	0.61	56	62 s	1.1 kg/h (2.4 lb/h)
3.2 x 350 mm (1/8 x 14 in.)	110-150 A	18 V	0.63	28	86 s	1.6 kg/h (3.5 lb/h)
4.0 x 350 mm (5/32 x 14 in.)	160-200 A	20 V	0.64	19	89 s	2.3 kg/h (5.1 lb/h)
5.0 x 350 mm (3/16 x 14 in.)	190-250 A	20 V	0.65	11	106 s	3.1 kg/h (6.8 lb/h)

OK NiCrMo-13

OK NiCrMo-13 is suitable for welding Ni base materials such as Alloy 59, Hasteloy C-276, Inconel 625 and Incoloy 825. It can also be used for welding superaustenitic steels type AISI/ASTM S31254 and S32654. The weld metal provides very good resistance against pitting- and chloride ion stress corrosion cracking.

Classifications:	SFA/AWS A5.11:ENiCrMo-13, EN ISO 14172:E Ni 6059 (NiCr23Mo16)

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As welded	430 MPa (62 ksi)	770 MPa (112 ksi)	40 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As welded	-60 °C (-76 °F)	70 J (52 ft-lb)
As welded	-196 °C (-321 °F)	60 J (44 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Mo	Fe
0.013	0.17	0.16	61	22.6	15.2	0.6

Deposition Data

Diameter	Current	Voltage	kg weld metal/ kg electrodes	Number of electrodes/ kg weld metal	Fusion time per electrode at 90% I max	Deposition rate 90% I max
3.2 x 350 mm (1/8 x 14 in.)	60-90 A	27 V	0.61	46	58 s	3.95 kg/h (8.7 lb/h)

OK 92.55

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.

Classifications:	EN ISO 14172:E Ni 6620 (NiCr14Mo7Fe), SFA/AWS A5.11:ENiCrMo-6
Approvals:	CE EN 13479 , ABS ENiCrMo-6 , DNV For welding NV 1,5Ni to NV 5Ni , GL NiCr14Mo7Fe , BV N50

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
As welded	430 MPa (62 ksi)	690 MPa (100 ksi)	35 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As welded	-196 °C (-321 °F)	70 J (52 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	Ni	Cr	Mo	Fe	Nb	W
0.05	3.0	0.3	69.4	12.9	6.2	5.0	1.3	1.6

Deposition Data

Diameter	Current	Voltage	kg weld metal/ kg electrodes	Number of electrodes/ kg weld metal	Fusion time per electrode at 90% I max	Deposition rate 90% I max
2.5 x 350 mm (3/32 x 14 in.)	65-115 A	23 V	0.70	55	70 s	1.1 kg/h (2.4 lb/h)
3.2 x 350 mm (1/8 x 14 in.)	70-150 A	22 V	0.66	34	68 s	1.5 kg/h (3.3 lb/h)
4.0 x 350 mm (5/32 x 14 in.)	120-200 A	22 V	0.67	23	82 s	1.9 kg/h (4.2 lb/h)
5.0 x 350 mm (3/16 x 14 in.)	150-240 A	23 V	0.68	14	91 s	2.8 kg/h (6.2 lb/h)