

LOW ALLOY

STICK ELECTRODES (SMAW)

OK B2 SC is a basic AC/DC electrode designed for welding of creep resistant 1,25% Cr 0,5% Mo alloyed steels, SA-387 Grade 11, SA-182 Grade 11, SA-335 Grade P11 or similar materials when highest toughness values are required also after step cooling treatment. Very low level of impurity elements providing a X-bar max. 10 for temper embrittlement resistant applications. Usually welding is followed by a PWHT. Suitable for refinery, petrochemical and chemical industries, power generation, pressure vessels, etc.

Specifications

Classifications	SFA/AWS A5.5 : E8018-B2-H4R EN ISO 3580-A : E CrMo1B 42 H5
Approvals	CE : EN 13749 VdTÜV : 19549

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

Welding Current	DC+/-, AC
Diffusible Hydrogen	< 4.0 ml/100g
Alloy Type	Low alloyed (1.25% Cr, 0.5% Mo)
Coating Type	Basic covering

Tensile Properties

Testing Condition	Conditional Statement	Yield Strength	Tensile Strength	Elongation
PWHT 1 hour(s) 690 °C		505 MPa	605 MPa	22 %
AWS				
4.PWHT (Test	Test temp. 450°C	370 MPa	470 MPa	22 %
2.PWHT 2 hour(s) 690 °C		490 MPa	590 MPa	27 %
1.PWHT 1 hour(s) 690 °C		510 MPa	605 MPa	25 %
3.PWHT 22 hour(s) 690 °C		460 MPa	555 MPa	30 %

Charpy Testing

Testing Condition	Testing Temp	Impact Value
PWHT	20 °C	180 J
AWS		
1.PWHT	-30 °C	155 J
3.PWHT	-30 °C	160 J
2.PWHT	-30 °C	150 J

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	V	Al
0.08	0.75	0.20	0.004	0.005	0.04	1.25	0.55	0.008	0.002

Typical Weld Metal Analysis %

Cu	Nb	Ti	Sb	As	B	Sn	Mn+Si	Nb+Ti+V	P+Sn
0.02	0.003	0.006	0.001	0.002	0.0002	0.003	1.0	0.015	0.008

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Typical Weld Metal Analysis %

PE	J-Factor	X-bar
2.6	80	7

Deposition Data

Diameter	Amps	Volts	Efficiency (Per)	Fusion time per electrode at 90Per I max	Deposition rate at 90Per
2.5 x 350.0 mm	70-110 A	25 V	58 %	60 sec	0.79 kg/h
3.2 x 350.0 mm	95-150 A	23 V	63 %	64 sec	1.2 kg/h
4.0 x 350.0 mm	120-190 A	22 V	63 %	77 sec	1.6 kg/h
4.0 x 450.0 mm	120-190 A	23 V	66 %	91 sec	1.8 kg/h
5.0 x 450.0 mm	150-260 A	23 V	63 %	108 sec	2.3 kg/h