

CLASSIFICATION

AWS A5.5	E8018-B2-H4	A-Nr	3
ISO 3580-A	E CrMo1 B 3 2 H5	F-Nr	4
		9606 FM	3

GENERAL DESCRIPTION

Basic very low hydrogen all position electrode (HDM< 5 ml/100g)

For welding creep and hydrogen resistant CrMo-steels

Maximum service temperature 550°C

DC-welding preferred

115 - 120% recovery

Also available in vacuum sealed Sahara ReadyPack[®](SRP)

WELDING POSITIONS (ISO/ASME)



PA/1G



PB/2F



PC/2G



PF/3Gu



PE/4G



PH/5Gu

CURRENT TYPE

AC / DC +/-

APPROVALS

BV	DNV	RINA	TÜV
C1M	1Cr0,5Mo	C1M	+

CHEMICAL COMPOSITION (W%), TYPICAL, ALL WELD METAL

C	Mn	Si	P	S	Cr	Mo	HDM
0.06	0.75	0.6	0.015	0.010	1.1	0.5	3 ml/100 g

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Condition	0.2% Proof strength (N/mm ²)	Tensile strength (N/mm ²)	Elongation (%)	Impact ISO-V(J)		
				+20°C	-20°C	
Required: AWS A5.5 ISO 3580-A Typical values	SR ¹ SR ² SR ³	min. 460 min. 355 570	min. 550 min. 510 640	min. 19 min. 20 24	not required min. 47 180	100

Stress relieved: SR¹ = 690±14°C/1h, SR² = 660-700°C/1h, SR³ = 700°C/1h

PACKAGING AND AVAILABLE SIZES

	Diameter (mm) Length (mm)	2.5	3.2	4.0	5.0
			350	350	350
Carton + PE foil	Pieces / unit	120	120	85	55
	Net weight/unit (kg)	2.6	4.6	4.7	6.1
SRP	Pieces / unit	67	50	28	-
	Net weight/unit (kg)	1.4	2.0	1.5	-

Identification Imprint: 8018-B2 / SL 19 G Tip Color: red

SL[®] 19G: rev. C-EN25-12/05/16

SL[®] 19G

EXAMPLES OF MATERIALS TO BE WELDED

Steel grades/Standard	Type
Creep resistant steels	
EN 10028-2	13CrMo4-5 & similar alloys
EN 10083-1	25CrMo4 & similar alloys
EN 10222-2	14CrMo4-5 & similar alloys
ASTM A387	Grade 11 & 12
ASTM A182	Grade F1 & F12
ASTM A217	Grade WC6 & WC11
ASTM A234	Grade WP11 & WP12
ASTM A199	Grade T11
ASTM A200	Grade T11
ASTM A213	Grade T11 & T12
ASTM A335	Grade P11 & P12
Tool steel	
DIN 17210	16MnCr5 & similar alloys

CREEP DATA

Test temperature °C	400	450	500	550	600
Yield strength Rp-0.2% (N/mm ²)	460	440	430		
Creep strength Rm/1000 (N/mm ²)			300	140	(80)
Creep strength Rm/10.000 (N/mm ²)		350	240	110	(50)
Creep resistance Rp1%/10.000 (N/mm ²)		250	170	80	(35)

CALCULATION DATA

Diam. x length (mm)	Current range (A)	Current type	Arc time	Energy	Dep. rate	Weight/ 1000 pcs (kg)	Electrodes/ kg weldmetal B	kg electrodes/ kg weldmetal 1/N
			- per electrode at max. current - (S)*	E(kJ)	H(kg/h)			
2.5x350	60-90	DC+	63	114	0.71	21.0	80	1.67
3.2x350	80-130	DC+	68	227	1.3	37.9	41	1.56
4.0x350	120-180	DC+	79	367	1.6	54.9	29	1.59
5.0x450	160-240	DC+	103	777	2.5	106.9	14	1.52

*Stub end 35mm

WELDING PARAMETERS, OPTIMUM FILL PASSES

Diameter (mm)	Welding positions					
	PA/1G	PB/2F	PC/2G	PF/3Gup	PE/4G	PH/5Gup
2.5	80A	85A	80A	85A	80A	80A
3.2	130A	120A	130A	120A	120A	120A
4.0	150A	145A	140A	140A	140A	140A
5.0	225A	225A	210A			

REMARKS / APPLICATION ADVICE

Recommended preheat temperature: 200 - 250°C

Recommended tempering heat treatment range: 660 - 700°C (time depends on material thickness)

Redry electrodes 2-4h 350 ±25°C after removal from cardboard boxes