

**CLASSIFICATION**

AWS A5.5 : E8018-C1-H4  
ISO 2560-A : E 46 8 3Ni B 32 H5

**GENERAL DESCRIPTION**

The basic all position offshore electrode with approx. 2.5% Ni  
115 - 120% recovery  
Excellent impact toughness at -80°C  
Good CTOD at -10°C  
Extremely low hydrogen content  
Also available in vacuum sealed Sahara ReadyPack®(SRP): HDM< 3 ml/100g

**WELDING POSITIONS**



**CURRENT TYPE**

AC / DC + / -

**APPROVALS**

ABS	BV	DNV	LR	GL	RINA	TÜV
+	UP	5YH10	5Y40H	6Y42H10	5YH5	+

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

C	Mn	Si	P	S	Ni	H <sub>DM</sub>
0.05	0.7	0.3	0.015	0.01	2.5	2 ml/100 g

**MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL**

Condition	0.2% Proof strength (N/mm <sup>2</sup> )	Tensile strength (N/mm <sup>2</sup> )	Elongation (%)	Impact ISO-V(J)	
				-60°C	-80°C
Required: AWS A5.5 ISO 2560-A	SR <sup>1)</sup>	min. 460 min. 460	min. 550 530-680	min. 19 min. 20	min. 47
Typical values	AW	520 500	600 590	26 29	min. 47 60

CTOD value at -10°C > 0.25 mm

Stress relieved:SR<sup>1)</sup> = 605±14°C/1h

**PACKAGING AND AVAILABLE SIZES**

	Diameter (mm)	Length (mm)					
		2.5	3.2	3.2	4.0	4.0	5.0
Unit: carton box	Pieces / unit	135	120	120	85	85	55
	Net weight/unit (kg)	2.7	4.2	5.8	4.4	5.9	5.7
Unit: SRP	Pieces / unit	70	50	50	28	28	23
	Net weight/unit (kg)	1.4	1.9	2.4	1.5	2.0	2.5

Identification Imprint: 8018-C1 / KRYO 3 Tip Color: silver

Kryo® 3: rev. EN 23

# Kryo® 3

SMAW

## MATERIALS TO BE WELDED

Steel grades/Code	Type
<b>General structural steels</b>	
EN 10025	S355
<b>Pipe material</b>	
EN 10208-2	L360, L415, L445
API 5LX	X52, X56, X60, X65
<b>Fine grained steels</b>	
EN 10025 part 3	S355, S420, S460
EN 10025 part 4	S355, S420, S460
<b>Low temperature steels</b>	
EN 10028-4	11 MnNi 5-3, 13 MnNi 6-3, 15 NiMn 6 (12 Ni 14 G 1, G 2)
EN 10222-3	13 MnNi 6-3, 15 NiMn 6

## CALCULATION DATA

Sizes Diam. x length (mm)	Current range (A)	Current type	Arc time	Energy	Dep. rate	Weight/ 1000 pcs (kg)	Electrodes/ kg weld- metal	kg electrodes/ kg weldmetal
			(S)*	- per electrode at max. current - E(kJ)	H(kg/h)		B	
2.5x350	55-80	DC+	57	103	0.72	19.5	88	1.71
3.2x350	80-140	DC+	65	218	1.3	37.4	44	1.64
3.2x450	80-140	DC+	79	263	1.4	48.5	33	1.59
4.0x350	120-170	DC+	74	344	1.6	52.7	30	1.57
4.0x450	120-170	DC+	100	463	1.7	69.8	21	1.45
5.0x450	180-240	DC+	103	723	2.5	104.8	14	1.48

\*Stub end 35mm

## WELDING PARAMETERS, OPTIMUM FILL PASSES

Diameter (mm)	Welding positions					
	PA/1G	PB/2F	PC/2G	PF/3Gup	PE/4G	PF/5Gup
2.5	80A	80A	80A	85A	80A	80A
3.2	140A	120A	145A	120A	120A	120A
4.0	150A	140A	150A	140A	135A	140A
5.0	220A	210A	210A	170A		

## REMARKS / APPLICATION ADVICE

Deviations: chemical composition:

Ni = 2.25 - 2.75%      EN: Ni = 2.6 - 3.8%