EMR SAHARA®

Kryo® 1-180

Low temperature basic electrode

SMAW

Classification

AWS A5.5-96 : E 8018-G H4R
EN 499-94 : E 50 5 1Ni B 72 H5

General description

Basic electrode with max. 1%Ni
Extremely low hydrogen content H_{DM} < 3ml/100g (SRP)
Approx. 175% recovery, easy slag release, weldable on AC and DC
Filling horizontal V- and X-grooves
4 mm diam. also suitable for fillet welds
Reliable impact toughness at -60°C
Excellent X-ray quality
Also available in vacuum sealed Sahara ReadyPack® (SRP) H_{DM} <3 ml/100g

Welding positions

ISO/ASME PA/1G PB/2F PC/2G

Current type

AC / DC electr. + / -

Approvals

CTL	DB	DNV	LR
+	+	4Y46H5	4YH5

Chemical composition (w%), typical, all weld metal

C	Mn	Si	P	S	Ni	H_{DM}
0.07	1.2	0.3	0.02	0.01	0.9	2 ml/100g

Mechanical properties, all weld metal

	Condition	0.2% Proof strength (N/mm²)	Tensile strength (N/mm²)	Elongation (%)	Impact ISO-V(J) -40°C	Impact ISO-V(J) -50°C
Required: AWSA5.5-96		min. 460	min. 550	min. 19	not required	
EN 499-94		min. 500	560-720	min. 22		min. 47
Typical values	AW	550	640	26	90	60

Packaging, available sizes and identification

	Diameter (mm)	3.2	4.0	5.0	6.3
	Length (mm)	450	450	450	450
Unit: SRP	Pieces / unit (nominal)	27	23	19	10
	Net weight/unit (kg)	2.0	2.4	2.8	1.9
Unit: Box	Pieces / unit		60	40	23
	Net weight/unit (kg)		6.0	6.1	5.4

Identification Imprint: 8018-G/Kryo1-180 Tip colour: pink

LINCOLN ELECTRIC

Kryo® 1-180

Materials to be welded

Steel	Code	Type
General structural steel	EN 10025	S275, S355
Ship plates	ASTM A131	Grade A, B, D, AH32 to EH40
Cast steel	EN 10213-2	GP 240R
Pipe material	EN 10208-1	L290 GA, L360 GA
	EN 10208-2	L290, L360, L415, L445
	API 5 LX	X42, X46, X52, X60, X65
	EN 10216-1	P275 T1
	EN 10217-1	P275 T2, P355 N
Fine grained steel	EN 10113-2	S275, S355, S420, S460
	EN 10113-3	S275, S355, S420, S460
	EN 10137-2	S460

Calculation Data

Sizes Diam. x length	Current range	Current type	Arc time - per electrode at max. current -	Energy - per electrode at max. current -	Dep.rate - per electrode at max. current -	Weight/ 1000 pcs.	Electrodes/ kg weldmetal	kg Electrodes/ kg weldmetal
(mm)	A)		(s)*	E(kJ)	H(kg/h)	(kg)	B	1/N
3.2 x 450	130 - 160							
4.0 x 450	170 - 240	AC	73	537	3.5	102.0	14	1.43
5.0 x 450	250 - 300	AC	78	772	5.0	156.7	9	1.45
6.3 x 450	280 - 390	AC	84	1171	6.9	234.6	6	1.45

* stub end 35mm

Welding parameters, optimum fill passes

Welding position:	PA/1G	PB/2F	PC/2G
Diameter (mm)	Current (A)		
4.0	230	190	190
5.0	300	230	230
6.3	390	280	

Application Advice

Electrodes after removal from cardboard boxes redry 2-4h 350 ± 25°C