Elex® RC 6013

Rutile electrode

Classification

AWS A5.1	:E6013
ISO 2560-A	:E 38 0 RC 12

General description

Type of coating - rutile cellulose

A unique electrode in its class, possessing excellent welding and technological characteristics, designed for welding structures of low carbon and low alloy steels with yield strength up to 380 MPa in all spatial positions with direct current of reverse polarity and alternating current.

Welding positions

ISO/ASME	PA/1G	PB/2F	PC/2G	PF/3G up	PG/3G down	PE/4G

Current type

AC/DC electr.-

Approvals

ABS	BV	DNV	FORCE	GL	LR	TÜV
2	2	2	+	2	2	+

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

C	Mn	Si
0.08	0.4	0.3

Mechanical properties,all weld metal

		Condition	Yield strength, (N/mm²)	Tensile strength (N/mm²)	Elongation (%)	Impact (ISO), J 0°C
Required	AWS A5.1		min.331	min.414	min.17	not required
	ISO 2560-A		min.380	500-640	min.20	min.47
Typical values after welding		AW	420	520	28	88

Packaging,available sizes and identification

	Diameter (mm)	2.5	3.2	4.0
	Length (mm)	350	350	350
Unit:	Pieces / unit (nominal)	145	155	120
Box	Net weight/unit (kg)	2.8	4.8	5.4

Identification	Imprint: **Elex® RC 6013**	Tip colour: green

Elex® RC 6013 :rev. EN 20

Materials to be welded

Steel	Code	Type
General structural steel	EN 10025	S185, S235, S275
Ship plates	ASTM A131	Grade A, B, D
Cast steel	EN 10213-2	G P 240R
Pipe material	EN 10208-1	L210, L240, L290
	EN 10208-2	L240, L290
	API 5LX	X42, X46
	EN 10216-1/	P235, P275
	EN 10217-1	
Boiler & pressure vessel steel	EN 10028-2	P235, P265, P295
Fine grained steel	EN 10113-2	S275
	EN 10113-3	S275

Calculation data

Sizes Diam.x length (mm)	Current range (A)	Current type	Arc time - per electrode at max.current - (s)*	Energy E(kJ)	Dep.rate H(kg/h)	Weight/ 1000 pcs. (kg)	Electrodes/ kg weldmetal B	kg Electrodes/ 1 kg weldmetal (1/N)
2.5x350	70-90	AC	47	109	0.8	17.5	90	1.58
3.5x350	95-110	AC	59	198	1.1	29.5	54	1.58
4.0x350	130-160	AC	59	301	1.7	42.4	37	1.57

* stub end = 35 mm

Welding parameters,optimum fill passes

Welding position Diameter (mm)	PA/1G Current (A)	PB/2F	PC/2G	PC/3G up	PG/3G down	PE/4G
2.5	80	75	75	75	75	75
3.2	120	115	125	115	125	115
4.0	175	165	160	160	170	160
	240	240				

Application advice

Vertical down only applicable for “clean”structural steel