Elex® RC 6013 Extra

Rutile electrode

Classification

AWS A5.1 :E6013
ISO 2560-A/EN499 :E 38 0 RC 11

General description

Electrodes with a rutile-cellulose type of coating and good welding and technological properties for welding in all spatial positions, including in a vertical position from top to bottom.
Universal electrodes, well suited for welding with small power transformers, are characterized by a flexible coating and a very stable arc. They have a wide scope in the welding of steel structures, are used in the manufacture of vehicles, boilers, tanks, as well as in shipbuilding.

Welding positions

ISO/ASME	PA/1G	PB/2F	PC/2G	PF/3G up	PG/3G down	PE/4G	PF/5Gup	PG/5G down

Current type

AC/DC electr.-

Approvals

TÜV
+

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

C	Mn	Si
0.06	0.45	0.4

Mechanical properties,all weld metal

		Condition	Yield strength, (N/mm²)	Tensile strength (N/mm²)	Elongation (%)	Impact (ISO), J 20°C
Required	AWS A5.1		min.331	min.414	min.17	not required
	ISO 2560-A		min.380	470-600	min.22	min.55
Typical values		AW	460	520	27	75

Packaging,available sizes and identification

	Diameter (mm)	2.0	2.5	3.2	4.0
	Length (mm)	300	350	350	350
Unit:	Pieces / unit (nominal)	235	145	155	120
Box	Net weight/unit (kg)	2.4	2.8	4.8	5.4

Identification	Imprint: **Elex® RC 6013 Extra**	Tip colour: none

Elex® RC 6013 Extra :rev. EN 20

Materials to be welded

Steel	Code	Type
General structural steel	EN 10025	S275JR, S235JOG3 — S355JOG3
Ship plates	ASTM A131	Grade A, B, C, D
Cast steel	EN 10213-2	G P 240R
Pipe material	EN 10208-1	L210 — L360NB, L290MB
	API 5LX	X42-X52
	EN 10216-1/ EN 10217-1	P235, P275
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)
2.0x300	45-80	AC	41	58	0.5	10.4	178	1.98
2.5x350	60-100	AC	60	130	0.7	17.8	88	1.57
3.2x350	90-130	AC	66	206	1.0	29.5	53	1.58
4.0x350	110-170	AC	72	333	1.3	43.6	37	1.61

* 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

Application advice

Vertical down only applicable for “clean” structural steel