

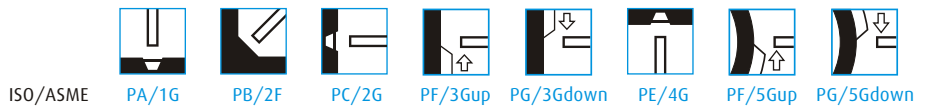


Linde Rutile 6013

Classification AWS A5.1 : E6013
ISO 2560-A : E 42 0 RC 11

General description Rutile general purpose, all positions electrode
Applicable for "clean" structural steel (2.5, 3.2, 4.0 mm)
Smaller diameters excellent for hobby market
Very suitable for low open circuit voltage transformers (min. OCV 42 V)

Welding positions



Current type AC / DC -

Approvals

ABS	BV	DNV	GL	LR	TÜV
2	2	2	2	2	+

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

C	Mn	Si
0.06	0.5	0.45

Mechanical properties, typical, all weld metal

	Condition	Yield strength (N/mm ²)	Tensile strength (N/mm ²)	Elongation (%)	Impact ISO-V(J) 0°C
Required: AWS A5.1		min. 331	min. 414	min. 17	not required
ISO 2560-A		min. 420	500-640	min. 20	min. 47
Typical values	AW	430	480	26	60

Packaging and available sizes

	Diameter (mm)	2.5	3.2	4.0
	Length (mm)	350	350	350
Unit: box	Pieces / unit	250	175	110
	Net weight/unit (kg)	4.8	5.3	5.0
Unit: Linc Pack	Pieces / unit	54	33	22
	Net weight/unit (kg)	1.0	1.0	1.0

Materials to be welded

Steel grades/Code	Type
General structural steel	
EN 10025	S185, S235, S275
Ship plates	
ASTM A 131	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/ EN 10217-1	P235, P275
Boiler & pressure vessel steel	
EN 10028-2	P235, P265, P295
Fine grained steel	
EN 10025 part 3	S275
EN 10025 part 4	S275

Calculation data

Diam. x length	(mm)	2.5x350	3.2x350	4.0x350
Current range	(A)	70-90	90-125	140-190
Current type		AC	AC	AC
Arc time	per electrode (s)*	68	80	74
Energy	at max. E(kj)	134	220	323
Dep.rate	current H(kg/h)	0.6	0.9	1.5
Weight/1000 pcs.	(kg)	19.2	30.3	45.5
Electrodes/kg weldmetal	B	84	50	33
kg Electrodes/kg weldmetal	1/N	1.60	1.51	1.49

* stub end 35 mm

Welding parameters, optimum fill passes

Welding positions	PA/1G	PB/2F	PC/2G	PF/3G up	PG/3G down	PE/4G	PF/5G up	PG/5G down
Diameter (mm)								
2,5	80A	85A	85A	80A	85A	85A	80A	85A
3,2	110A	115A	115A	110A	115A	110A	110A	115A
4,0	170A	175A	175A	175A	180A	175A	175A	180A

Liability: All information in this data sheet is based on the best available knowledge, is subject to change without notice and can only be considered as suitable for general guidance.

Fumes: Consult information on Welding Safety Sheet, available upon request.