

CLASSIFICATION

AWS A5.1	E 6013	A-Nr	1
ISO 2560-A	E 42 0 RC 11	F-Nr	2
		9606 FM	1

GENERAL DESCRIPTION

Rutile general purpose, all position electrode, including vertical down
 Applicable for "clean" structural steel
 Smaller diameters excellent for hobby market
 Very suitable for low open circuit voltage transformers

WELDING POSITIONS (ISO/ASME)



PA/1G



PB/2F



PC/2G



PF/3Gu



PG/3Gd



PE/4G

CURRENT TYPE

AC / DC -

APPROVALS

ABS	BV	GL	LR	RMRS	DNV
2	2	2	2	2	2

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

C	Mn	Si
0.07	0.5	0.5

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 ISO 2560-A Typical values	min. 330 min. 420 520	min. 430 500-640 550	min. 17 min. 20 26	not required min. 47 60
AW				

PACKAGING AND AVAILABLE SIZES

	Diameter (mm)	2,5	3,2	4,0
	Length (mm)	350	350	350
Carton + PE foil	Pieces / unit	155	155	120
	Net weight/unit (kg)	2.8	4.8	5.4

Identification Imprint: 6013/OMNIA Tip Color: none

Omnia® rev. C-EN24-01/02/16

EXAMPLES OF MATERIALS TO BE WELDED

Steel grades/Code	Type
General structural steels	
EN 10025	S185, S235, S275
Ship plates	
ASTM A 131	Grade A, B, D
Cast steels	
EN 10213-2	GP240R
Pipe material	
EN 10208-1	L210, L240, L290
EN 10208-2	L240, L290
API 5LX	X42, X46
EN 10216-1/EN10217-1	P235, P275
Boiler & pressure vessel steels	
EN 10028-2	P235, P265, P295
Fine grained steels	
EN 10025 part 3	S275
EN 10025 part 4	S275

CALCULATION DATA

Sizes Diam. x length (mm)	Current range (A)	Current type	Arc time	Energy	Dep. rate	Weight/ 1000 pcs (kg)	Electrodes/ kg weldmetal B	kg electrodes/ kg weldmetal 1/N
			- per electrode at max. current - [S]*	E[kJ]	H[kg/h]			
2.5x350	65-90	AC	52	108	0.8	18.5	85	1.59
3.2x350	95-130	AC	65	229	1.0	31.1	53	1.67
4.0x350	130-160	AC	72	333	1.3	43.6	37	1.61

*Stub end 35mm

WELDING PARAMETERS, OPTIMUM FILL PASSES

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

REMARKS / APPLICATION ADVICE

Vertical down only applicable for "clean" structural steel