Cumulo®

CLASSIFICATION

AWS A5.1	E6013	**A-Nr**	1
ISO 2560-A	E 38 0 R 12	**F-Nr**	2
		9606 FM	1

GENERAL DESCRIPTION

Rutile, all position electrode (except vertical down)
Excellent for pipe welding and construction work
Smooth side wall wetting
Good X-ray soundness

WELDING POSITIONS (ISO/ASME)

PA/1G **PB/2F** **PC/2G** **PF/3Gu** **PH/5Gu** **PE/4G**

CURRENT TYPE

AC / DC -

APPROVALS

ABS	BV	DNV	GL	LR	TÜV
2	2	2	2	2,2Y	+

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

C	Mn	Si
0.1	0.5	0.4

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

	Condition	Yield strength (N/mm²)	Tensile strength (N/mm²)	Elongation (%)	Impact ISO-V(J) 0°C
Required: AWS A5.1		min. 330	min. 430	min. 17	not required
ISO 2560-A		min. 380	470-600	min. 20	min. 47
Typical values	AW	500	540	25	55

PACKAGING AND AVAILABLE SIZES

	Diameter (mm)	2.5	3.2	4.0
	Length (mm)	350	350	350
Carton + PE foil	**Pieces / unit**	150	175	115
	Net weight/unit (kg)	2.9	5.2	5.3

Identification Imprint: 6013 / CUMULO Tip Color: none

Cumulo: rev. C-EN25-01/02/16

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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 - per electrode at max. current - (S)*	Energy - per electrode at max. current - E(kJ)	Dep. rate - per electrode at max. current - H(kg/h)	Weight/ 1000 pcs (kg)	Electrodes/ kg weldmetal B	kg electrodes/ kg weldmetal 1/N
2.5x350	65-90	AC	52	120	0.8	18.7	86	1.61
3.2x350	85-130	AC	66	181	1.1	29.7	51	1.53
4.0x350	130-180	AC	62	345	1.6	46.5	36	1.69

*Stub end 35mm

WELDING PARAMETERS, OPTIMUM FILL PASSES

Diameter (mm)	Welding positions PA/1G	PB/2F	PC/2G	PF/3Gup	PE/4G	PH/5Gup
2.5	95A	85A	85A	75A	75A	75A
3.2	135A	135A	120A	120A	120A	120A
4.0	160A	160A	155A	140A	140A	