

Ni-base electrode

Classification

AWS A5.4 :E383-16
EN 1600 :E 27 31 4 Cu L R 12

Temperature Range

Pressure parts
Oxidation resistance

General description

A rutile-basic all position fully austenitic NiCrMoCu electrode
Especially for phosphoric and sulphuric acid plants
Designed for Mo and Cu alloyed high NiCr-alloyed grades
Very smooth bead appearance and easy slag release
Also approved for welding dissimilar metals for service up to 450°C
High resistance to pitting (PREN ~40)

Welding positions



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

Current type

AC /DC electr. +

Approvals

TÜV
+

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

C	Mn	Si	Cr	Ni	Mo	Cu	Fe
0.02	0.8	0.9	27.1	31.0	3.5	0.9	35.8

Mechanical properties, all weld metal

Required	Condition	0.2% Yield Strength (N/mm ²)	Tensile Strength (N/mm ²)	Elongation (%)	Impact (ISO), J	
					+20°C	
Required	AWS A5.4	not required	min 520	min 30	not required	
	EN 1600	min 240	min 500	min 25	not required	
Typical values after welding		AW 440	640	38	70	

Packaging, available sizes and identification

	Diameter (mm)	2.5	3.2	4.0
	Length (mm)	350	350	350
Unit:	Pieces / unit (nominal)	91	66	45
PE tube	Net weight/unit (kg)	1.8	2.0	2.0

Identification Imprint: Elecor® R 383 Tip colour: orange

Elecor® R 383: rev.EN 20

Materials to be welded

Type	Code	Type	W.Nr	ASTM/ACI	UNS
Copper alloyed CrMoNi and NiCrMo-steel	EN 10088-1/-2	X1NiCrMoCu 31 27 4	1.4563		N08028
		X1NiCrMoCu 25 20 5	1.4539	Alloy 904L	N08904
	DIN 17744	NiCr 21 Mo	2.4858	Alloy 825	N08825
		NiCr 21 Mo 6 Cu	2.4641	Alloy 825 h Mo	N08821
		X3NiCrMoTi 27 23	1.4503		

Calculation data

Size Diam.x length (mm)	Current range type (A)	Curren t	Arc time - per electrode at max.current - (s)*	Energy	Dep.rate	Weight/ 1000 pcs. (kg)	Electrodes/ kg weldmetal (pcs)	kg Electrodes/ kg weldmetal (1/N)
				E (kJ)	H (kg/h)			
2.5x350	45-70	DC+	52	95	0.84	21.3	83	1.75
3.2x350	70-95	DC+	56	132	1.3	31.2	48	1.49
4.0x350	110-150	DC+	53	198	2.0	46.0	34	1.56

* stub end = 35 mm

Welding parameters, optimum fill passes

Welding positions	PA/1G	PB/2F	PC/2G	PF/3G up	PE/4G	PF/5G up
Diameter (mm)	Current (A)					
2.5	65	70	70	60	60	60
3.2	95	95	95	80	80	80
4.0	120	120				

Application advice

Welding with heat input max.1.5 kJ/mm

Interpass temperature max.150°C