Eleni® B 70/15 Mn

Ni-base electrode

Classification

AWS A5.11/A5.11M	:ENiCrFe-3
ISO 14172	:E Ni 6182 (NiCr15Fe6Mn)

Temperature Range

Pressure parts

Oxidation resistance

General description

Fully basic all position NiCr electrode
For welding Ni-base alloys (as Alloy 600), claddings and dissimilar metals
High creep resistance up to 815°C, high resistance to embrittlement
High toughness also at low temperature (-196°C)
Low sensibility to carburization
Extra alloyed with ~6% Mn to provide hot cracking resistance

Welding positions

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

Current type

DC electr. +

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

C	Mn	Si	S	Cr	Ni	Nb
0.025	5.5	0.4	0.010	16	76.1	2.0

Mechanical properties,all weld metal

		Condition	0.2% Yield Strength (N/mm^2)	Tensile Strength (N/mm^2)	Elongation (%)	Impact (ISO), J +20°C	Impact (ISO), J -196°C
Required	AWS A5.11		not required	min 550	min 30		not required
	ISO 14172		min 360	min 550	min 27		not required
Typical values after welding		AW	400	630	40		125

Packaging, available sizes and identification

	Diameter (mm)	2.5	3.2	4.0	5.0
	Length (mm)	300	300	350	450
Unit: PE tube	Pieces / unit (nominal)	91	57	39	45
	Net weight/unit (kg)	1.6	1.9	1.9	4.5

Identification Imprint: Eleni® B 70/15 Mn Tip colour: yellow

Eleni® B 70/15 Mn rev.EN 20

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Materials to be welded

Type	BS 3076	DIN 17742 SEW 470/595	W.Nr	ASTM/ACI B366	UNS
Ni base on		LC-NiCr15Fe	2.4817		N06600
Cr alloyed steel,	NA14	NiCr15Fe	2.4816	Alloy600/B168	N06600
for high and low		NiCr23Fe	2.4851	Alloy601(H)	N066601
temperature service		NiCr60 15	2.4867		
		NiCr80 20	2.4869		
		NiCr20Ti	2.4951	Alloy75	N06075
		NiCr20TiAl	2.4952	Alloy80A	N07080
	NA17	X12NiCrSi36 16	1.4864	330	N08330
		G-X10NiCrNb32 20	1.4859		
	NA15	X10NiCrAlTi32 20	1.4876	Alloy800/800H	N08800/ N08810

Suitable for welding dissimilar metals:
- Mild- and low-alloyed steel to stainless steel
- Mild- and low-alloyed steel to Ni base alloys
- Stainless steel to low-alloyed creep resisting steel

Not sensitive for embrittlement after heat treatment

Calculation data

Size Diam.x length (mm)	Current range type (A)	Current	Arc time - per electrode at max.current - (s)*	Energy E (kJ)	Dep.rate H (kg/h)	Weight/ 1000 pcs. (kg)	Electrodes/ kg weldmetal (pcs)	kg Electrodes/ kg weldmetal (1/N)
2.5x300	40-70	DC+	80	119	0.52	17.4	86	1.49
3.2x300	70-100	DC+	77	193	0.84	29.0	56	1.61
4.0x350	90-140	DC+	74	289	1.7	50.9	29	1.47
5.0x450	130-160	DC+						

* stub end = 35 mm

Welding parameters,optimum fill passes

Welding positions Diameter (mm)	PA/1G Current (A)	PB/2F	PC/2G	PF/3G up	PE/4G	PF/5G up
2.5	60	55	60	60	60	60
3.2	90	80	90	80	80	80
4.0	120	120				

Application advice

Welding with heat input max.1.5 kJ/mm
Interpass temperature max.150°C