

ULTRAMET 317L

ALL-POSITIONAL MMA ELECTRODE FOR 317L STAINLESS STEEL

PRODUCT DESCRIPTION

Rutile flux on high purity 304L core wire giving very low (<0.025%) typical carbon levels. A controlled addition of nitrogen, in conjunction with ~3.8%Mo, provides improved pitting corrosion resistance compared to 316L. Ultramet 317L gives both welder and weld metal all the benefits of advanced rutile electrode design. These features include optimum versatility for downhand and positional welding, combined with high cosmetic finish and full volumetric weld metal integrity. The smaller electrode sizes are particularly suited to vertical and overhead welding applications including fixed pipework. Low hydrogen manufacturing technology ensures high resistance to weld metal porosity. Recovery is about 115% with respect to core wire, 65% with respect to whole electrode.

SPECIFICATIONS

AWS A5.4M	E317L-16
BS EN ISO 3581	E 19 13 4 N L R 3 2

ASME IX QUALIFICATION

QW432	F-No 5
QW442	A-No 8

WELDING POSITIONS (ISO/ASME)



CHEMICAL COMPOSITION (WELD METAL WT %)

	C	Mn	Si	S	P	Cr	Ni	Mo	Cu	N	FN
min.	--	1.0	--	--	--	18.0	12.0	3.5	--	0.08	3
max.	0.04	2.5	0.90	0.025	0.030	20.0	14.0	4.0	0.50	0.20	10
Typical	0.02	1.2	0.6	0.01	0.02	19	13	3.8	0.1	0.12	5

ALL-WELD MECHANICAL PROPERTIES

As welded	Min.	Typical
Tensile strength [MPa]	550	620
0.2% proof strength [MPa]	350	470
Elongation [%] 4d	30	38
5d	25	36
Reduction of area %	--	45
Impact ISO-V[J] +20°C	--	55
-50°C	--	30

OPERATING PARAMETERS, DC +VE OR AC (OCV: 50V MIN)

Diameter (mm)	2.5	3.2	4.0	5.0
min. A	60	75	100	130
max. A	90	120	155	210

PACKAGING DATA

Diameter (mm)	2.5	3.2	4.0	5.0
Length (mm)	300	350	350	450
kg/carton	12.0	13.5	13.5	18.6
Pieces/carton	669	381	225	171

STORAGE

3 hermetically sealed ring-pull metal tins per carton, with unlimited shelf life. Direct use from tin is satisfactory for longer than a working shift of 8h. Excessive exposure of electrodes to humid conditions will cause some moisture pick-up and increase the risk of porosity.

For electrodes that have been exposed:

Redry 200 – 300°C/1-2h to restore to as-packed condition. Maximum 400° C, 3 cycles, 10h total.

Storage of redried electrodes at 50 – 200°C in holding oven or heated quiver: no limit, but maximum 6 weeks recommended. Recommended ambient storage conditions for opened tins (using plastic lid): < 60% RH, > 18°C.

FUME DATA

Fume composition, wt % typical

Fe	Mn	Ni	Cr	Cu	Mo	F	OES (mg/m ³)
8	6	1	6	<0.2	0.6	16	0.8