

13.1.BMP

MMA (SMAW)

13%CR-1.5%NI BASIC MMA ELECTRODE FOR WELDING 410

PRODUCT DESCRIPTION

Basic low hydrogen metal powder MMA electrode made on pure low carbon core wire.

Moisture resistant coating giving very low weld metal hydrogen levels.

Diameters above 3.2mm are not recommended for positional welding.

Recovery is about 130% with respect to core wire, 65% with respect to the whole electrode.

CLASSIFICATIONS

AWS A5.4	[E410-15]	Nearest classifications
ISO 3581	[E 13 B 5 2]	

ASME IX QUALIFICATION

QW432	F-No 1
QW442	A-No 6

WELDING POSITIONS (ISO/ASME)



PA/1G



PB/2F



PC/2G



PF/3Gu



PE/4G

CHEMICAL COMPOSITION (WELD METAL WT %)

	C	Mn	Si	S	P	Cr	Ni	Mo *	Cu
Min.	0.02	0.4	--	--	--	11.0	1.0	0.15	--
Max.	0.06	1.0	0.50	0.025	0.030	14.0	2.0	0.50	0.5
Typical	0.04	0.7	0.25	0.01	0.02	13	1.5	0.3	0.05

* Molybdenum is controlled to satisfy minimum requirements for ASTM A487 CA15M castings (0.15-1.0% Mo).

ALL-WELD MECHANICAL PROPERTIES

Typical after PWHT	Min.	Typical	
		790°C/5h + 700°C/5h	680°C/2h + 620°C/2h
Tensile strength [MPa]	620	655	760
0.2% proof strength [MPa]	450	455	685
Elongation [%] 4d	18	26	20
5d	15	23	17
Reduction of area %	--	70	67
Impact ISO-V(J) +20°C	--	105	--
-10°C	--	90	60
Hardness [HRC]	<22 **	18	19

* Tensile properties based on ASTM CA15 and CA15M castings.

Specifications for wrought grades vary in tensile strength 415-700MPa.

** For conformance to NACE a double temper is mandatory.

OPERATING PARAMETERS, DC +VE OR AC (OCV: 70V MIN)

Diameter [mm]	2.5	3.2	4.0	5.0
min. A	70	80	100	140
max. A	100	130	170	240

PACKAGING DATA

	Diameter [mm]	Length [mm]	Item number	No of pieces		Weight (kg)	
				can	box	can	box
METAL CAN	2.5	350	131BMP-25	193	579	4.2	12.6
	3.2	350	131BMP-32	111	333	4.3	12.9
	4.0	450	131BMP-40	78	234	5.7	171
	5.0	450	131BMP-50	48	144	5.5	16.5

Redrying : 300 – 350°C/1-2h to restore to as-packed condition. Maximum 420° C, 3 cycles, 10h total.

FUME DATA (WT % TYPICAL)

Fe	Mn	Ni	Cr	Cu	Mo	V	F	OES (mg/m³)
20	2	<0.5	3	<0.2	<0.1	<0.1	18	1.7

All information in this data sheet is accurate to the best of our knowledge at the time of printing. Please refer to www.specialalloys.eu for any updated information.