

19.9.6Mn

MMA (SMAW)

ALL-POSITIONAL RUTILE MMA ELECTRODE

PRODUCT DESCRIPTION

Rutile electrode made on nearly matching austenitic steel core wire. Moisture resistant coating ensures sound porosity free deposits.

Recovery is about 110% with respect to core wire, 65% with respect to whole electrode.

CLASSIFICATIONS

AWS A5.4M	(E307-16) Nearest classification
ISO 581	E 18 8 Mn R 32

ASME IX QUALIFICATION

QW432	F-No 5 [This is nearest because the electrode does not strictly conform to AWS]
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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
min.	--	4.5	--	--	--	17.0	7.0	--
max.	0.20	7.0	0.80	0.025	0.035	20.0	10.0	0.75
Typical	0.12	5.8	0.5	0.01	0.02	18	9	0.4

ALL-WELD MECHANICAL PROPERTIES

As welded	min.	Typical
Tensile strength (MPa)	500	680
0.2% proof strength (MPa)	350	480
Elongation (%) 5d	25	35
Reduction of area %	--	40
Impact ISO-V(J) +20°C	--	80
Hardness HV	--	210 *

* Increases to about 400 – 450HV on work hardening

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

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

PACKAGING DATA

	Diameter (mm)	Length (mm)	Item number	No of pieces		Weight (kg)	
				can	box	can	box
METAL CAN	2.5	300	1996MN-25	207	621	4.0	12.0
	3.2	350	1996MN-32	124	372	4.7	14.1
	4.0	350	1996MN-40	86	258	4.5	13.5

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

FUME DATA (WT % TYPICAL)

Fe	Mn	Ni	Cr	Cu	Mo	F	OES (mg/m³)
18	15	1	5	< 0.2	-	18	1

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.