

ZERON® 100XKS

BASIC PIPE-WELDING MMA ELECTRODE FOR SUPERDUPLEX STEELS

PRODUCT DESCRIPTION

Basic coated all-positional MMA electrode for welding Zeron® 100 and other superduplex alloys for service in the as-welded condition. This electrode is overmatching with respect to nickel content to achieve correct austenite-ferrite microstructural phase balance. It is designed for the most demanding vertical and overhead welding positions such as fixed pipework qualified in the ASME 6G position.

Fully alloyed matching Zeron® 100 core wire including W and Cu. Moisture resistant flux technology. Recovery is about 105% with respect to core wire, 65% with respect to whole electrode.

SPECIFICATIONS

AWS A5.4M	E2595-15
BS EN ISO 3581	E 25 9 4 N L B 4 2
Weir Materials	MDS 12809/08
Approvals	ABS, DNV

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	W	Cu	N	PRE _a	PRE _w
min.	--	--	--	--	--	24.0	9.0	3.5	0.5	0.5	0.2	40	40
max.	0.03	1.0	1.0	0.01	0.03	26.0	10.0	4.0	1.0	1.0	0.3	--	--
Typical	0.025	0.9	0.5	0.005	0.02	25	9.3	3.6	0.7	0.7	0.23	41	42

Pitting resistance equivalent PREN = Cr + 3.3Mo + 16N

Pitting resistance equivalent PREW = Cr + 3.3Mo + 1.65W + 16N

ALL-WELD MECHANICAL PROPERTIES

As welded	Min.	PWHT (t)
Tensile strength [MPa]	760	800-950
0.2% proof strength [MPa]	550	650-750
Elongation [%] 4d	15	30
5d	20	22-27
Reduction of area %	--	40-45
Impact ISO-V(I) - 20°C	--	> 55
- 50°C	--	> 40
Hardness (HV)	--	270-320

OPERATING PARAMETERS, DC +VE

Diameter (mm)	2.5	3.2	4.0	5.0
min. A	50	70	100	130
max. A	75	95	155	210

PACKAGING DATA

Diameter (mm)	2.5	3.2	4.0	5.0
Length (mm)	300	350	350	350
kg/carton	12.0	14.1	13.5	13.5
Pieces/carton	696	360	270	168

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	V	F	OES [mg/m³]
7	6	1	7	0.5	0.2	<0.1	28	0.7