RD-18B9

BASIC LOW HYDROGEN ELECTRODE FOR WELDING MODIFIED 9Cr-1Mo STEELS OPERATING AT ELEVATED TEMPERATURES UP TO 650ºC

DATA SHEET NO. 56

SPECIFICATION	AWS A5.5	BS EN 1599
CLASSIFICATION	E9018-B9	E CrMo91 B

WELDING FEATURES OF THE ELECTRODE

The chemical nature of the flux together with a significant proportion of iron powder ensures maximum deposition efficiency without detracting from its ability to be used in all positions except vertical down.

Overall the arc is very stable, slag detachability is good and metal recovery is some 115% with respect to the core wire.

PRODUCT DESCRIPTION

The design emphasis of the chemically basic flux is engineered to ensure the optimum weld metal properties demanded by the specification are fully met.

The basic flux containing the appropriate alloying elements with a controlled balanced addition of iron power, is extruded onto a high purity ferritic core wire with a blend of silicated that ensures both coating strength and a coating resistant to subsequent moisture absorption.

APPLICATIONS AND MATERIALS TO BE WELDED

PLATE	ASTM A387 Grade 91,
TUBES/PIPES	ASTM A335 Grade 91, A234 Grade WP91, A199 Grade T91, A213 Grade T91.
	BS 3604 Grades CFS & HFS 629-470 CFS/HFS 629-590.
FORGINGS	A182 Grade F91, A336 Grade F91
CAST	ASTM A217 Grade C12A, BS1503 Grade 91

PWHT recommended range is 745 - 775ºC (2 hours), pre-heat 200 - 300ºC. Cool to 150ºC before PWHT.

WELD METAL ANALYSIS COMPOSITION % BY Wt.

	C	Mn	Si	S*	P*	Cr	Ni	Mo	Nb	V	Al	N
MIN	0.08	-	-	-	-	8.0	-	0.85	0.02	0.15	-	0.02
MAX	0.13	1.2	0.30	0.015	0.015	10.5	0.8	1.2	0.10	0.30	0.04	0.07
TYPICAL	0.10	0.8	0.25	0.01	0.01	8.5	0.4	1.0	0.03	0.20	0.01	0.03

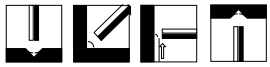
* AWS A5.5 specifies S = 0.01% max. and P = 0.01% max.

ALL WELD METAL PROPERTIES (AFTER PWHT)

PROPERTY	UNITS	MINIMUM	TYPICAL	OTHERS
Tensile strength	N/mm^2	620	750 – 880	Results relate to PWHT 765ºC furnace cooled
0.2% Proof stress	N/mm^2	530	620 – 780	
Elongation on 4d	%	17	21	
Reduction of Area (RA)	%	-	60	
Impact energy 20 ºC	J	-	65	

WELDING AMPERAGE AC or DC+

Ø (mm)	2.6	3.2	4.0	5.0
MIN	50	75	130	180
MAX	85	125	170	220



OTHER DATA	Electrodes that have become damp should be re-dried at 150ºC for 1 hour.
RELATED PRODUCTS	Please contact our Technical Department for detail.