NSB-309Nb

FOR WELDING 347 CLAD STEELS OR WHERE NIOBIUM STABILISED WELD METAL IS REQUIRED IN OVERLAYS, OR INLAYS, ON C-Mn OR LOW-ALLOY STEELS

DATA SHEET NO. 67

SPECIFICATION	AWS A5.4	BS EN 1600	JIS Z 3221
CLASSIFICATION	E309Nb-16	E 23 12 Nb R	D309Nb-16

PRODUCT DESCRIPTION

A metallurgically advanced rutile based flux formulated with balanced additions of chemically basic, amphoteric and acid minerals, together with small alloy additions to compensate for arc losses.

Niobium contained on the deposits could provides resistance to carbide precipitation and increases intergranular corrosion resistance, and also provides higher strength in elevated-temperature service.

WELDING FEATURES OF THE ELECTRODE

This unique flux formulation ensures excellent arc stability, ease of initial arc strike and re-strike minimal spatter on AC and virtually none on DC+. The resultant weld seams are smooth, evenly rippled and free from undercut while slag detachability is excellent. Metal recovery is some 103% with respect to core wire weight.

APPLICATIONS AND MATERIALS TO BE WELDED

Applications for the electrode are to be found in the Chemical, Petro-Chemical and Cryogenic Processing and Storage Industries as well as the Food, Brewery and Pharmaceutical Industries.
Used for welding of AISI 309 or 309S stainless steel castings. It is also suitable for joining of dissimilar steels such as 18% Cr – 8% Ni stainless steel to mild steel, and welding type 347 clad steels. Can also be used for the overlay of carbon steel.

WELD METAL ANALYSIS COMPOSITION % BY Wt.

	C	Mn	Si	S	P	Cr	Ni	Mo	Cu	Nb	Fe
MIN	-	0.5	-	-	-	22	12	-	-	0.7	
MAX	0.12	2.5	1.0	0.03	0.04	25	14	0.75	0.75	1.0	
TYPICAL	0.04	1.5	0.9	0.01	0.02	24	13.5	0.1	0.3	0.75	Bal.

WELD METAL PROPERTIES (ALL WELD METAL)

PROPERTY	UNITS	MINIMUM	TYPICAL	OTHERS
Tensile strength	N/mm^2	550	670	
0.2% Proof stress	N/mm^2	-	520	
Elongation on 4d	%	30	38	H.V. 220
Reduction of Area (RA)	%	-	40	
Impact energy 20°C	J	-	50	

WELDING AMPERAGE AC or DC+

Ø (mm)	2.0	2.6	3.2	4.0	5.0
MIN	35	65	80	120	160
MAX	80	100	125	170	210

OTHER DATA

Electrodes that have become damp should be re-dried at 150°C for 1 hour.

RELATED PRODUCTS

Please contact our Technical Department for detail.