


NDS-25.9.4.NL	FOR WELDING DUPLEX STAINLESS STEELS THAT NEED A MATCHING MICROSTRUCTURE IN THE AS WELDED CONDITION - NAMELY 55 TO 65 AUSTENITE 35 TO 45 FERRITE					DATA SHEET NO. 83					
SPECIFICATION	AWS A5.4			BS EN 1600							
CLASSIFICATION	E2594-16			E 25 9 4 N L B							
PRODUCT DESCRIPTION	<p>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.</p> <p>The flux is concentrically extruded onto a fully alloyed core wire and bound by a blend of silicates that assures both coating strength and resistance to subsequent moisture absorption.</p>										
WELDING FEATURES OF THE ELECTRODE	<p>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.</p>										
APPLICATIONS AND MATERIALS TO BE WELDED	<p>ASTM A890 6A, ACI CD 3MWCuN and ACICE 3Mn</p> <p>Proprietary alloys include SAF 2507, AVESTA UR47N (CLI), ZERON 100 (WP) UNS S32550, S32520 UR 52N + (CLI), FERRALIUM S D40, DP 3W (SUMITOMO) - MoPlus CARPENTER.</p> <p>Designed for use in the as welded condition they can however be subjected to full heat treatment, eg: 1150°C then water quenched - but some reduction in ferrite may occur and this should be considered in relation to the specification.</p>										
WELD METAL ANALYSIS COMPOSITION % BY Wt.		C	Mn	Si	S	P	Cr	Ni	Mo	Cu	N
	MIN	-	0.5	-	-	-	24	8.0	3.5	-	0.2
	MAX	0.04	2.0	1.0	0.03	0.04	27	10.5	4.5	0.75	0.3
	TYPICAL	0.02	0.9	0.6	0.005	0.026	25	9.5	3.8	0.7	0.23
WELD METAL PROPERTIES (ALL WELD METAL)	<u>PROPERTY</u>	<u>UNITS</u>	<u>MINIMUM</u>	<u>TYPICAL</u>	<u>OTHERS</u>						
	Tensile strength	N/mm ²	760	900							
	0.2% Proof stress	N/mm ²	-	700							
	Elongation on 4d	%	15	23							
	Reduction of Area (RA)	%	-	55							
	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.										