



**MANUFACTURERS OF A DIVERSE RANGE OF
ADVANCED WELDING CONSUMABLES**

**SECTION
4**

WI-0304 DS42 RD-110 Rev. 3 Date 01.08.2011

RD-110	BASIC LOW HYDROGEN ELECTRODE FOR WELDING HIGH TENSILE STEELS WITH A MINIMUM UTS 750 N/mm²				DATA SHEET NO. 42					
SPECIFICATION	AWS A5.5		JIS Z 3212							
CLASSIFICATION	E11016-G		D 7616							
PRODUCT DESCRIPTION	<p>The design emphasis of the chemically basic flux is engineered to ensure the optimum weld metal properties demanded by the specification are fully met.</p> <p>The basic flux containing the appropriate alloying elements but minimal iron powder, is extruded onto a high purity ferritic core wire and bound with a blend of silicates that ensure both coating strength and a coating resistant to subsequent moisture absorption.</p>									
WELDING FEATURES OF THE ELECTRODE	<p>The chemical nature of the flux together with its controlled coating factor allows the electrode to be used at relatively low amps. This factor together with the fairly fluid but quick freezing slag facilitate vertical up welding including controlled penetration root runs.</p> <p>Overall the arc is very stable, slag detachability is good, fillet welds are slightly convex and metal recovery is some 98% with respect to weight of the core wire.</p>									
APPLICATIONS AND MATERIALS TO BE WELDED	<p>For welding high tensile steels including quench and tempered low alloy types particularly when good notch toughness is required, either as welded or after PWHT (500-550 °C).</p> <p>Particular steels include US Navy HY100 - QN and OS690 cast. ASTM A487 Grades 4B, 4D and 6A cast BS970 Grades 709M40 (EN19)</p>									
WELD METAL ANALYSIS COMPOSITION % BY Wt.		C	Mn	Si	S	P	Cr	Ni	Mo	Fe
	MIN	0.04	1.4	0.3	-	-	0.2	1.2	0.4	
	MAX	0.12	2.0	0.5	0.02	0.03	0.5	1.8	0.6	
	TYPICAL	0.08	1.6	0.4	0.01	0.02	0.3	1.4	0.5	Bal.
	<i>* Undiluted weld metal shall have the minimum of at least one of the element as specified on AWS A5.5-2006</i>									
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	850					
	0.2% Proof stress		N/mm ²	670	800					
	Elongation on 4d		%	15	24					
	Reduction of Area (RA)		%	-	50					
	Impact energy -30 °C		J	-	60					
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 150°C for 1 hour									
RELATED PRODUCTS	Please contact our Technical Department for detail.									