



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

**SECTION  
4**

WI-0304 DS36 RD-18G Rev. 4 Date 01.12.2013

<b>RD-18G</b>	<b>LOW HYDROGEN - IRON POWDER ELECTRODE FOR WELDING STRUCTURAL STEELS SUBJECTED TO A SERVICE TEMPERATURE OF -50 °C</b>				<b>DATA SHEET NO. 36</b>																																	
SPECIFICATION	AWS A5.5																																					
CLASSIFICATION	E8018-G																																					
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 with a controlled balanced addition of iron powder, is extruded onto a high purity ferritic core wire with a blend of silicates that ensures 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 a significant proportion of iron powder ensures maximum deposition efficiency without detracting from its ability to be used in all positions except vertical down.</p> <p>Overall the arc is very stable, slag detachability is good and metal recovery is some 115% with respect to the core wire. <b>UNCONTROLLED</b></p>																																					
APPLICATIONS AND MATERIALS TO BE WELDED	<p><b>PRESSURE VESSEL STEELS</b></p> <p>PLATES All grades up to BS 1501-225</p> <p>FORGINGS All grades up to BS 1503-224</p> <p>PIPES LT50 quality of grade 410 in BS 3603:1977</p> <p>Such steels and similar are used for the fabrication of LPG tankers and storage vessels.</p> <p>The 1% nickel max meets NACE MR0175 requirements for corrosion resistance in marine environments.</p>																																					
WELD METAL ANALYSIS COMPOSITION % BY Wt.	<table border="1"> <thead> <tr> <th></th> <th>C</th> <th>Mn</th> <th>Si</th> <th>S</th> <th>P</th> <th>Ni</th> <th>Fe</th> </tr> </thead> <tbody> <tr> <td>MIN *</td> <td>-</td> <td>1.0</td> <td>0.25</td> <td>-</td> <td>-</td> <td>0.5</td> <td></td> </tr> <tr> <td>MAX</td> <td>0.12</td> <td>1.8</td> <td>0.5</td> <td>0.02</td> <td>0.02</td> <td>1.0</td> <td></td> </tr> <tr> <td>TYPICAL</td> <td>0.06</td> <td>1.4</td> <td>0.4</td> <td>0.01</td> <td>0.01</td> <td>0.8</td> <td>Bal.</td> </tr> </tbody> </table> <p>* Undiluted weld metal shall have the minimum of at least one of the element as specified on AWS A5.5-2006</p>							C	Mn	Si	S	P	Ni	Fe	MIN *	-	1.0	0.25	-	-	0.5		MAX	0.12	1.8	0.5	0.02	0.02	1.0		TYPICAL	0.06	1.4	0.4	0.01	0.01	0.8	Bal.
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WELDING AMPERAGE AC or DC+	Ø (mm)	2.6	3.2	4.0	5.0																																	
MIN	60	90	140	180																																		
MAX	100	150	200	250																																		
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.																																					
APPROVED BY	LR – Grade 4Y H5																																					