



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

**SECTION
11**

WI-0304 DS159 FC-30, Rev. 1, Date 01.05.2009

FC-30	SELF GAS SHIELDING FLUX AND METAL FILLED CORED WIRE FOR HARD FACING APPLICATIONS INVOLVING ABRASION AND IMPACT				DATA SHEET NO. 159																																						
	SPECIFICATION				DIN 8555																																						
CLASSIFICATION				MF1-300-G																																							
PRODUCT DESCRIPTION				<p>A tight seamed roll-drawn tubular wire containing an evenly distributed mixture of alloying elements, deoxidants and chemically basic minerals.</p> <p>The minerals dissociate during welding to provide a full protective self-shielding gas which eliminates the need for an external separate shielding gas.</p>																																							
WELDING FEATURES OF THE ELECTRODE				<p>Suitable for use on DC+ only, the strong forcefull arc is readily controllable and the high silicon content of the alloy lowers the surface tension of the molten weld pool, thus allowing ease of weaving and thus minimal dilution.</p> <p>The deposit contains small percentages of carbon, chromium, silicon and manganese which a crack-free wear resistance deposit with a hardness about 30 HRC, dependent upon parent material dilutions and number of layer. It is particularly suitable for conditions of moderate abrasion and friction, coupled with resistance to heavy impact.</p>																																							
APPLICATIONS AND MATERIALS TO BE WELDED				<p>Designed for the repair and rebuilding of mild steel and low-alloy ferritic steel components in either the cast or wrought condition, and it is not recommended for manganese steel or cast iron and does not work harden. Specific applications include clutch plates, tractor rollers, steelrope winches, steel shovel pads, gear teeth, sprocket and shafts, rails, couplings, caterpillar tracks, and similar.</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>Cr</th> <th>Ni</th> <th>Fe</th> </tr> </thead> <tbody> <tr> <td>MIN</td> <td>-</td> <td>1.0</td> <td>0.4</td> <td>-</td> <td>-</td> <td>0.8</td> <td>-</td> <td></td> </tr> <tr> <td>MAX</td> <td>0.30</td> <td>1.6</td> <td>0.8</td> <td>0.03</td> <td>0.03</td> <td>1.2</td> <td>-</td> <td></td> </tr> <tr> <td>TYPICAL</td> <td>0.15</td> <td>1.2</td> <td>0.3</td> <td>0.02</td> <td>0.02</td> <td>1.4</td> <td>0.02</td> <td>Bal.</td> </tr> </tbody> </table>					C	Mn	Si	S	P	Cr	Ni	Fe	MIN	-	1.0	0.4	-	-	0.8	-		MAX	0.30	1.6	0.8	0.03	0.03	1.2	-		TYPICAL	0.15	1.2	0.3	0.02	0.02	1.4	0.02	Bal.
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WELD METAL HARDNESS (ALL WELD METAL)				AS WELDED 150° INTERPASS/PRE-HEAT ON C-MN STEEL		STRESS RELIEVED AT 600°/FUR.COOLED ON C-MN STEEL		MAY BE CASE HARDENED																																			
1 ST LAYER				HRC 25		1 ST LAYER				HRC 20																																	
2 ND LAYER				HRC 28		2 ND LAYER				HRC 23																																	
3 RD LAYER				HRC 32		3 RD LAYER				HRC 26																																	
WELDING AMPERAGE DC+				Ø (mm)		2.4		2.8		3.2																																	
MIN				180		250		350																																			
MAX				350		400		450																																			
OTHER DATA				Wires that have become damp should be re-dried at 120°C for 1 hour.																																							
RELATED PRODUCTS				Please contact our Technical Department for details.																																							