



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

**SECTION
11**

WI-0304 DS156 FC-307, Rev. 2, Date 01.08.2011

FC-307	A SELF SHIELDING FLUX CORED WIRE FOR BUFFER LAYER OF WEAR SURFACING		DATA SHEET NO.							
			156							
SPECIFICATION	DIN 8555									
CLASSIFICATION	MF8-200-CP									
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 formulation of the wire is such that it eliminates the need for external shielding gas. The as deposited weld metal is ductile but tough and under conditions of impact loading rapidly work hardens.</p>									
WELDING FEATURES OF THE ELECTRODE	<p>Suitable for use on DC+ only, the strong forceful 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>Weld beads are bright and smooth and free from porosity. The slag volume is minimal and metal recovery is about 90% with respect to weight of the consumable.</p>									
APPLICATIONS AND MATERIALS TO BE WELDED	<p>Suitable for re-building 12% to 14% manganese steels subject to frictional and impact loading. However, as its rate of work hardening is slower than that of 12 to 14% manganese steels when heavy rolling loads are involved, it should be used as a buffer layer only, e.g. on carbon steel mill rolls and similar, should be completed with FC-14Mn. Also suitable for multi layer deposits on 13% Mn steel components subject to impact loading and moderate abrasion and in slurries give superior corrosion resistance to 12% to 14% manganese steels</p>									
WELD METAL ANALYSIS COMPOSITION % BY Wt.		C	Mn	Si	S	P	Cr	Ni	Mo	Fe
	MIN	-	-	-	-	-	11	-	0.4	
	MAX	1.0	5.0	1.0	0.03	0.04	16	10.5	1.5	
	TYPICAL	0.1	2.0	0.2	0.01	0.01	13	7.5	0.5	Bal.
WELD METAL HARDNESS (ALL WELD METAL)							AS WELDED			AFTER WORK HARDENING
		3 LAYERS ON C-Mn STEEL		HRC 17 - HV210		HRC 48 - HV 480				
		1 LAYER ON 14Mn STEEL		HRC 17 - HV210		HRC 48 - HV480				
WELDING AMPERAGE DC+	Ø (mm)	2.4	2.8	3.2	<u>OTHERS</u>					
	MIN	250	300	350	1. For carbon steel, pre-heat as necessary and interpass controlled to some 50 °C above pre-heat temperatures					
	MAX	350	400	450	2. For 12 - 14% manganese steels, use minimum pre-heat and control interpass temperature to 150 °C max.					
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.									