



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

**SECTION
11**

WI-0304 DS161 FC-58, Rev. 1, Date 01.05.2009

FC-58	SELF GAS SHIELDING FLUX AND METAL FILLED CORED WIRE FOR HARD FACING APPLICATIONS INVOLVING ABRASION AND IMPACT			DATA SHEET NO. 161				
SPECIFICATION	DIN 8555							
CLASSIFICATION	MF10-60-GC							
PRODUCT DESCRIPTION	A self-shielded flux cored wire that deposits chromium carbides in the weld matrix to have the hardness in the range 55~58 HRC. The deposit has very high hardness which giving resistance to extreme abrasion, high temperature stability and some corrosion resistance. It is not machinable or heat treatable but can be ground.							
WELDING FEATURES OF THE ELECTRODE	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. 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.							
APPLICATIONS AND MATERIALS TO BE WELDED	This alloy produces hard non-machinable deposits with high resistance to abrasion and may be used to surface structural steels using FC-34 as a buffer, or on 14Mn steels using FC-307 as a buffer layer. Applications occur on earth moving and dredging equipment, augers handling abrasive sands and sludges, cement producing equipment. FC-58 is one of a family of complex chrome carbide alloys, the others being FC-60 and FC-63. As the pre-fix of this range increases, so does the chrome carbide and thus abrasion resistance, but the resistance to impact loading decreased slightly.							
WELD METAL ANALYSIS COMPOSITION % BY Wt.		C	Mn	Si	S	P	Cr	Fe
	MIN.	2.5	-	0.7	-	-	20	
	MAX.	3.5	1.0	2.0	0.03	0.04	25	
	TYPICAL	3.0	0.8	1.2	0.02	0.02	22	Bal.
WELD METAL HARDNESS (ALL WELD METAL)	TYPICAL HARDNESS VALUES ON MILD STEEL 150°C INTERPASS TEMPERATURE							
		1 ST LAYER		2 ND LAYER		3 RD LAYER		
	VICKERS (HV)	440 - 500		600 - 700		650 - 750		
ROCKWELL (HRC)	44 - 50		55 - 58		57 - 59			
WELDING AMPERAGE DC+	Ø (mm)	2.4	2.8	3.2				
	MIN.	250	300	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							