


SMC-39	LOW HYDROGEN - HARD FACING ELECTRODE DEPOSITING A NOMINAL 5Cr-1Mo-1.5 Si WELD METAL WITH A UNIQUE COMBINATION OF ABRASION AND HEAT RESISTING PROPERTIES				DATA SHEET NO. 129				
SPECIFICATION	-								
CLASSIFICATION									
PRODUCT DESCRIPTION	<p>The design emphasis of the chemically basic flux is engineered to ensure that the weld metal hardness levels demanded by the specification are fully met without detracting from the toughness levels associated with this class of alloy.</p> <p>The basic flux containing the appropriate alloying elements and a balanced addition of iron powder is extruded onto a high purity ferritic core wire using a balance of silicates that ensures both coating strength and resistance to moisture absorption.</p>								
WELDING FEATURES OF THE ELECTRODE	<p>The electrode is suitable for both AC and DC and may be used in all positions except vertical down. Arc stability is good as is slag detachability. Weld seams are smooth, evenly rippled and slightly convex in shape.</p> <p>The metal recovery of the electrode is some 120% with respect to weight of the core wire.</p> <p>The higher than normal silicon promotes weld metal fluidity allowing precise build up of edges.</p>								
APPLICATIONS AND MATERIALS TO BE WELDED	<p>On high carbon steels HV-250B should be used as a buffer layer.</p> <p>The weld deposit has good resistance to abrasion, under normal circumstances is crack free, and will withstand a reasonable amount of impact loading.</p> <p>Used to particular advantage for: Bulldozer blades, crusher jaws, bucket lips and teeth involved in earth moving and mineral crushing. Where the main wear is abrasion, but with some impact resulting from rocks and compacted minerals.</p> <p>Under normal circumstances the weld metal is non-machinable.</p> <p>The high Cr and Si levels increase resistance to oxidation at elevated temperatures giving advantages over conventional martensitic types.</p>								
WELD METAL ANALYSIS COMPOSITION % BY Wt.		C	Mn	Si	S	P	Cr	Mo	Fe
	MIN	-	1.0	0.5	-	-	3.0	0.7	
	MAX	1.0	2.0	1.5	0.03	0.03	8.0	1.1	
	TYPICAL	0.5	1.4	1.0	0.02	0.02	7.0	1.0	Bal.
WELD METAL HARDNESS (ALL WELD METAL)	AS WELDED 150°C PRE-HEAT	HRC	HV	Pre-heat and dilution may lower hardness on 1 st two layers but not on subsequent layers.					
	1 st Layer	55	600						
	2 nd Layer	59	690						
	3 rd Layer	59	690						
WELDING AMPERAGE AC or DC+	Ø (mm)	2.6	3.2	4.0	5.0				
	MIN	65	90	140	190				
	MAX	90	130	180	240				
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								