


HV-1050	LIME RUTILE HARDFACING ELECTRODE DEPOSITING WELD METAL WITH COMPLEX CARBIDE PROVIDING HIGH HOT HARDNESS WITH EXCELLENT RESISTANCE TO ABRASION			DATA SHEET NO. 122																																														
SPECIFICATION	-																																																	
CLASSIFICATION																																																		
PRODUCT DESCRIPTION	<p>The design emphasis of the flux is designed to ensure a slag solidification range that allows the chrome carbide particles to be evenly distributed within the austenitic alloy matrix, so ensuring complete uniformity of hardness.</p> <p>The balanced lime rutile flux contains the appropriate alloying elements and is bound with a blend of silicates that ensures both coating strength and resistance to moisture absorption.</p>																																																	
WELDING FEATURES OF THE ELECTRODE	<p>The electrode welds with a stable arc and strikes and re-strikes readily. The weld bead is smooth but not as bright as that obtained with straight chrome carbide types and the weld profile is slightly more convex.</p> <p>The metal recovery is some 180% with respect to weight of the core wire, thus reducing welding time. The weld deposits are non-machinable and non heat treatable.</p>																																																	
APPLICATIONS AND MATERIALS TO BE WELDED	<p>Suitable for surfacing a wide range of steels including 13Mn types. Because thermal contractional stresses will cause stress relieving cross-cracking, build-ups should be limited to 3 layers, preferably two when restraint is high.</p> <p>The deposit has excellent resistance to abrasion against minerals, sand and sludges which leads to its extensive use in the earth moving, cement, dredging and steel industries.</p> <p>For build-ups on carbon and low alloy steels or 13Mn steel NSB-307, should be used as a buffer layer.</p>																																																	
WELD METAL ANALYSIS COMPOSITION % BY Wt.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>C</th> <th>Mn</th> <th>Si</th> <th>Cr</th> <th>Mo</th> <th>V</th> <th>W</th> <th>Nb</th> <th>B</th> <th>Fe</th> </tr> </thead> <tbody> <tr> <td>MIN</td> <td>3.5</td> <td>-</td> <td>-</td> <td>24</td> <td>1.5</td> <td>2.5</td> <td>6.0</td> <td>1.5</td> <td></td> <td></td> </tr> <tr> <td>MAX</td> <td>4.5</td> <td>1.0</td> <td>1.5</td> <td>32</td> <td>2.5</td> <td>3.0</td> <td>7.0</td> <td>2.0</td> <td></td> <td></td> </tr> <tr> <td>TYPICAL</td> <td>3.6</td> <td>0.5</td> <td>1.2</td> <td>25</td> <td>2.0</td> <td>2.8</td> <td>6.5</td> <td>1.8</td> <td>0.002</td> <td>Bal.</td> </tr> </tbody> </table>							C	Mn	Si	Cr	Mo	V	W	Nb	B	Fe	MIN	3.5	-	-	24	1.5	2.5	6.0	1.5			MAX	4.5	1.0	1.5	32	2.5	3.0	7.0	2.0			TYPICAL	3.6	0.5	1.2	25	2.0	2.8	6.5	1.8	0.002	Bal.
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WELD METAL HARDNESS (ALL WELD METAL)	AS WELDED 150°C PRE-HEAT		HRC		HV		The weld metal exhibits thermal stability and resistance to oxidation up to 1000°C. HV (typical) 400°C HV 350 600°C HV 290 800°C HV 240																																											
	1 st Layer		48 – 54		475 – 575																																													
	2 nd Layer		56 – 62		675 – 700																																													
	3 rd Layer		60 – 66		700 – 850																																													
Actual hardness will be affected on base material composition, number of layers, heat input and welding conditions																																																		
WELDING AMPERAGE AC or DC+	Ø (mm)		3.2		4.0		5.0																																											
	MIN		140		180		200																																											
	MAX		180		220		260																																											
																																																		
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.																																																	