



TECHNICAL DATA SHEET

Diamond Carbide 50 VC Grade - Nickel Based Alloys

Blended Carbide Composite Hardfacing Rod

Hard Surfacing Maintenance and Repair

Maximum Resistance to Good Impact and Excellent Wear

DC50 VC Grade hardfacing rods are a special blend of high impact nickel, chromium, boron alloy matrix, sintered tungsten carbide (SWC), and finely powdered cast tungsten carbide (CWC). Nickel, chromium, boron alloy offers excellent resistance to the effects of corrosion, erosion, high temp oxidation, abrasion wear and impact. SWC's anti-wear and cutting characteristics significantly increase part life and assist in the cutting shredding action. The addition of CWC toughens the matrix, bringing its resistance to wear to excellent.

The low melting point (1950°F) of nickel enables overlays to be applied with minimal dilution and base metal distortion. Alloy is self-fluxing and is easily applied by OAW (Oxyacetylene), GTAW (Tig), SMAW (Coated Electrodes), on clean base metals.

Alloy can be applied to most base metals: cast irons, steels, stainless steels, nickel and cobalt alloys and others, thereby eliminating a confusing selection process.

Unique sintered powder metallurgy process allows for manufacture of diameter rods from 5/16" (.3125") down to 1/8" (.1250") diameter.

Applications

Augur Flights, Brush Hog Blades, Digging Tool Blades, any cutting application that requires good impact resistance and excellent wear resistance.

Matrix	Rockwell "C" Scale	Nominal Chemistry		Melting Temperature
VERSAlloy® 50 AWS A5.13 NiCr-B	48-52	C 0.6 Cr 11.0 Si 4.0	B 3.0 Fe 4.0 Ni Bal	1950°F

Welding Techniques and Procedures

In all cases, minimum dilution processes are recommended to obtain maximum wear resistance. The surface to be hardfaced should be clean of grease, oil, rust and other contaminants by grinding the base metal.

OAW (Oxyacetylene) – Use a neutral flame (2 to 3 x "feather"), preheat base metal and bring to a "red" heat at the starting point of your weld, rods will then flow freely when introduced into the torch flame.

GTAW (TIG) - Use DC electrode negative (straight polarity) with largest Tungsten electrode possible to minimum tungsten contamination of the weld puddle.

SMAW (Coated Electrodes) - Can be run either AC or DC reverse polarity.

Call Rankin PMA at (800) 854-2159 for more information.



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