



TECHNICAL DATA SHEET

Diamond Carbide 60 VC Grade - Nickel Based Alloys

Blended Carbide Composite Hardfacing Rod

Hard Surfacing Maintenance and Repair

Maximum Resistance to Minimal Impact and Excellent Wear

DC60 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, and gripping action. The addition of CWC toughens the matrix, bringing its resistance to wear to excellent.

The low melting point (1900°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) and 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, drill stabilizers, digging tool blades, wood gripping tools, cutting and shredding tools and any application that requires minimal impact resistance and excellent wear resistance.

Matrix	Rockwell "C" Scale	Nominal Chemistry		Melting Temperature
VERSAIloy® 60 AWS A5.13 NiCr-C	57-61	C 0.74 Cr 14.00 Si 4.55	B 3.5 Fe 4.5 Ni Bal	1900°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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