



TECHNICAL DATA SHEET

Diamond Carbide 60 Grade - Nickel Based Alloys

Blended Carbide Composite Hardfacing Rod

Hard Surfacing Maintenance and Repair

Maximum Resistance to Low Impact and Extreme Wear

DC60 Grade hardfacing rods are a special blend of nickel, chromium, boron alloy matrix, and finely powdered tungsten carbide (WC). Nickel, chromium, boron alloy offers excellent resistance to the effects of corrosion, erosion, high temp oxidation, abrasion and grinding wear. The addition of WC toughens the matrix, bringing its resistance to wear to excellent, for extreme abrasion conditions with low impact requirements. Reviews of microstructures exhibit dense deposits of undissolved tungsten carbides embedded in a high strength matrix.

The low melting point (1900°F) of nickel, chromium, boron enables overlays to be applied with minimal dilution and base metal distortion. Alloy is self-fluxing and 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 1/16" (.0625") diameter.

Applications

Drill Bits, mining tools, agricultural tillage tools, augers, and any application that requires resistance to extreme metal wear, and low impact resistance.

Matrix	Rockwell "C" Scale	Nominal Chemistry		Melting Temperature
VERSAlloy® 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.



Toll-free: 800.854.2159

P: 909.483.3222

F: 909.483.3233

www.Broco-Rankin.com