



TECHNICAL DATA SHEET

Diamond Carbide 50 C Grade - Nickel Based Alloys Blended Carbide Composite Hardfacing Rod *Hard Surfacing Maintenance and Repair* *Maximum Resistance to Good Impact and Severe Abrasion*

DC50 C Grade hardfacing rods are a special blend of good impact resistant nickel, boron, chromium alloy matrix, and finely powdered cast tungsten carbide (CWC). Nickel, boron, chromium alloy offers excellent resistance to the effects of corrosion, erosion, high temperature oxidation, abrasion wear and impact. CWC wear resistance characteristics are excellent, significantly increasing part life.

The low melting point (1950°F) of nickel, boron, chromium 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 the manufacturing of diameter rods from 5/16" (.3125") down to 1/16" (.0625") diameter.

Applications

Used on pulp knives, ensilage cutter bars and rollers or crushers, as well as any agricultural application, that resists severe metal to earth abrasion of dirt across metal, requiring good impact resistance.

Matrix	Rockwell "C" Scale	Nominal Chemistry		Melting Temperature
VERSAAlloy® 50 AWS A5.13 NiCr-B	48-52	C 0.60 Cr 11.00 Si 4.00	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 slightly carburizing flame (2 to 3 x "feather"), preheat base metal to a "sweat", 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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