PROTECTIVE METAL ALLOYS

TECHNICAL DATA SHEET

Diamond Carbide 50 F Grade - Nickel Based Alloys

Blended Carbide Composite Hardfacing Rod

Hard Surfacing Maintenance and Repair

Maximum Resistance to Moderate Impact and Severe Abrasion

DC50 F Grade hardfacing rods are a special blend of high impact nickel, boron, chromium alloy matrix, tungsten carbide pellets (SWC), and finely powdered cast tungsten carbide (CWC). Nickel, boron, chromium alloy offers excellent resistance to the effects of corrosion, erosion, high temp oxidation, abrasion, grinding wear and impact. SWC pellets' wear resistance characteristics significantly increase part life by causing media lock-up, creating media to media interference. The addition of CWC toughens the matrix, bringing its wear resistance to excellent.

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 can be 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 3/16" (.1875") diameter.

Applications

Use on auger flights, brush hogs, buckets and digging tools, as well as any application that resists severe metal to earth abrasion of dirt across metal, requiring moderate impact resistance.

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

BROCO | RANKIN

Toll-free: 800.854.2159
P: 909.483.3222
F: 909.483.3233
www.Broco-Rankin.com