PROTECTIVE METAL ALLOYS

TECHNICAL DATA SHEET

Diamond Carbide 40 VC Grade - Nickel Based Alloy

Blended Carbide Composite Hardfacing Rod

Hard Surfacing Maintenance and Repair

Maximum Resistance to Good Impact and Excellent Wear

DC40 VC Grade hardfacing rods are a special blend of high impact nickel, boron, chromium alloy matrix, sintered tungsten carbide (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, galling wear and impact. SWC anti-wear and cutting characteristics significantly increase part life and assist in the cutting and shredding action. The addition of CWC toughens the matrix, bringing its resistance wear to excellent.

The low melting point (2000˚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) and GTAW (TIG) 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 1/8" (.125") diameter. Alloys are pure with no binders, while carbides are homogeneously disbursed throughout the matrix to create an overlay that is especially tough and extremely wear resistant.

Applications

Used on augur flights, brush hog blades, digging tool blades and any cutting applications that require good impact resistance and excellent wear resistance.

Matrix	Rockwell "C" Scale	Nominal Chemistry		Melting Temperature
VERSAlloy® 40 AWS A5.13 NiCr-A	38-42	C 0.45 Cr 11.00 Si 2.25	B 2.50 Fe 2.25 Ni Bal	2000°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.

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

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