



TECHNICAL DATA SHEET

Diamond Carbide 40 J Grade - Nickel Based Alloy

Blended Carbide Composite Hardfacing Rod

Hard Surfacing Maintenance and Repair

Maximum Resistance to Some Impact and Extreme Wear

DC40 J Grade hardfacing rods are a special blend of high impact nickel alloy matrix, tungsten carbide pellets, and finely powdered cast tungsten carbide (CWC). Nickel, Chromium, Boron alloy offers excellent corrosion, abrasive wear, and high temperature oxidation resistance. SWC pellets' wear resistance characteristics significantly increases part life by causing media lock up, creating media to media interference. The addition of CWC toughens the matrix, bringing its resistance wear to excellent. Reviews of microstructure show dense, undissolved carbides, embedded in a nickel, chromium, boron matrix.

The low melting point (2000°F) of Nickel, Chromium, and Boron matrix enables overlays to be applied with minimal dilution and base metal distortion. This rod is self-fluxing and easily applied by OAW (Oxyacetylene) or GTAW (TIG), on clean base metals.

It can be applied to most base metals: steels, stainless steels, carbon steels and others.

Unique sintered powder metallurgical process allows for manufacture of diameter rods from 5/16" (.3125") down to 1/8" (.125") diameter.

Applications

Rock bit (shirt tails), brush hogs, buckets, digging tools, equipment skids, and any application that requires metal to earth wear resistance with some impact.

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

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



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