



## TECHNICAL DATA SHEET

**Diamond Carbide 40 100 Grade - Nickel Based Alloy**  
 Blended Carbide Composite Hardfacing Rod  
*Hard Surfacing Maintenance and Repair*  
*Maximum Resistance to High Impact and Extreme Wear*

Diamond Carbide 40 (DC40) 100 grades are a self-fluxing composite rod applied with the oxyacetylene or TIG processes. Featuring an excellent combination of wear and shock resistance matrix, carefully selected sharp grit of sintered tungsten carbides (SWC), it is specifically designed for the oil exploration and drilling and mining industries. The low melting point of the nickel, boron, chromium matrix enables overlay to be applied with minimal amount of base metal dilution and distortion.

DC40 100 grade is a nickel, boron, chromium based composite rod, composed of 5/16" – 1/4" (8mm – 6mm), 1/4" – 3/16" (6mm – 4.8mm), 3/16" – 1/8" (4.8mm – 3.2mm) or 1/8" – 1/16" (3.2mm – 1.6mm) grit size SWC in a nickel, boron, chromium alloy matrix. Additional sizes are available upon request.

### Applications

Recommended for use on rotary shoes, fishing tools, stabilizers, mining, geothermal and tunnel applications.

Matrix	Sintered Tungsten Carbide	Nominal Chemistry			Melting Temperature
VERSAlloy® 40 AWS A5.13 NiCr-A	5/16" - 1/4"	C	0.45	B	2000°F
	1/4" – 3/16"	Cr	11.00	Fe	
	3/16" – 1/8"	Si	2.25	Ni	
	1/8" – 1/16"			Bal	

### 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.*



Toll-free: 800.854.2159  
 P: 909.483.3222  
 F: 909.483.3233  
[www.Broco-Rankin.com](http://www.Broco-Rankin.com)