

TOOLMAKER SOLUTIONS
**Versirion™ and
Versimax™
Die Blanks**



The best of polycrystalline
diamond and tungsten
carbide combined in one
revolutionary composite
material

 **HYPERION**
Materials & Technologies

VERSIRION™

Hyperion is introducing the Versirion™ series, a revolutionary silicon carbide and polycrystalline diamond (PCD) composite with increased wear property and thermal stability. Versirion™ is made by a state-of-the-art high pressure high temperature process and is based on the Versimax™ composite developed for wire drawing and wear application.

VERSIRION™ AND VERSIMAX™

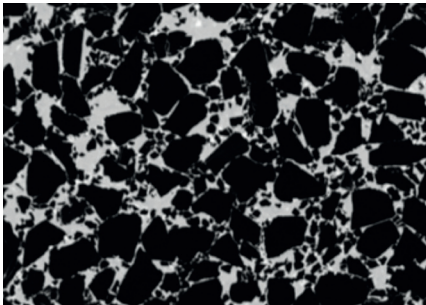
Versirion and Versimax exhibit superior wear resistance, high temperature performance and high strength approaching that of Co-sintered PCD, with the addition of superior thermal stability. Versirion exhibits the most superior corrosion resistance.

MAIN ADVANTAGES

- Superior thermal stability compared to that of PCD
- Significantly reduced coefficient of thermal expansion (CTE) mismatch
- Thermally stable up to 1400°C, which creates less risk of failures during application
- Easy to process:
 - Electrically conductive: EDM processability allows flexibility in cutting various geometries
 - Larger sizes than unsupported PCD: diameter - 35 mm, height - 35 mm
 - Does not require polishing of the bore to achieve the surface finish of the wire
 - Ability to be easily brazed or shrink fitted into casing
- Versatility: ferrous and non-ferrous wires
- Wear resistance comparable to that of PCD and corrosion resistance slightly better than that of PCD.

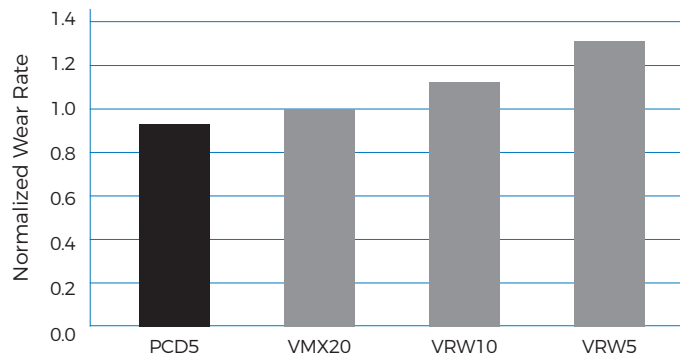
MAIN APPLICATIONS FOR FERROUS AND NON-FERROUS WIRES

- Drawing
- Bunching
- Compacting
- Wear applications
- Stranding
- Extrusion

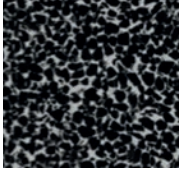
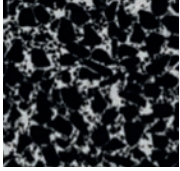
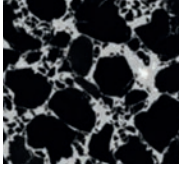


Microstructure

WEAR RESISTANCE TEST RESULTS



VERSIRION™ AND VERSIMAX™ PRODUCT OFFERING

	GRADE	APPLICATION(S)	AVERAGE GRAIN SIZE
Versirion™ (VRW5)	Fine Grain	<ul style="list-style-type: none"> - Low carbon steel - Tire cord - Aluminum - Copper with higher surface finish requirement 	
Versirion™ (VRW10)	Medium Grain	<ul style="list-style-type: none"> - Low carbon steel - Coated steel - Aluminum - Copper with lower surface finish requirement 	
Versimax™	Coarse Grain	<ul style="list-style-type: none"> - Bunching - Stranding - Wear application - Compacting - High pressure - High temperature 	



VERSIRION™ AND VERSIMAX™ BLANK SIZES

Versirion and Versimax wire die blanks are self-supported and do not have carbide support rings. Both are available in custom sizes and shapes and are prepared according to customer specifications.

Simple shapes (cylinders, rectangular or triangular prisms, etc.) and more complicated geometries (conical shapes, hollow cylinders, negative features, etc.) can be produced.

Versimax can be attached to tungsten carbide or steel by furnace brazing. Tools can also be produced by press fitting, heat shrink fitting, adhesive bonding or mechanical fixturing.

Contact your Hyperion account manager to review your application and determine the best fabrication method for your needs.

ADDMA	DIAMETER (mm)	THICKNESS (mm)	PARALLELISM 	PERPENDICULARITY 	ROUNDNESS
D6	3.1	1.0	0.08	0.13	0.05
D12	3.1	1.5	0.08	0.13	0.05
D15	5.2	2.5	0.08	0.25	0.05
D18	5.2	3.5	0.08	0.25	0.05
D21	7.0	4.0	0.08	0.25	0.05
D24	13.0	7.0	0.10	0.3	0.05
D27	13.0	8.7	0.10	0.3	0.05
D30	18.6	13.5	0.10	0.4	0.05
D33	18.6	15.5	0.10	0.5	0.05
D36	18.6	18.5	0.10	0.6	0.05
TM	23.0	15.0	0.10	0.38	0.05
TM	25.0	20.0	0.10	0.51	0.05
TM	30.0	22.0	0.10	0.56	7.6
TM	35.0	25.0	0.10	0.64	11.2

TM = Tailor-made
Unless otherwise specified all parts are cut with an EDM external hook.

