APPLICATION KNOWLEDGE

HYPERION MATERIALS & TECHNOLOGIES

Hyperion has been manufacturing a wide range of premium products for the wire drawing industry for over 70 years, from polycrystalline diamond (PCD) and carbide blanks to rough core dies and diamond compounds, slurs, and suspensions. Hyperion not only provides innovative products but also offers technical expertise that can be leveraged to develop your drawing solutions.

TUNGSTEN CARBIDE

Our tungsten carbide wire drawing products are used in the forming of these materials: steel cord for rubber reinforcement, sawing wire, bead wire, welding wire, galvanized wire, stainless steel, spring wire, etc.

PCD

We manufacture full-line polycrystalline diamond (PCD) wire die blanks to serve a wide range of wire drawing and extruding applications: stainless steel, welding wire, sawing wire, tire cord, electrical wire, and medical wire applications.

VERSIMAX™ AND VERSIRION™

Hyperion’s Versimax and Versirion are unique solutions for drawing and compacting applications for various ferrous and non-ferrous materials. They offer exceptional wear resistance, mechanical strength, and high-temperature performance.

DIAMOND COMPOUNDS

We manufacture a range of premium diamond powders, compounds, slurries, and suspensions. These products are the ideal answer for finishing wire die surfaces and can be custom formulated for your wire drawing conditions.

www.HyperionMT.com

Carbide dies and polycrystalline diamond and diamond composite blanks for drawing, compacting, and stranding.
HYPERION MATERIALS & TECHNOLOGIES - YOUR COMPLETE DRAWING SOLUTIONS PROVIDER

VERSIRION™ AND VERSIMAX™ DIE BLANKS

Hyperion Materials & Technologies is introducing the Versirion™ series, a revolutionary silicon carbide and polycrystalline diamond (PCD) die blanks portfolio. 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 other applications. Versirion™ and Versimax™ die blanks are thermally stable up to 1400°C.

Main advantages:
- Superior thermal stability compared to that of PCD
- Significantly reduced coefficient of thermal expansion (CTE) memorandum
- Thermally stable up to 1400°C, which creates less risk of failures during applications
- Easy to process:
  - Electrically conductive: EDM processability allows flexibility in cutting various geometries
  - Coating 
  - Diamond compounds

Main applications for ferrous and non-ferrous wires:
- Bunching
- Compacting
- Drawing
- Extrusion
- Stranding
- Wear applications

6 VERSIRION™ AND VERSIMAX™ BLANKS

Hyperion manufactures tungsten carbide rough drawing die blanks with cylindrical or tapered outer diameters. It offers the technical expertise to develop the carbide grade needed to fit your application as well as to tailor-make parts according to your drawing necessities.

3/4 W TUNGSTEN CARBIDE DIES AND BLANKS

Hyperion’s drawing dies are less for their impeccable geometry and unique and consistent tungsten carbide grade composition. We offer not only a wide range of standard dimensions but also the unique ability to partner with you to create a special design for your needs.

D I A M O N D C O M P O U N D S

Starting with the highest quality of raw materials, Hyperion uses advanced engineering methods to manufacture diamonds with specific characteristics of strength and toughness. State-of-the-art micromachining techniques ensure the diamond powders have precisely defined sizes, shapes, and surface properties for polishing dies.

Hyperion’s offering of diamond compounds is a combination of premium diamond powder and superior lubricants (paste) creating the optimal polishing products.

Main applications for Ferrous and non-ferrous wires:
- Bunching
- Blending
- Wire application
- Compacting
- High pressure
- High temperature
- Coarse Grain Average 5 μm

WEAR RESISTANCE TEST RESULTS

Graph showing wear resistance test results with different conditions and materials.

V S R I S R I O N T M ( V R W 5 ) - L o w c a r b o n s t e e l - T i n c o a t
- Copper with higher surface finish requirement
- Medium Grain Average 15 μm
- Fine Grain Average 5 μm

VERSCREEN™ (VRW10) - Low carbon steel
- Copper with lower surface finish requirement
- Coarse Grain Average 40 μm

Diagram showing the comparison of wear resistance properties for different conditions and materials.