Compax® polycrystalline diamond die blanks for wire drawing applications
COMPAX® PCD DIE BLANKS PRODUCT GROUPS

SELF SUPPORTED
COMPAX PCD BLANKS

Free standing polycrystalline (PCD) diamond cylinders

TUNGSTEN CARBIDE SUPPORTED
COMPAX PCD BLANKS

Polycrystalline diamond (PCD) core integrally bonded to a tungsten carbide support ring

GRAIN SIZES - AVERAGE PARTICLE SIZE

3 μm

25 μm

5 μm

Product Description

TS Grade
- Catalyst metal removed
- Thermally stable up to 1050°C in an inert or reducing atmosphere
- Can be mounted using high temperature, high strength metal setting powders
- Not electrically conductive: EDM not recommended for piercing/shaping
- Use laser, ultrasonic or needle piercing/shaping methods.

MF Grade
- Metal filled, contains catalyst metal
- Thermally stable up to 700°C
- Do not exceed 700°C in blank mounting
- Electrically conductive: EDM, laser, ultrasonic or needle methods for piercing/shaping die bore may be used.

Polishing
- Diamond micron powder SJK-5 or GMM coating series recommended for final die bore shaping and polishing
- For superior polish, use 0.25 μm or 0.5 μm graded diamond fines.

Recommended Applications

TS or MF Grade
- Drawing of high carbon steel tire cord
- Drawing of smaller diameter and critical surface finish non-ferrous and ferrous wires.

TS Grade
- High temperature drawing of tungsten/molybdenum.

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SUB-MICRON DIE BLANKS

Hyperion is the leading global supplier of manufactured super-hard materials required for wire industrial applications. Sub-micron die blanks belong to our Compax® family of products and are one of many premium products available for the wire industry. Sub-micron die blanks are polycrystalline (PCD) product with an ultra-fine grain microstructure. The unique material properties provide very good abrasion resistance and the ability to achieve a high quality surface finish.

PROPERTY | UNITS | TYPICAL VALUE
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Diamond content | % vol | 91
Diamond grain size | μm | 0.9

COMPAX® - DIMENSIONS & AVAILABILITY CHART

SELF-SUPPORTED DIE BLANKS

TUNGSTEN CARBIDE-SUPPORTED DIE BLANKS

* Maximum recommended bore size for non-ferrous wire. Hard-ferrous wire die size normally should not exceed 65% of this diameter.