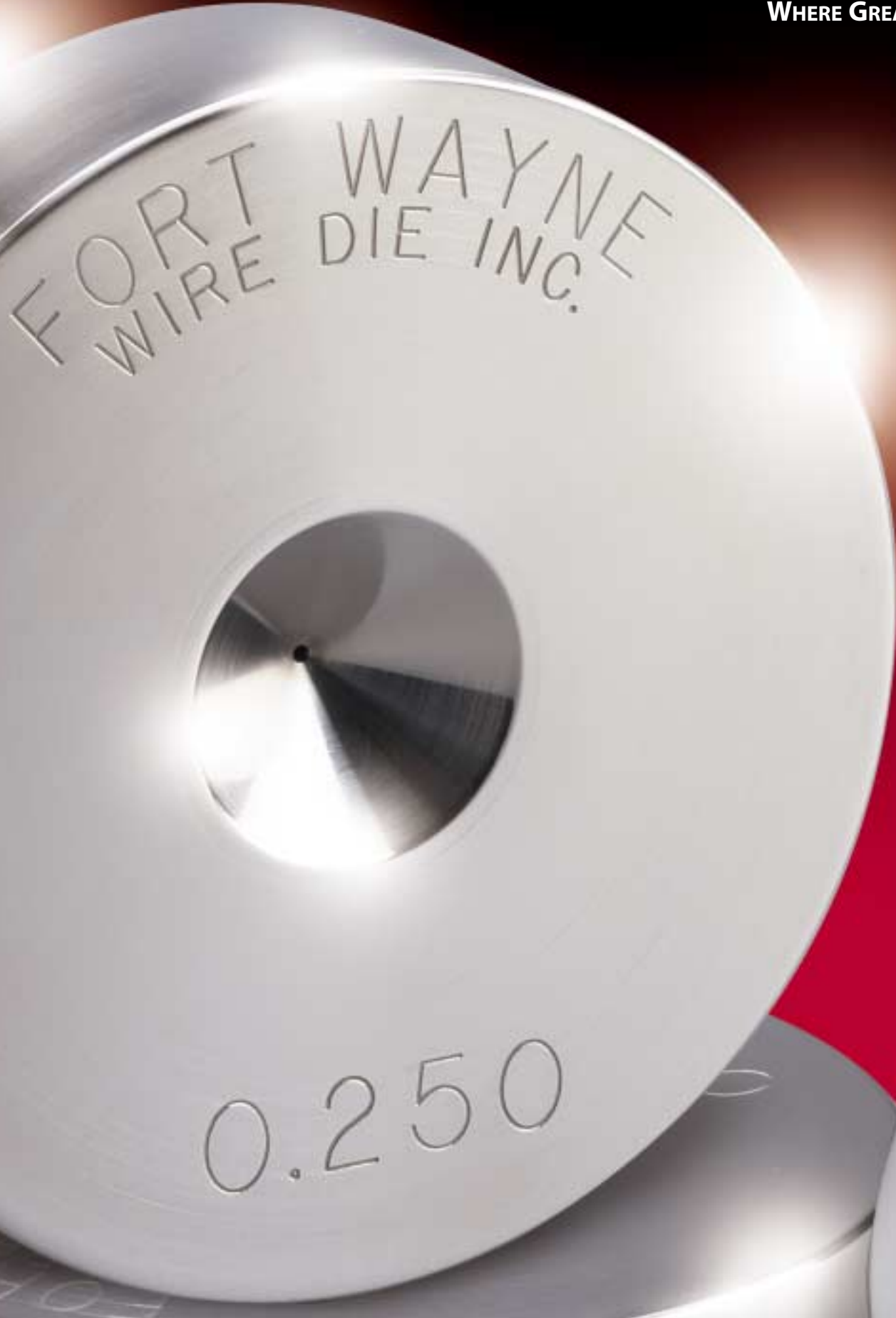




Fort Wayne Wire Die, Inc.

WHERE GREAT WIRE BEGINS



**PRODUCT
GUIDE**

SINGLE CRYSTAL NATURAL DIAMOND DIES

Fort Wayne Wire Die single crystal natural diamond dies provide premium quality and performance. Each diamond is individually inspected to ensure that all diamonds used are free from internal defects. Then each diamond is x-ray oriented to ensure maximum wearability, properly mounted, precisely profiled, highly polished and accurately sized to offer uniform wire reduction, minimum die pull and excellent wire surface quality.

HOLE SIZES

.0003 in (0.0075mm) to .114 in (2.90mm).

BENEFITS

- Best surface finish of any die material available.
- Lowest die pull and friction.
- X-ray oriented diamond provides:
 - greater consistency
 - predictable wear
 - more pounds of uniform wire per die.
- Excellent recutability.

APPLICATIONS

Used in fine or ultrafine wire sizes or as finish dies when a superior wire surface is required.

TYPICAL MARKETS

Magnet wire, tungsten wire, plated copper wire, stainless steel wire, precious metals.



SINGLE CRYSTAL SYNTHETIC DIAMOND DIES

Single crystal synthetic diamonds are available as an alternative to single crystal natural diamonds. Produced using a high pressure/high temperature process, Fort Wayne Wire Die single crystal synthetic diamonds are free from impurities, inclusions and cracks. Like natural diamond dies, synthetic diamond dies from Fort Wayne Wire Die are manufactured to the highest standards, following the same processes used in natural diamond die production.

HOLE SIZES

.0003 in (0.0075mm) to .050 in (1.25mm).

BENEFITS

- Excellent consistency for predictable die life.
- Unlimited future availability.
- Superior surface finish.

APPLICATIONS AND TYPICAL MARKETS

Same as Single Crystal Natural Diamond Dies.



POLY-DI® POLYCRYSTALLINE DIAMOND DIES

Get significantly longer die life, excellent wire roundness and highly predictable die wear with Poly-Di® diamond dies. Poly-Di diamond dies are manufactured with polycrystalline diamonds, a long-wearing synthetic material with highly polished surface finishes that minimize friction. You get the longest possible die life and good wire surface finish.

HOLE SIZES

.0009 in (0.023mm) to .600 in (15.0mm).

BENEFITS

- Maximum die life provides highest efficiency with less downtime.
- Available in a wide range of grain and blank sizes.
- Excellent resistance to die fracture and breakage.
- Even, predictable die wear.

APPLICATIONS

Nonferrous wire, especially larger sizes where demanding wear is a problem, but surface finish is less critical.

TYPICAL MARKETS

Aluminum wire, copper wire, stainless steel wire and tire cord.





TUNGSTEN CARBIDE DIES

Tungsten carbide wire drawing dies from Fort Wayne Wire Die are the result of expert technology and precision craftsmanship. Especially desirable in steel wire applications, tungsten carbide dies are the right choice for applications where the finish and wear resistance of diamond dies are unnecessary and cost-savings are a priority. Fort Wayne Wire Die offers a variety of tungsten carbide dies for your various wire-drawing needs, including shaped wire dies and tube drawing dies.

HOLE SIZES

.006 in (0.150mm) to 2.0 in (50mm).

BENEFITS

- Excellent corrosive wear resistance.
- Available in a large range of sizes.
- Cost effective.

APPLICATIONS

Ideal for most ferrous wires, large diameters and applications where corrosive wear is the primary cause of die failure.

TYPICAL MARKETS

Carbon steel wire of all sizes, tire cord and welding wire.



MATCHED ELONGATION SETS OF DIES

To optimize the performance of today's high-speed multiwire drawing machines, Fort Wayne Wire Die manufactures wire drawing die sets that are fully certified to performance specifications, using single crystal diamond and Poly-Di® polycrystalline diamond dies. Using precise manufacturing techniques and performance testing unique to Fort Wayne Wire Die as well as stringent inspections throughout the die production process, Fort Wayne Wire Die produces matched die sets that are precisely engineered to match the elongation of the wire drawing machinery used. Fort Wayne Wire Die sets have been installed in machines that draw up to 24 wires simultaneously and use more than 500 dies.

HOLE SIZES

Physical elongation is especially important for die series smaller than .016 in (0.40mm).

BENEFITS

- Reduce machine downtime.
- Minimize wire breaks.
- Improve wire surface finish.
- Reduce wear on capstans.

APPLICATIONS

Recommended for all multiwire drawing machines, and useful for single-wire drawing machines where reducing the amount of slip is advantageous to the drawing process.

TYPICAL MARKETS

Bare or plated copper wire.



CUSTOM-MADE SHAPED WIRE DRAWING DIES

Fort Wayne Wire Die produces dies in a wide variety of shapes from polycrystalline diamond or tungsten carbide material and also manufactures custom, specially shaped dies by request. For unique shaped wire requirements, Fort Wayne Wire Die designers can create a set of dies that will gradually deform the wire to achieve the proper shape.

HOLE SIZES

Minimum height and width of .020 in (0.5mm).
Minimum corner radius of .004 in (0.1mm).

BENEFITS

- Custom-made to your specifications.
- Wear characteristics of hard and super-hard materials.

APPLICATIONS

Ferrous or nonferrous wire drawn in the following shapes:

- Square
- Rectangular
- Oval
- Half-Round
- Inquire about special, custom shapes available
- Triangular
- Flat
- Hexagonal
- Trolley Wire



SOLID ENAMELING (CALIBRATING) DIES

Achieve a more accurate and consistent enameling application on magnet wire with solid hole enameling dies featuring Fort Wayne Wire Die's special leak-proof design. Select from a standard style or provide your specifications for long-lasting, custom-made enameling dies. The tapered internal geometry allows easy threadability for even the smallest wire sizes. Compatible with vertical and horizontal enameling equipment of major manufacturers.

HOLE SIZES

Tungsten carbide insert: .008 in (0.2mm) and larger.
Single crystal diamond insert: .002 in (0.05mm) and larger.
Sapphire insert: .004 in (0.1 mm) and larger.

BENEFITS

- More accurate and consistent insulation application than felt or split dies.
- Choice of single crystal diamond, tungsten carbide or sapphire inserts for maximum life.
- Leak-proof design.
- Easy threadability.
- Unique carbide *spool style* has excellent cost benefits.

APPLICATIONS

Magnet wire, enameled wire.



POLY-STRAND™ STRANDING, BUNCHING AND COMPACTING DIES

Poly-Strand™ dies provide the best combination of economy and wear resistance for stranding, bunching and compacting conductor wire. Using both tungsten carbide and polycrystalline diamond materials in the Poly-Strand die blank, Fort Wayne Wire Die provides optimal use of the material for the best economy and performance.

HOLE SIZES

Polycrystalline diamond dies: Up to 1.2 in (30mm).
Tungsten carbide dies: Up to 2.0 in (50mm).

