



Fort Wayne Wire Die

# Poly-Di® Polycrystalline Diamond Dies / SPECIFICATIONS

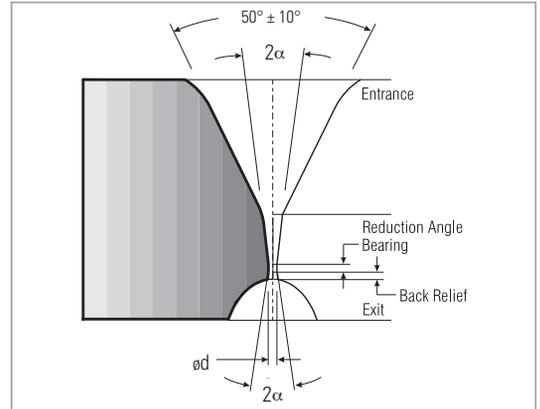
Poly-Di® polycrystalline diamond dies from Fort Wayne Wire Die provide remarkably predictable even wear and extended life for greater wire drawing production efficiency.

## Total Bore Diameter Tolerances PCD Wire Drawing Dies—New and Recuts

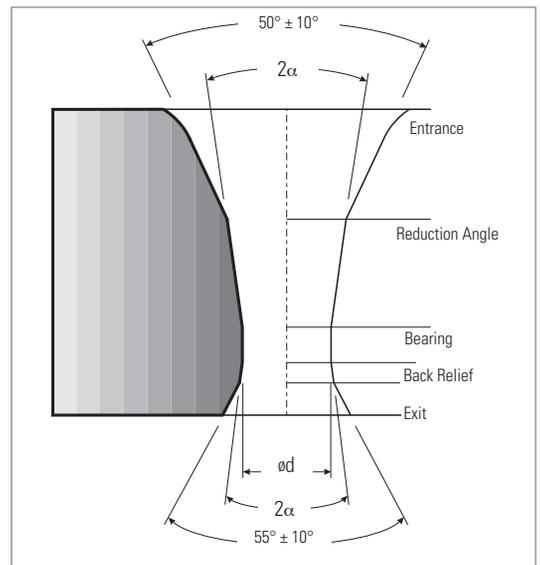
INCH			
Size Range	Standard Hole Size Tolerance STD102	Standard Ovality Tolerance STD102	Min. "Tightest" Hole Size Tolerance STD301
.0006 or less	.000024	.000020	.000010
.00061-.0008	.000024	.000020	.000012
.00081-.0010	.000028	.000020	.000014
.00101-.0020	.000036	.000020	.000016
.00201-.0030	.000040	.000020	.000020
.00301-.0040	.000050	.000030	.000030
.00401-.0080	.000060	.000040	.000040
.00801-.0100	.000080	.000040	.000040
.01001-.0160	.000080	.000040	.000050
.01601-.0200	.000120	.000080	.000060
.02001-.0300	.000120	.000080	.000080
.03001-.0400	.000160	.000100	.000080
.04001-.0600	.000160	.000100	.000100
.06001-.1500	.000200	.000120	.000120
.1501-.5000	.000500	.000500	.000500

MILLIMETER			
Size Range	Standard Hole Size Tolerance STD102	Standard Ovality Tolerance STD102	Min. "Tightest" Hole Size Tolerance STD301
0.015 or less	0.0006	0.0005	0.00025
0.0151-0.020	0.0006	0.0005	0.0003
0.0201-0.025	0.0007	0.0005	0.00035
0.0251-0.050	0.0009	0.0005	0.0004
0.0501-0.075	0.0010	0.0005	0.0005
0.0751-0.100	0.0012	0.0008	0.0008
0.101-0.200	0.0015	0.0010	0.0010
0.201-0.250	0.0020	0.0010	0.0010
0.251-0.400	0.0020	0.0010	0.0012
0.401-0.500	0.0030	0.0020	0.0015
0.501-0.750	0.0030	0.0020	0.0020
0.751-1.000	0.0040	0.0025	0.0020
1.001-1.500	0.0040	0.0025	0.0025
1.501-3.80	0.0050	0.0030	0.0030
3.801-12.70	0.0127	0.0127	0.0127

### Typical Die Profile



Typical Profile of New Polycrystalline Diamond Dies under .004" (0.100 mm)



Typical Profile of New Polycrystalline Diamond Dies over .004" (0.100 mm)

### Typical Die Specifications for Various Wire Materials

WIRE MATERIAL	DEGREE OF BLENDING	REDUCTION ANGLE (2α)	BEARING LENGTH
Bare Copper	Well Blended	18° ± 2°	25% ± 10%
Aluminum	Well Blended	20° ± 2°	25% ± 10%
Tin or Silver Plated Copper	Very Well Blended	20° ± 2°	20% ± 10%
Stainless Steel	Slightly Blended	15° ± 2°	35% ± 10%
Tungsten	Slightly Blended	14° ± 2°	30% ± 10%
Brass or Copper Covered Steel	Slightly Blended	10° ± 2°	30% ± 10%



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### Standard Casing Sizes

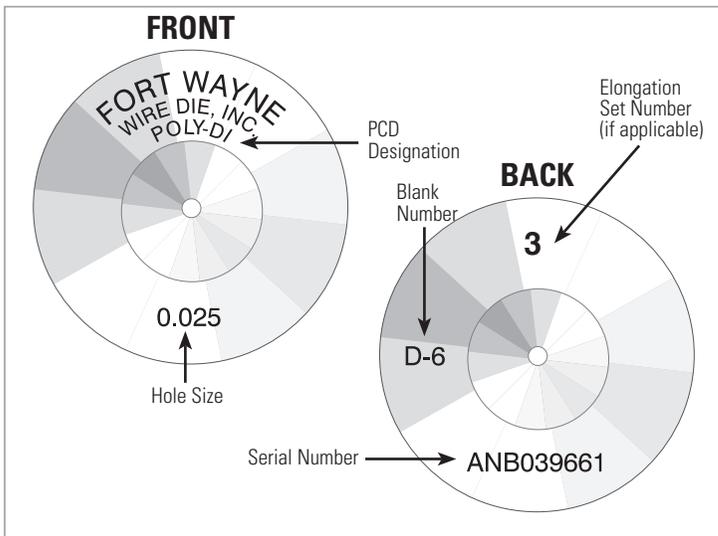
	INCH	MILLIMETER
BLANK SIZE	CASING SIZE D X T	CASING SIZE D X T
D-6 thru D-12	1 or 1 1/8 x 3/8	25 or 28 x 10
D-15 thru D-24	1 or 1 1/8 x 1/2	25 or 28 x 12
D-27 thru D-30	1 1/2 x 7/8	38 x 22
D-33	2 x 1 1/8	51 x 28
D-36	3 x 2	76 x 51

\*Special casing sizes available upon request.

### Suggested Microscope Viewing Ranges

INCH	MILLIMETER	
HOLE SIZE	HOLE SIZE	MAGNIFICATION
.002 and smaller	0.05 and smaller	120–160X
.00201–.004	0.0501–0.10	90–120X
.00401–.010	0.101–0.25	60–90X
.0101–.090	0.2501–2.30	30–45X
.0901 and larger	2.301 and larger	10–20X

### Standard Die Stamping



### Ordering Information

Fort Wayne Wire Die drawing dies provide the quality needed for optimum wire drawing efficiency. For enhanced order processing, please verify your product requirements for the following die specifications.

- Blank Number \_\_\_\_\_
- Casing Dimensions \_\_\_\_\_
- Hole Size \_\_\_\_\_
- Hole Size Tolerance \_\_\_\_\_
- Reduction Angle \_\_\_\_\_
- Bearing Length \_\_\_\_\_
- Quantity per Hole Size \_\_\_\_\_
- Wire Material \_\_\_\_\_

### Typical Die Sizes by Wire Type

WIRE TYPE	DIE SIZE RANGE											
Stainless Steel	[Bar chart showing die size range for Stainless Steel]											
Tungsten	[Bar chart showing die size range for Tungsten]											
Brass Covered Steel	[Bar chart showing die size range for Brass Covered Steel]											
Copper Coated Steel	[Bar chart showing die size range for Copper Coated Steel]											
Bare Copper	[Bar chart showing die size range for Bare Copper]											
Tinned Copper	[Bar chart showing die size range for Tinned Copper]											
Aluminum	[Bar chart showing die size range for Aluminum]											
INCHES	.0005	.001	.002	.004	.008	.016	.032	.064	.128	.256	.512	
MILLIMETERS	0.0125	0.025	0.05	0.10	0.20	0.40	0.80	1.60	3.20	6.40	12.80	