



**PARAMOUNT DIE**  
DRAWING SYSTEMS FOR THE WIRE INDUSTRY

## Polycrystalline Diamond Dies

### Key Benefits

- Maintain uniform wire roundness
- Offered in a wide range of diameters and casing sizes
- Various grain sizes available
- For use in wet and dry drawing applications
- For use in pressure and non-pressure applications



**Paramount Die manufactures polycrystalline diamond (PCD) wire drawing dies that can be used for a wide range of drawing applications.**

PCD dies offer a high resistance to wear and an excellent wire surface finish. The precision dies are manufactured to superior quality standards enabling longer die life at high speeds in demanding applications.

### Applications

Welding wire, stainless steel wire, tire cord, galvanized wire, saw wire, aluminum wire, copper wire, and specialty alloys

## Polycrystalline diamond dies transform wire



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# Polycrystalline Diamond Dies

## PCD Blank by Size - Millimeter

| ADDMA Blank Size         | Diameter Minimum | Diameter Maximum      | Diameter Maximum      |
|--------------------------|------------------|-----------------------|-----------------------|
| <b>Thermally-Stable</b>  |                  | <i>Hard Materials</i> | <i>Soft Materials</i> |
| D06                      | 0.18             | 0.4                   | 0.5                   |
| D12                      | 0.18             | 0.7                   | 1.0                   |
| D15                      | 0.50             | 1.1                   | 1.5                   |
| D18                      | 0.50             | 1.4                   | 2.0                   |
| <b>Carbide-Supported</b> |                  | <i>Hard Materials</i> | <i>Soft Materials</i> |
| D21                      | 0.08             | 2.5                   | 3.5                   |
| D24                      | 0.10             | 3.2                   | 4.6                   |

## PCD Blank by Size - Inch

| ADDMA Blank Size         | Diameter Minimum | Diameter Maximum      | Diameter Maximum      |
|--------------------------|------------------|-----------------------|-----------------------|
| <b>Thermally-Stable</b>  |                  | <i>Hard Materials</i> | <i>Soft Materials</i> |
| D06                      | 0.007            | 0.016                 | 0.020                 |
| D12                      | 0.007            | 0.028                 | 0.040                 |
| D15                      | 0.020            | 0.040                 | 0.060                 |
| D18                      | 0.020            | 0.055                 | 0.080                 |
| <b>Carbide-Supported</b> |                  | <i>Hard Materials</i> | <i>Soft Materials</i> |
| D21                      | 0.030            | 0.100                 | 0.140                 |
| D24                      | 0.030            | 0.125                 | 0.180                 |

## Bearing Diameter - Millimeter

| Size Range  | Standard Diameter Tolerance | Standard Ovality Tolerance | Bearing Length Range | Reduction Angle (2a) Tolerance |
|-------------|-----------------------------|----------------------------|----------------------|--------------------------------|
| 0.180-0.400 | 0.0020                      | 0.0010                     | 30%                  | ±2°                            |
| 0.401-0.600 | 0.0030                      | 0.0020                     | 30%                  | ±2°                            |
| 0.601-0.800 | 0.0050                      | 0.0025                     | 20%                  | ±2°                            |
| 0.801-1.000 | 0.0050                      | 0.0025                     | 20%                  | ±2°                            |
| 1.001-1.500 | 0.0050                      | 0.0025                     | 20%                  | ±2°                            |
| 1.501-2.000 | 0.0050                      | 0.0025                     | 20%                  | ±2°                            |
| 2.001-3.800 | 0.0050                      | 0.0030                     | 10%                  | ±2°                            |
| 3.801-4.500 | 0.0060                      | 0.0040                     | 10%                  | ±2°                            |
| 4.501-5.500 | 0.0060                      | 0.0040                     | 10%                  | ±2°                            |
| 5.501-9.000 | 0.0070                      | 0.0040                     | 10%                  | ±2°                            |
| 9.001-12.00 | 0.0080                      | 0.0050                     | 10%                  | ±2°                            |

## Bearing Diameter - Inch

| Size Range  | Standard Diameter Tolerance | Standard Ovality Tolerance | Bearing Length Range | Reduction Angle (2a) Tolerance |
|-------------|-----------------------------|----------------------------|----------------------|--------------------------------|
| .0070-.0160 | 0.00008                     | 0.00004                    | 30%                  | ±2°                            |
| .0161-.0240 | 0.00010                     | 0.00008                    | 30%                  | ±2°                            |
| .0241-.0320 | 0.00020                     | 0.00010                    | 20%                  | ±2°                            |
| .0321-.0400 | 0.00020                     | 0.00010                    | 20%                  | ±2°                            |
| .0401-.0600 | 0.00020                     | 0.00010                    | 20%                  | ±2°                            |
| .0601-.0800 | 0.00020                     | 0.00010                    | 20%                  | ±2°                            |
| .0801-.1500 | 0.00020                     | 0.00012                    | 10%                  | ±2°                            |
| .1501-.1800 | 0.00030                     | 0.00016                    | 10%                  | ±2°                            |
| .1801-.2200 | 0.00030                     | 0.00016                    | 10%                  | ±2°                            |
| .2201-.3500 | 0.00030                     | 0.00016                    | 10%                  | ±2°                            |
| .3501-.5000 | 0.00030                     | 0.00020                    | 10%                  | ±2°                            |

## PCD Material Grain Size - Microns

| ADDMA Blank Size         | Standard 5 | Standard 12 |
|--------------------------|------------|-------------|
| <b>Thermally-Stable</b>  |            |             |
| D06                      | •          |             |
| D12                      | •          | •           |
| D15                      | •          | •           |
| D18                      | •          | •           |
| <b>Carbide-Supported</b> |            |             |
| D21                      | •          | •           |
| D24                      | •          | •           |

## Standard Cases

| Millimeter |        |
|------------|--------|
| Diameter   | Height |
| 28         | 10     |
| 43         | 27     |

| Inch     |        |
|----------|--------|
| Diameter | Height |
| 1        | 3/8    |
| 1        | 9/16   |
| 1 1/2    | 3/4    |
| 1 1/2    | 7/8    |

