

# Die Recutting Service

S P E C I F I C A T I O N S



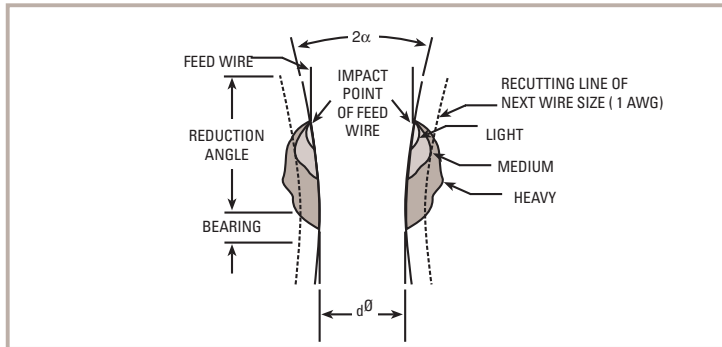
Fort Wayne Wire Die, Inc.

Fort Wayne Wire Die Recutting Service provides like-new performance from your worn single crystal diamond dies and polycrystalline diamond dies. Expert technology and precision craftsmanship used in the original manufacturing process ensure that the accuracy of die geometry and bearing lengths meets your specifications.

## Improve Operating Efficiency

Fort Wayne Wire Die inspects each die received to carefully analyze wear and recutting factors. This inspection can reveal abnormal wear or usage that may affect your productivity. Stringent quality controls play a critical role in helping Fort Wayne Wire Die recut your dies to required specifications.

## Degrees of Die Wear

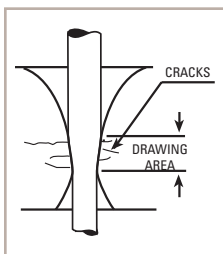


## Recut Quality Definitions

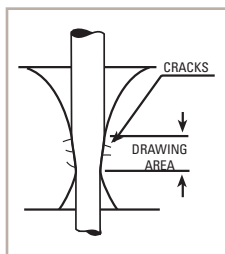
Through the development of a three-tier quality standard for recut dies, Fort Wayne Wire Die has enabled our customers to choose the necessary quality level while maximizing the number of recuts received from each die. The tradeoff in selecting a higher quality level is that it may require additional material removed from the die to meet the quality standard, thus reducing the number of recuts possible from each die.

Evaluation services are offered to help the customer determine the desired quality level needed based on the material drawn, the application and the required wire surface finish.

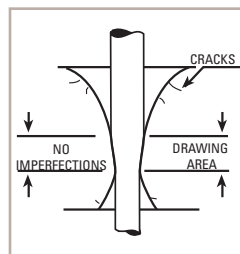
- X** The recut die may have cracks anywhere in the drawing area, but must be able to draw round wire without clicks.
- XX** The recut die may have small cracks or imperfections in the reduction area, but not in the bearing.
- XXX** The recut die must have no imperfections in the drawing area of the die.



X QUALITY



XX QUALITY

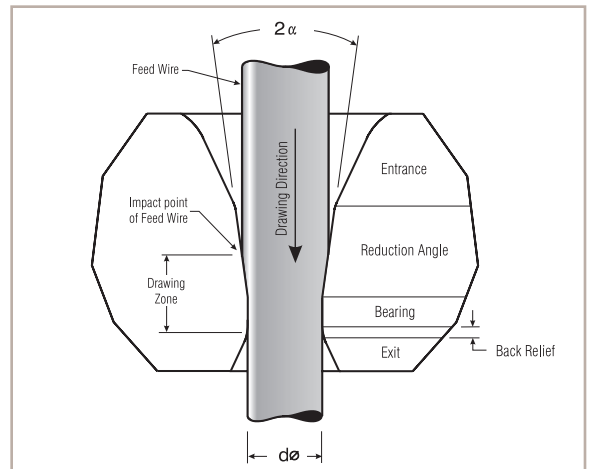


XXX QUALITY

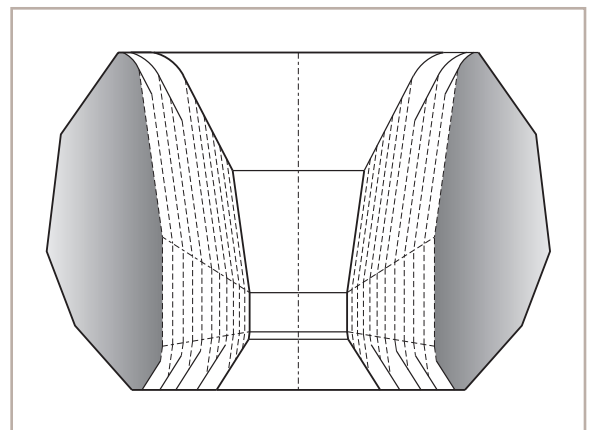
## Elongation Set Recutting

Fort Wayne Wire Die also recuts matched elongation sets to original manufactured quality standards. Each set is recut to your specific requirements using proprietary die calculation software to accurately match die elongation to the machine requirements. Each die is performance tested, certified and documented to an elongation tolerance of  $\pm 0.5\%$ . Each die is also marked with the set number and packaged as a set for ease of installation.

## Die Nomenclature



## Recut Die Profile



Typical profile of SCD or PCD dies above .004" (0.100 mm) as it is recut to larger sizes, keeping the reduction angle and bearing length percentage constant.

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## Recutting Charge Explanation

The recutting charge is dependent on the amount of wear or damage within the die and how far it must be recut to remove that wear. It is calculated as the greater of the minimum charge or the total mil (unit) charge per die. The determining factor is how many mils (.001" or 0.025 mm) or fractions of a mil are taken in recutting the die to the next requested hole size. For example:

Mil (Unit) Charge	Minimum Charge
\$6.00 (example only)	\$15.00 (example only)

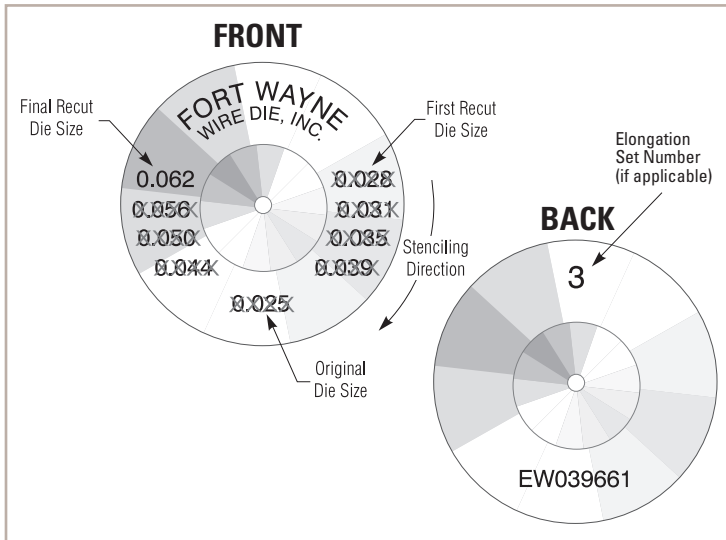
	EXAMPLE 1	EXAMPLE 2
Current hole size	.010"	.010"
Hole size after recutting	.012"	.0122"
Material removed	.002" (2 mils)	.0022" (3 mils)
Recutting charge	\$15.00 (minimum charge)	\$18.00 (3 x \$6.00)

In Example 1, the mil charge for a .012" die is \$6.00 x 2 mils = \$12.00 per die. Since the minimum charge (\$15.00) is greater than the mil charge (\$12.00), the minimum charge would apply.

In Example 2, the die is recut to .0122" (2.2 mils) and the mil charge is \$6.00 x 3 mils = \$18.00 per die. (A fraction of a mil is charged as a complete mil.) In this case the mil charge (\$18.00) would apply since it is greater than the minimum charge (\$15.00).

There is also a fee charged when dies are found to be "Unsuitable For Recutting" which varies depending on whether it is determined before the recutting process has begun or after. See the price list for further details and current pricing.

## Standard Die Stamping



## Suggested Microscope Viewing Ranges

INCH	MILLIMETER	MAGNIFICATION
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



## Recut Ordering Information

To assure prompt service, please make sure the following information appears on the order.

- 1 First and Second Requested Hole Size \_\_\_\_\_
- 2 Hole Size Tolerance \_\_\_\_\_
- 3 Reduction Angle \_\_\_\_\_
- 4 Bearing Length \_\_\_\_\_
- 5 Wire Material \_\_\_\_\_
- 6 Recut Quality Level \_\_\_\_\_



## Recut Elongation Sets Ordering Information

- 1 Hole Size \_\_\_\_\_
- 2 Hole Size Tolerance \_\_\_\_\_
- 3 Reduction Angle \_\_\_\_\_
- 4 Bearing Length \_\_\_\_\_
- 5 Wire Material \_\_\_\_\_
- 6 Recut Quality Level \_\_\_\_\_
- 7 Wire Drawing Machine Manufacturer and Model Number \_\_\_\_\_
- 8 Transmission Diagram \_\_\_\_\_
- 9 Number of Die Positions in Machine \_\_\_\_\_
- 10 % Elongation Between Each Die \_\_\_\_\_
- 11 Diameter of Supply Wire \_\_\_\_\_
- 12 Finish Die Diameter and Tolerance \_\_\_\_\_
- 13 Die Material Type \_\_\_\_\_
- 14 Stamping Instructions \_\_\_\_\_



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