



The Four Main Reasons Why Die Quotes Vary

Die quoting is known for being very inconsistent. Die Prices can vary as much as 100% for the same part. This leads to excessive quoting to obtain the best price for the die. There are four main reasons why die quotes vary. Control these variables to obtain more consistent quotes.

Reason 1: A poorly written request for quote

It all begins with a request for a quote (RFQ.) A good RFQ does not have to be complicated to achieve good results. Every RFQ should include the following minimum information.



Project information

Include your company information, "quote to" addresses, and contacts for questions.

Include key dates such as when the quote is due and when the project is expected to be released.

State if the quote is budgetary or if the program is funded and approved for purchase. Expect a less than enthusiastic response if your project is not funded. The supplier's chance of winning the job decreases dramatically when the job is budgetary or they are providing tool quotes your production quote.

Part data

Include a part data file or a part drawing file or both if available. Don't forget to include part name, number, and engineering change revision level.

3D part data is by far the best because it helps the estimator create more accurate blank estimates and identify forming problems. It takes less time to quote dies when 3D part data is provided which means you may get your quotes back sooner.

Part drawings are great for understanding tolerances but PDF drawings take much longer to process because flat blanks and nest drawings have to be created manually using 2D tools. This can add hours to each die estimate.

Die description

Describe the die you want quoted. State if you want the supplier to quote additional items such as installation, service parts, or if you want alternative processes quoted. More about this in Reason 2.

Attach specifications

Include your die specifications and part approval documents. More about this in Reason 4.

Include press specifications for a group of presses where the part will run. The estimator will size the die including tonnage, bed size, and shut height, and select a press from your list. At least provide a die design shut height. Shut height affects the cost of the die build-up.

Include drawings of your quick die change (QDC) standards including plate sizes, locating, and clamping features.

Include contractual documents including payment terms and conditions of sale.

Reason 2 - Wrong die type or bad process

A wrong die type or bad process will produce a bad die price every time. To avoid this pitfall start with a clear and concise description of the die to be quoted. State the type of die (progressive, transfer, or line die) and the number of parts per stroke (one out, two-out, etc.) desired. You cannot expect apples to apples quotes without this basic information. Many buyers and stamping engineers leave this up to the tool shop. It is ok to get the supplier's input but you do not want them to plan your stamping operation.

A process plan concept drawing is best. It should be specific enough for quoting but not too specific. It is a concept drawing and not the final die design. Some companies firm up the process plan internally or with the help of key suppliers. Keep in mind suppliers may be reluctant to provide this level of input early on if they are not a preferred supplier.

If you provide a process plan with the RFQ, make clear that it is not the final design and that the supplier is responsible for providing die designs for approval and a functional tool that meet all contractual requirements. Encourage the tool supplier to make suggestions for improvements to the process. This is what they are good at.

Reason 3 – Labor Cost

Die building is labor-intensive. Labor costs account for 60-80% of the total die cost. Direct Labor rates, labor burden, factory overhead, and profit goals vary widely regionally and even more globally. Do not expect North American and European shops to compete with Asian shops on labor costs alone. You should consider all landed cost, rework, quality, maintenance, and downtime cost of die ownership. If the die type and parts per stroke are not defined (Reason2), a low labor cost supplier may quote dies for more labor-intensive stamping operation such as manually fed line dies. Once again apples to apples quoting is the goal.

Reason 4 - Die construction quality and approval process

The final reason die quotes vary is die construction and approval process. This is defined in the die design and build specification and quality requirements documents. If you do not have a prewritten die spec and approval process document, provide a simple one or two-page checklist type document. Allow the estimator to make exceptions to the spec where it makes sense. The spec sheet should include:

- Design and documentation requirements
- Punch and die options (buttons, inserts, scrap ejectors, etc.)
- Stripper, Pad, and Binder options (spring type, retention, guiding, etc.)
- Minimum plate thicknesses
- Die set (shoe) type and options
- Sensors
- Tool steels by function
- Coatings and surface treatments
- Optional equipment (die tapping, welding, transfer tooling, etc.)
- Preferred component suppliers
- Die approval and runoff



- Part approval process (PPAP)

By controlling these four main Reasons for die quote variation, the die buyer or stamping engineer can expect to quote less, save time, and improve consistency.

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