

## The Whole Story...

### Ask the Expert

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#### Question:

We are facing severe price pressure from overseas competition, and we need to reduce our cost substantially. How can we reduce our grinding wheel costs?

#### Answer:

Saint Gobain Abrasives makes bonded, super and coated abrasives for the industrial market, so we are in a great position to look at your grinding operations and optimize the grinding tool to lower your costs. However, in today's environment, when you are faced with competition from overseas, reducing your abrasive cost alone will not be enough to keep you in the game.

What's needed is a quantum shift in the way you process the component. You need to measure the component's total cost (processing time, coolant cost, scrap cost, abrasive cost and machine cost). Abrasive cost is normally 3% to 6% of the overall cost of a component. So, reducing abrasive cost by, say, 10%, will reduce your total by a maximum of 0.6%. This move by itself will help very little when the goal is to reduce total costs by more than 20%.

What's required is a close look at the total cost of the component and/or a different method of processing the part. Total cost analysis looks at the complete grinding system, which includes the machine tool, work material, grinding wheel, and the operational parameters.

We can work with you to optimize each of these factors to give you a greater economic and technical output. When we take this approach the biggest savings are usually in cycle-time reduction by eliminating process steps and/or increasing the metal removal rate. The second biggest source of cost reduction is typically the result of scrap reduction. We have the ability to employ our state of the art field instrumentation system to analyze any grinding system and reduce costs substantially.

Earlier, I suggested making a quantum shift in the way you process components. Some examples of quantum shifts now possible include:

- Moving to high speed grinding with superabrasives (either vitrified CBN or plated CBN).
- Using fine grinding with diamond or CBN to replace lapping.
- Instituting new creepfeed grinding parameters with Vortex and VCF4 grinding wheels.
- Replacing machining (milling, broaching) with grinding.

If you continue to upgrade your process technology and remain open to new concepts, you can reduce your total grinding costs by more than 30%.

