



Throughput Consulting, Inc. Article – for Publication

Do You Have Hidden Capacity?

The short, obvious and easy answer is, “Of course. Everybody does!” The challenge is to find and use it. Let’s look at some creative examples.

I think most of us have a tendency to express the capacity of furnace in terms of the maximum load weight. Sure, we are often confronted with a part that is too tall, too long or too wide. But how about this situation? Consider two parts, one moderately large and heavy, the other long and spindly. They regularly arrive in volume for carbonitriding to the same case depth. The heavy part makes a full load (by weight) in two and a third layers (with three layers possible by volume). The spindly part makes a full basket of about half a load weight. We were able to run one layer of the heavy parts under a basket of the spindly parts turning twenty furnace cycles into fifteen. Each load “filled the cube” and nearly maximized the weight. The heavy parts were run practically without cost.

It is easy to believe that large-volume jobs need to run in large-capacity furnaces. Well, yes, most of the time. But, what if the work mix means that the high capacity IQ furnaces are backlogged and the smaller IQ furnaces are idle a part of the time. Some might say, “It isn’t cost-effective to run “forge shop” work in the smaller furnaces. Oh, yes it is profitable, and wise as well! Consider first that the cost of keeping the idle furnace running is justification enough. Then consider the sales dollars generated from what would otherwise be idle capacity; that is even better. Finally, and perhaps best of all, superior delivery performance endears you to your customers.

How about tempering capacity? Do you find a logjam behind the draws on a regular basis? If so, let me ask, “Do you consider the tempering conditions of the parts being hardened when you schedule the hardening furnaces?” In other words, do you schedule the hardening furnaces to optimize the tempering schedule? If not, you probably have hidden capacity in your draws.

In each of the three examples, there are no set formulas, only opportunities based on mix. It takes a creative, motivated working team to make the most of the capacity available. It is also important to have a very visible “work-in-process” queue so that the opportunities are more easily seen. It is important to focus on capturing more market share to allow you more opportunities to optimize and fully utilize each furnace load. Exposing and utilizing hidden capacity is where a heat treater will make a lot of money.



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