

QUICK MOLD CHANGE DISCUSSION

Reducing Mold Set-up Times

Much discussion has been heard lately on reducing mold set-up times, even though many companies are not at full utilization. Management wants 1 minute changeover on all molds so they do not lose any machine time. What management does not do is support the concept with money saving devices or studies to help the process technician and set-up people to achieve quicker mold change-overs.

When called upon to give seminars on Quick Mold Change, the first discussion we have is on management's role in lean manufacturing. What is management's definition of lean? Is it reduced personnel and increased work load on the remaining people? This is usually the case. Reduce personnel, reduce overhead, do not spend a dime on time saving devices or any type of training or consultant - and then demand that they have to change molds faster or risk the job being transferred to China or a Mexican plant.

Many shops with good relationships with floor personnel acknowledge the need to equip their set-up people with even the simplest tools to make life easier and do the job right. Take a look at the photo below:



This is the most imaginative set-up cart I've seen in our plant visits over the years. Now look at what the big shops are doing:



You see, both carts bring most everything you need to the molding machine to do your mold change. Sometimes when you're not busy (haha), get your video camera and film the guys (or gals) doing a mold change. Watch them go back and forth, down the aisles, into the corners, on top of work benches, into the maintenance area dozens of times just to get parts, tools etc to do the mold change.

Now my opinion on hydraulic clamps and magnetic platens; they're great but the real time spent on mold changes is in the cooling lines, and plumbing the tool and being prepared for the mold change which includes no interruptions from production personnel.



We have offered mold mounted manifolds for about 8 years now that once the mold is plumbed, it is always plumbed. All your set-up people need to do is run the larger feed lines to the manifolds, one in and out for each half, and then the mold is ready to run. This reduces minutes, and in some severe cases, hours of set-up time.

And now for the freebie of the day: Install eye bolts in every mold in your shop and leave them installed! I was at a plant a few months ago and witnessed first hand a situation where a set-up gal needed a 1/2-13 eye bolt to remove a mold off of a mold rack. It took her 22 minutes to finally come back with one since a few of the other set-up people had their tool box locked up. She eventually had "picked the lock" to find the size she needed. Needless to say, this molder took our suggestion and ordered about 200 eye bolts from us.

Store your molds at the machine when practical. We have installed 2 styles of mold racks right at the machine to reduce fork lift travel in the plant and to keep handy the mold at the machine. This can reduce time as well as the molds from getting lost behind gaylords of material, stacked up high on a heavy duty rack or somewhere in the shop (we'll let your fill in the blanks of where you lose your tools at).



The first rack is the pull-out drawer unit that allows 2000 or 3000 pounds per drawer of molds that can take advantage of vertical plant space.

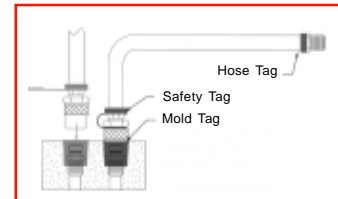
These units can be made to 12' high and have multiple drawers utilized, normally 3 or 4 drawers, based on the mold height. The drawers pull out so that your overhead crane can lift them off the drawer and can be easily guided to the machine nearby.

These are appropriately signified by a "Starter" unit and "Add-on" sections as seen below.



The other very unique unit we have supplied progressive molders is the old-Dek™. This unit takes advantage of the "dead" area above the clamp of the machine to store up to 5-6 molds that are usually run in that particular machine. They are basically custom built for your machine with some weight restrictions for safety sake. Using again an overhead crane or a fork lift, the tool can be quickly lifted from the Mold-Dek™ and into the machine in a fraction of the time of again, finding the mold somewhere in the plant.

Then there are other simple yet very important ideas that help the set-up people. Color coding all the waterlines to blue & red for "in's" & "out's". Usually yellow hoses are used for shop air in many plants. Use of colored wire ties and a unique molder invented product of waterline safety tags for the disconnect fittings with a corresponding colored cap that is installed on the tool under the water line plug assures proper hook-up.



All these items ultimately help the process technician too as proper water hook-up's ends the surprises of core overheating, runaway mold temperatures, etc. on mold start-ups. So whether you are captive or custom, a small shop or a Fortune 500 molder, many gains can be made in reducing mold set-up with simple, relatively inexpensive products that really streamline the mold set-up process. Get your cross-functional team selected, film a mold set-up in action, and invest in time saving devices that pays off quickly!

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