**Make Cutting room planning a reality**

Monitoring cutting room productivity is not done in most factories, however, many times poor work supply from the Cutting Room causes major production losses. It is essential to factory performance that the cutting room is intelligently managed and controlled and this will be greatly enhances if times can be established for all of the operations required in each order, for example:

- Some styles have lots of fusing, -- can the fusing department cope?
- How do you manage the workload when producing checks or stripes?
- What is the effect of small orders?
- How much spreading can be done on difficult fabrics
- If the order situation is difficult how will the cutting room manage?
- How can you balance the work properly to satisfy the demands of all of the production lines?

Before embarking on a program such as this it is vital that you have the systems in place to control fabric utilisation, since there are ways to improve the effectiveness in the department by reducing the efficiency of fabric utilisation and this of course would be the totally wrong approach to the problem, since the cure may be worse than the disease.

**Once you have established times you can:**

a) Plan the cutting room effectively  
b) Monitor the performance of all departments within the cutting room  
c) Monitor Work In Progress  
d) Make sure that all component parts to an order are cut together  
e) Simplify time and method study practices for Cutting operations

**How to do it.**

- Studies are carried out on every activity for all processes in the cutting room.  
- A sequence of operations required for the style is developed.  
- A “Data Card” containing details of the style is set up.  
- After marker planning the details are available for marker length, plies, number of sizes etc.  
- The above information is then used to generate standard times for every activity.  
- Bar-coded tickets are produced for every operation. These are scanned at regular intervals (2 hourly) during the day.

We are then able to monitor performance for the following processes:

- Laying up  
- Straight knife cutting  
- Round Knife cutting  
- Band knife cutting  
- Fusing  
- Re-Cutting  
- Re laying  
- Matching Stripes and blocks  
- Numbering  
- Sorting

To establish the time for spreading fabric you need the following information

<table>
<thead>
<tr>
<th>OPERATION</th>
<th>QUANTITY FACTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roll Change</td>
<td>Time Per Roll</td>
</tr>
<tr>
<td>Spread / Lay Fabric</td>
<td>Time Per Meter</td>
</tr>
<tr>
<td>Start Clamp</td>
<td>Time Per Ply</td>
</tr>
</tbody>
</table>

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From the marker plan and the information on the rolls to be issued for this order times can be calculated for the laying up process.

The following are guidelines on how to establish times for the other functions in the cutting room, it is simply a matter of breaking the functions required into small sections and

For Cutting
- Based on Fabric category and ply height
- The number of sizes in the lay
- Each pattern is measured along the perimeter and times are applied according to the distance covered to cut straight lines, curves, or corners etc
- The analysis also includes times for manual motions such as cutting nips/notches, clamping, disposing parts, and various cutting elements e.g. sharpen blade, reset guide etc.

For Band knife cutting
- Band Knife cutting is done in Splits to reduce Resistance.
- The no. of Splits depend upon, Fabric type, Ply height
- If a marker has 120 plies and 3 splits are made then the times will be multiplied by 3.
- Remaining calculations of Band knife times is the same as for the Straight Knife.

Numbering
- Times for Numbering are established Per Ply
- Also Includes time to Change the Sticker Rolls and adjusting the numbers in the machine
- Thus the Numbering time for a Marker = (Time to number one ply * No. of plies* No of parts in the Garment) * No. of sizes in the Marker + Sticker roll change time

Fusing
- Fusing times are established per ply
- Analyses is done according to the Fusing method for each part, it could be direct onto the machine or sheets can be preloaded and passed through fusing machine.
- Machine Cycle time is added in the analyses.
- Total time for fusing a part in a marker = (Time to complete fusing one ply* No. of plies in that marker)* no of sizes in that marker
- Times for different parts are then added together to derive the fusing time for that marker.
Bundling

- All parts are bundled into a predetermined size based on the no of parts in the Garment
- Parts which are to be sewn together are normally bundled together in mini bundles.
- Times for bundling are derived per bundle.
- Total time to Bundle 1 lay = (Time to bundle an average size bundle * No. of bundles in that size* No. of sizes in the lay.

The above pointers show that times can be established for all of the processes that occur in the cutting room, and of course once times have been produced it is possible to monitor operator performance against these times and to use the efficiencies produced to plan how long new orders will take in the various departments within the cutting area.

The actual setting of the times for each of the above points will be greatly enhanced by using MTM 2, you can of course use Time study techniques but it will take many studies to establish times accurate enough to be able to be used with confidence.

We have used these techniques to produce a computer system which will do all of the work for you.

Roger Thomas
Methods Apparel Consultancy India