

Quality Control Programme in West Coast Paper Mills

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The Pulp and Paper Industry in India has been making a rapid progress for last ten years. The converting industries as well as the printing presses are also expanding probably much faster than the paper industry. As a result the demand for quality paper to suit the requirements of the end users is progressively becoming quality oriented. This had an impact on our sales organisation and, therefore, the West Coast started a Quality Control Department about one year ago. It is now felt that this Department is serving a very useful purpose.

Quality control is a technique of scientific management involving economic production of goods according to certain laid out standards and also inspection of the product for its conformance to its specifications.

The essential thing for the satisfactory production, therefore, is the specification of the product, i.e., the different varieties of paper. It is true that certain specifications are given by the machinery manufacturers. But, the specifications of paper regarding its strength properties, brightness, shade etc. depend on the quality of treated pulp and also on the conditions of running the machines. It was essential, therefore, to lay down the specifications for different qualities and gram weights of the paper that are manufactured in our mills. In order to do this, the data was collected systematically for a period of one year and the "Company Standards" were evolved.

These standards thus obtained served as guide lines to the mill executives and machine crew. They had at least some objectives in front of them to be achieved. To ensure this, paper samples taken frequently from the machines are tested for certain important characteristics and the information is immediately fed back to the machine personnel for quick action. Thus, hour to hour, shift to shift and day to day quality of the paper is ensured by comparing against the previous best standards and maintaining them. However in extreme cases wherein substandard paper is manufactured for a short period for unavoidable circum-

stances, such paper is segregated at the subsequent stages of rewinding and cutting so that the substandard paper does not reach our esteemed customers.

Well, paper may be manufactured as per our standards. But, that does not mean complete satisfaction to our customers. Because we have varied types of customers and depending on the end-use of the paper, the customers demand certain special characteristics in the paper. In order to meet the specifications of such customers we maintain a record which shows "who wants what". Based on this, certain check points have been developed and during the manufacture of the paper, special check is made on certain characteristics, depending on the customer needs.

As mentioned above, the demand of different customers for the same quality of paper is different. But, the question is : can we meet the demands of all the customers? This can be very easily answered by comparing the customers' demand with our standards. If certain specifications are beyond our standards, we do not like to accept their orders and displease them because satisfied customers are the main assets of the Company.

Another major advantage of having Company Standards is in knowing where we stand in the market. This helps in knowing our weak products. Based on these findings we can further improve our product.

There are certain characteristics, the variation of which beyond certain limits is not liked by any customer. Similarly, there are certain defects in paper which no customer likes. In order to have a continuous check for all such unwanted characteristics and defects, a series of check points have been developed on the machine.

Firstly, as the paper is being manufactured, the quality control Supervisor having specially trained eyes for detecting defects, goes frequently to the machine and checks the paper at the specified

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check points. If any defects are observed, the production personnel are alerted and the production of the defective paper will be avoided in many cases. However, certain minor defects which are not visible because of the speed of the machine or because of the wet web, may pass into the paper rolls. Therefore, another inspection point is developed as follows.

When the parent roll comes out of the machine, a few sheets are taken out and they are thoroughly inspected for minor defects. Here also, feed back mechanism is maintained.

Besides inspecting the paper for defects, it is also thoroughly inspected for certain characteristics like shade, finish, weight of the paper, gram weight of the paper across the deckle, deckle of the paper, bulk, and many other such characteristics. This detailed information is passed on to the production personnel for quick action. Thus each roll is thoroughly inspected and if any defects or low standard of certain characteristics are observed, quick action is taken by the production personnel which prevents the production of defective or substandard paper.

Although there is a stringent check, still it is improbable that all the paper in the roll is free from defect. It is obvious, therefore, that the paper must be inspected at the rewinding stage. This is specially true in the case of reel orders because rewinding stage is the final stage for reels. Hence, there is a special staff on rewinders and cutters who inspect the paper as the parent roll starts unwinding on the rewinders. If certain amount of defective paper like damp etc. is coming up on the rewinders, the Supervisors get it removed from the parent roll. Similarly, if certain defects like holes or certain marks are appearing regularly at certain intervals, this is immediately brought to the notice of the production personnel for action, and the reels containing defective paper are rejected with proper records of the rejected reels.

The reels which cannot be straight away rejected are kept aside. These are inspected by a group of senior personnel and depending on the decision of this group, the reels are either rejected or accepted.

To ensure that only good quality of paper, free from defects, is going to our customers, specially in the case of reel orders, some percentage of

reels are selected at random and are again inspected for sizes and defects. After a complete check on quality, the reels are packed and sent to the customers.

It is all very easy to reject reels and keep a record of it. But, if such paper goes on piling up it ties up money and occupies lot of space. In all such cases, therefore, quick decision is taken—whether the rejected reels are to be repulped or to be cut into suitable sheet sizes. If the defective reels are to be cut into suitable sheet sizes, well, the paper that is obtained after cutting is clearly marked for its defects and given to the Finishing House for careful sorting.

Similarly, in the case of sheet orders, the paper is thoroughly inspected at the rewinding stage and the major defects are removed at the rewinding stage. However, the minor defects that are occurring are carefully noted and information is passed on to the production personnel and when the defective reels are loaded on to the cutter, the cutter crew will be alerted. As the paper is being cut, the paper stacks that are building up during the cutting process are marked for the defects and also for their frequency. At this stage, the size of the sheets are also checked frequently and if there is any deviation, the information is passed on to the operator and it is rectified immediately.

The marking of the stacks for their defects and frequency of the defects helps finishers a lot. Because, the finishers will be knowing beforehand as to what their stacks contain; this helps them in doing their job better and faster. If certain paper stacks contain defects which can't be observed by fly-finish, they will be given for special finishing.

We are not satisfied with this. To ensure that only good reams are going out, finished reams are collected at random from each finisher and these reams are again subjected to inspection. This helps in knowing how the entire lot stands from the quality standpoint and also what defects have passed unknowingly, and their frequency. Moreover, such inspection of the reams and proper maintenance of the records provide a balancesheet of the performance of each finisher.

Records showing finishing losses and the frequently occurring major defects are maintained. Based on this, the point from which the defect is

arising is traced and it will be carefully observed in the next manufacture.

The finishing stage is the final stage which exhibits the efficiency of the Quality Control Supervisors as to who are careful in their job and who are negligent. This information is also fed back to the Quality Control Supervisors to improve their own standards.

Thus, at all stages a network has been laid down to see that only good quality paper goes out and the customers are reasonably satisfied.

With all this, still we might have missed something. Hence, we have the Technical Service

Department, which on hearing the complaint from the party, immediately contacts them, observes as to what are the difficulties with our paper and feeds back the information to the mill. This Department is in direct liaison between the customers and the Quality Control Department.

Thus, the network of inspection with feed back mechanism at different stages, has helped in building up the quality in the paper as it is being manufactured, in preventing the manufacture of defective paper and in segregating substandard paper that is manufactured. As the work goes on it is felt that the quality control has benefitted both our customers as well as those who are devoted to produce good paper.