Total Quality Management at Gold Bond’s Baltimore Plant

A banner where the finished board exits the manufacturing process. It exemplifies two of the key concepts of TQM.

Total Quality Management (TQM) has become a buzzword in construction management circles, although it is still not widely implemented or even understood. TQM is a means of ensuring that the end product meets the customer’s desires at the lowest possible cost, through a systematic process of employee involvement and creation of a corporate culture that encourages initiative, participation in a partnership with suppliers, and a reliance on quality work throughout a project rather than at the end. TQM begins with commitment from top management, but to fully succeed there must be a strong commitment within the organization.

Quality has become paramount to the success of National Gypsum’s Gold Bond Building Products division. As the world’s second largest producer of gypsum-related building products, Gold Bond recognizes the competitive advantage that quality can offer them in the marketplace. They have provided formal training to all 3,200 employees in the Total Quality Management process.

Bob Johnston, Gold Bond’s vice president of TQM (the top-level management position created to implement the TQM process), says, “TQM is a culture within a company which involves all employees at every level. It is a continuing process in which we search for, evaluate, and implement improvements which enhance the quality of each of our products, our service and our overall way of doing business. And it’s something each of us at Gold Bond must do. Total Quality Management is doing the right thing right—the first time!”

TQM is a process, not a program. “Program” implies that something is finite—it has a beginning and an end, and once it is through people can get back to doing things the old-fashioned way. The TQM process, on the other hand, is meant to continue indefinitely. With greater involvement and greater emphasis on the needs of the customer, incremental improvements can always be applied. And the small improvements add up to a better final product, more satisfied customers, and an enhanced bottom line.

Top Management Commitment

TQM requires the commitment of top management, and at Gold Bond this commitment has started with Chief Executive Officer Peter Browning.

In August 1989, Browning, then in his first month as president of Gold Bond, brought together a dozen of the company’s top executives. During two full days of intense talks, he called for a radical departure from the company’s traditional style of management. Rather than viewing the stagnant economy as a sign of weakness, he saw it as a window of opportunity, a unique chance for the right company with the energy...
A month after sharing his vision with Gold Bond executives, Browning put his words into action, creating a new top-level management position directly in charge of implementing a quality improvement process. Based on the practical philosophy of quality guru Philip Crosby, TQM became a direct challenge to management’s old way of thinking. Quality was defined as zero defects. Customer requirements were spelled out in detail and agreed upon in advance. This standard of error-free work required a new attitude and a major cultural change. Gone was the old-school thinking which advocated an allowable percentage of error. In its place was a new performance standard, one that encouraged employees to take responsibility for their actions and strive for perfection.

“In our industry, where you make the same product on similar equipment from similar raw materials for the same customer, the difference between success and failure, whether we can reach our goal, will be determined by people, by the ability of our organization to work smarter and better, together... and I underline the word together,” Browning says. “Of paramount importance to all of us will be the unfolding of our commitment to total quality throughout everything we do, doing each and everything right the first time. It’s a process that will touch and involve each of us as we embark on the journey to become the best at what we do.”

Gold Bond has dedicated itself to a corporate wide quality policy, as indicated by its Quality Statement:

“As employees of Gold Bond Building Products, we are dedicated to achieving total customer satisfaction, both internal and external, by providing products and services which meet or exceed expectations.

“To accomplish our goal, we are committed to a process of continual personal improvement, striving always to do our job right the first time.”

**Employee Involvement**

Central to the success of any TQM process is the concept of employee involvement. The workers who are actually doing the work are in the best position to recommend ways in which the work can be done better. In addition, they will take greater pride in their work if they are truly responsible for it.

Continuous training is the cornerstone of the TQM process. In the last two years, each employee at Gold Bond has received an average of 24 hours of quality training or a total of more than...
A worker operates a machine that fills buckets with joint compound.

74,000 hours.

Gold Bond uses a number of other techniques to involve employees and infuse that much-needed pride in work. One such technique is the DIB system. DIB stands for “Do It Better,” and it is a means of accepting suggestions and recommendations from all employees. A company-wide commitment has been made to respond to every DIB suggestion within one week. This lets employees know their suggestions are taken seriously.

Once a DIB is submitted, the DIB coordinator (each site has a person who knows “who does what”) makes sure the DIB gets to the person who can do something about it, the Action Partner. The Action Partner has the responsibility to provide feedback within 48 hours that the project/action is receiving attention. In many cases, an answer is received within 24 hours. There is no financial incentive for positive ideas, and according to company sources this is one of the reasons for DIB’s success.

In the past, management might avoid employee suggestions because even good ideas would involve spending money as part of the payback to the employees. In addition, employees had to spell out revenues and costs to show a cost savings and validate a program. This reduced the number of suggestions submitted.

The acceptance and implementation of a DIB, whether great or small, helps the submitting employee feel a greater sense of ownership. This also helps employees feel their ideas are worthwhile and that they are appreciated. As a result, the number of DIBs submitted has increased.

One example of a DIB that paid off was Mario Ferrante’s suggestion to convert the burner pilot flames and paper edge fires from propane to natural gas. This one suggestion, from a line...
Large rolls of paper used as facers for the gypsum board. A worker who knew his job and the effects of it perhaps better than anyone else in the plant, should save a significant amount of money. It also resulted in reduced recordkeeping and reporting hassles associated with propane storage and usage in Maryland.

Other steps are taken to make employees feel “ownership” of their jobs and to recognize that their performance will directly affect the success (or lack of success) of the company. No time clocks are used in the plant; employees are on the honor system. Pressure for being on time comes from fellow employees who must stay on their shift until their replacement arrives. This direct pressure has reduced tardiness even faster than the negative aspects of a time clock.

Baltimore plant manager, Joe Ciampaglio, has made it his aim to resolve all employee grievances without having to resort to arbitration or other outside grievance procedures. Before 1990 there were from 12 to 20 grievances a year. Now there are none. This commitment to hourly employee satisfaction has kept the salaried employees especially on the ball.

Do It Right the First Time

Another cornerstone of TQM is the “do it right the first time” concept, in which mistakes and errors are eliminated in the process rather than correcting them through inspection at the end and redoing everything. This is one area where an effective TQM process can save significant amounts of money.

Gold Bond uses such tools as the Corrective Action Team to improve the process. The CAT allows diverse minds, viewpoints and experience levels to focus on a particular problem often beyond the skill of one individual alone.

CATS are problem-solving teams organized to investigate a problem and recommend solutions.

An example of the Do It Right the First Time technique in action came when the wet-end “C” shift achieved a 29-day record of no paper breaks. The team’s achievement can be attributed to corrective action. They adjusted the mixer and boot to eliminate lumps.
Preparing to splice a new roll of paper onto an expended roll.

Lumps in the mix can cause paper breaks when they pass through the forming plate. Less downtime and board loss resulted from this one change.

“I remember before TQM when we were told we had the most paper breaks of any shift,” recalls Steve Cross, wet-end leader. “But now, with TQM, the positive side is emphasized and our achievements are being acknowledged.”

Make the Customer Number One

Another cornerstone of TQM is an emphasis on the customer’s needs. This customer approach can be extended throughout a process—for example, as raw materials move through a plant to the finished product, the workers at each step along the way are dealing with their own “customers,” the workers further down the line. By meeting the needs of their “customers” workers at every step can enhance the final output.

Of course, the ultimate end users are everyone’s customers, and Gold Bond has focused on end users. The company has introduced a program to encourage truck drivers delivering Gold Bond products to provide enhanced service to end users. Although the drivers are not Gold Bond employees, they often have more contact with the end users than do the salespeople, so it’s important for them to participate in meeting the customers’ needs.

The Baltimore plant provides a good example of how the company has worked to meet the needs of customers: odd length requirements for wallboard are a reality in the Baltimore/Washington market, yet they can create warehousing and production nightmares. With TQM, however, the Baltimore plant has converted this former headache into a real opportunity for Gold Bond to shine in service and sales.

A CAT was organized to tackle the problem of storing odd sizes of wallboard and delays in shipping special orders. The team brought together sales reps, the board warehouse superintendent, the sales order supervisor, customer service reps, the production superintendent, and even a customer—a Baltimore/Washington building supply company. Their discussion gave everyone a clearer picture of all the requirements involved in handling odd length wallboard.

The customer’s input showed that throughout the Baltimore and Washington area, most large jobs could be stocked with material on the weekends. Until this brainstorming session, the plant ran odd length wallboard over the weekends and warehoused it for delivery the following week or even a week later. After hearing from the customer, the plant rearranged its odd length machine run time. Now odd lengths are run on Thursday, loaded on Friday and delivered on Saturday. Warehousing of odd length inventory was reduced by 70%, and the customer received better, faster service.

The company uses this concept with its own suppliers as well. As their customer, Gold Bond wanted to make sure its suppliers understood its needs and would work closely to meet those needs. Gold Bond is stressing a Single Source Supplier relationship, in which prospective suppliers are queried in advance regarding their quality of service and ability to meet Gold Bond’s needs. Supplier relationships are then established based on quality for the long term. This allows Gold Bond to receive even better, faster service so they can pass the benefits on to their customers.

Statistical Process Control

A final component of the internal TQM process is statistical process control, the measurement of conformance. Conformance is the minimizing of variation and predictably producing products which fill customers’ specifications.

“Quality assurance and improvement cannot be achieved by an isolated functional department,” says Page Odom, Gold Bond’s vice president of statistical methods. “A comprehensive system is needed to ensure that customer feedback is provided to each of the functional areas of responsibility.” Being able to measure the results is important to maintaining and improving quality.

Gold Bond tracks the usual statistics, such as net sales, market share and financial index. In addition, however, they also track sales dollars divided by
number of complaints, orders shipped complete, and invoices processed correctly--non-typical measures which allow the company to gain greater feedback from customers at every step of the process. Other statistics tracked include safety performance, plant machine productivity, medical case incidence rate, plant labor productivity, lost workday case incidence rate, and a unique customer satisfaction index.

At the Baltimore plant, this means individuals at various steps along the
lyzing statistical information. They make notes on the charts explaining
below or spiked above the acceptable conformance level. For example, one
chart when an oversized piece of raw material created trouble. The results:

school education, are able to detect patterns of trouble areas and suggest

Success Through TQM

The TQM process has resulted in tangible benefits--the Baltimore plant is showing greatly improved productivity while working with some of the older technology. But there are many less tangible benefits as well. Customers are satisfied with the service they receive, and the plant has cemented relationships with numerous customers. Workers take a greater pride in their work, because they are more involved in the decisions that affect them. They are encouraged to offer suggestions on a continuing basis that can make a difference in plant performance. And commitment to quality by everyone from top management on down means that there is a greater sense of teamwork and professionalism.

“Admittedly there are still problems ahead, but with each step down the TQM road we make more progress,” says Peter Browning. “Our attitudes are changing. People are starting to believe. Our customers are seeing a real difference in the way we operate. It’s a never-ending journey, and we’ve only just begun. But we are committed, and convinced that it’s a journey worth taking.”

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