

CONFORMITY PLUS QUALITY

For 75 years, Randolph & Baldwin has been manufacturing items to conform to the customers' drawings. Yet, our success as a business is not only based on the **conformity** required by our customers, but on the **quality** of the finished product.

In today's world of manufacturing to a drawing, the supplier is presented with the term quality. This term is used throughout the process from start to finish. We deal with Quality Departments, Quality Managers, Quality engineers, Quality Ratings, and yes, for the fortunate, Quality Awards. When manufacturing to a drawing, we are seeking compliance to the drawing. An item is bid to the drawing requirements, it is made to the drawing requirements, and it is inspected and accepted to the drawing requirements. The part is compliant. Remember, that while the customer demands quality, they are paying for conformity.

Examine the definition of quality. Quality is a noun. Merrimack-Webster defines it as "how good or bad something is" or "something of high level or excellence." How does this definition work in manufacturing items to the print? An item that is compliant to a drawing many times is not what we would refer to as a quality item; it is compliant but lacks the essentials of true quality.

Eg. A young couple buys their first house in a development. The contractor presents them with a drawing and the specs for their new home. They wish to add granite to the kitchen, marble in the bathroom, hardwood floors, and high-end fixtures. They want something of high level or excellence – they want quality. They certainly understand they are not going to pay the same price for a house that was built to the drawing. The same holds true in the automotive industry. A Lincoln is simply a Ford with high level additions and yes, it costs more. There is no getting around it, quality costs money. When an item is bid to be compliant, any costs to add quality fall squarely on the shoulders of the manufacturer.

Use the case of surface finishes. Many prints call for a 125 surface finish, yet when viewed the part lacks any hope of being looked upon as a quality item. It would be compliant to the print but visually it would look poorly and perhaps be subjected to review. Decision time has arrived. If a 125 finish is acceptable, how much would it cost the supplier to make it a 64 or even a 32 finish? To bring the finish from a 125 to a 32 means we would have to reduce feed rates or add steps that would increase time and costs.

There is no denying that to produce quality costs more than just to produce compliance. To marry the two is going to result in an impact of dollars. Sadly most marriages that end in divorce are a result of dollars. How stable can this marriage be? How much can the customer afford and how much can the supplier absorb? The relationship between the customer and the supplier must be the determining formula. If a customer has a level of sophistication and pride in product, then a supplier must climb the ladder to achieve the quality required, but the height of the climb is determined by the price to be paid. This requires a special relationship that must develop between the customer and the supplier. It is incumbent upon the supplier to communicate constantly with the customer so they understand the impact of receiving a quality item that is not just compliant.

HOW A CUSTOMER CAN MITIGATE COSTS SO AS TO RECEIVE A COMPLIANT AND QUALITY PRODUCT

Review

It is despicable to find out how many people responsible for an end item have ever actually seen the product. So many times people talk about an item without ever having seen the item. Wouldn't it be a wonderful world if those responsible took just a few minutes to look at the product? This does not take high echelon involvement. It can be a simple consumer review board. Two or three people review compliant products from various suppliers that have passed inspection and then choose the one they wish to buy. We do this every day as food consumers. Many times we opt to leave and buy at another supplier the same item that is fresher and better packaged. We want quality. How can we buy a quality item without observation and review?

Commit

If a customer commits to a supplier for a term of contract, 2 to 3 years, the supplier is given incentive to put more into the product development. This is why company-wide agreements are so effective in upgrading product, packaging, and overall reliability.

Support

The customer must not only listen to what the supplier is saying, they must be willing to act on it. When a supplier finds ways to add quality, a customer must be willing to listen and make a determination. Far too often a supplier will simply be told to make it to the print, end of discussion. Yet, sometimes the simplest of suggestions can bring the item from a Ford to a Lincoln at little or no cost.

HOW A SUPPLIER CAN BRING QUALITY INTO THE "BUILD TO PRINT" WORLD OF MANUFACTURING

Treat every employee as an individual supplier

This is to say that we must adhere to the principles of review, commit, and support.

Eliminate shortcuts that maintain conformance but negate excellence

Many times a part that is drilled on a CNC is manually countersunk while the next part is being drilled. This is a shortcut that can eliminate cycle time and tool changes. The result can be irregular countersunk depths that can, down the line, impact rivet installation. While the shortcut may well have saved time, and while the product might be compliant, one product can look and feel different than the next – thus becoming a quality issue.

Slow down at the curves and accelerate in the straight-aways

Every manufacturing process has places where the operator can move faster and accomplish more; these are the straight-aways. Remember, there are also places that require us to slow down and pay attention; these are the curves. Forgetting this can and probably will lead to a crash with quality becoming the victim.

Treat every part as if it were a newborn infant

This is perhaps the biggest golden rule in manufacturing a part to a drawing. Every time a part is touched it is subject to damage. These damages are scars that many times can never be removed. Are they causes for rejection? Maybe. If not, they still impact the quality of the item. Stacking parts on top of each other can lead to surface conditions. Placing threaded parts in baskets unprotected can lead to thread problems. Painted parts that are handled without gloves are subject to fingerprints and marring of the finish. Every employee must understand that the product that they are making has to be not only compliant but the best there can be.

Training, training, and more training

Training is the key to an individual's understanding of the product. Too many times we show someone how to do something and we leave them to do the task. When it's completed and there is a problem, the fault line goes directly back to the training element. Training is a constant requirement in manufacturing. If quality is to be obtained, the element of training must be increased proportionately to the level of quality required. A monkey can be trained to drill a hole, but can a monkey determine if the drill is not cutting as it should and stop to have it resharpened? Training should take on two very divergent approaches – educational training and on-the-job training. Each is just as important as the other in the pursuit of excellence in manufacturing.

Pride, pride, more pride, and even more pride

No one can make a quality product unless they possess an element of pride in their efforts. This must start from the top down at every level of the organization. Pride develops through nurturing. It is something that evolves and grows within the human being. It requires vigilance from those that are the teachers. Their job is a full-time job. They must criticize and give praise as required. They must instill the virtues of excellence in performance. They must delegate their level of pride to all with whom they work so that the chain continues unbroken.

In conclusion, Randolph and Baldwin's long standing success can be attributed to its commitment to quality not just conformity, but quality. We have a steadfast refusal to accept less. There are thousands of suppliers that will have high quality ratings because they make parts that conform. **There are very few that make true quality products.**