

“The Way We’ve Always Done It” Is Not a Strategy

By Dell Gutknecht, Reichel-Korfman Co Inc, 2013 Education/Technical Committee

We all have those long term customers, you know the ones you see every couple of weeks. You get together and talk about the family, thank him for the latest order, and have lunch. On the way out the door you remind him about the quote you sent him a couple of weeks ago, and say “anything else I should be looking at?” Whew, tough sales call, meanwhile your competitor is out talking to maintenance people and other decision makers. Your competitor is finding out that since they started running a different material they are having belt issues. The good news is you have all the information from those conveyor audits you prepared years ago. When the customer tells you that the belt out on #3 line sure didn’t seem to last so long, your confident in your response. Perhaps the conveyor is getting old and has been somewhat neglected. And remember, we used to use a belt construction that is no longer available. We are supplying you a quality product, but with a worldwide economy, manufacturers have made some changes to remain competitive with the current marketplace.

Here is the real truth: We all are doing things different today than we did one, ten, or twenty years ago.

We have been forced to work faster, longer and harder. Remember when customers used to snail mail an RFQ? How about that first (thermal paper) fax machine, what an upgrade that was! Then we came into the electronic age, boy oh boy was that dial up service fast. Now we have high speed, cable, fiber optic and a cell phone that is really a quite powerful computer, and doesn’t reside in a bag the size of a small briefcase. Our customers do not work 8-5 Monday – Friday, nor do we. How many replies to e-mails do you send after dinner or on the weekends? The same is true about your customer’s conveyor requirements. They are running differently than when you last did your audits, if they are still doing everything the same they are probably your former customer. They are out of business more than likely.

A conveyor is more than a belt, it is a system. Every component can and does have an effect on performance. The loading chute needs to be sized appropriately and introduce the material on to the belt in the center so as not to cause mistracking. Troughing idlers need to be specified in direct correlation with belt spec being used and desired conveyor performance. Caution should be exercised when selling replacements as uniform height within the system is critical for proper belt tracking. There is a reason those tracking/training idlers are slightly taller.

Pulleys – Drive pulleys should be lagged, there is not one best material to use, and it needs to be engineered as part of the system. The wrong lagging material can and will cause failures and other inefficiencies.

When considering tail, gravity take-up, and bend pulleys – winged or self-cleaning type are not always best. Many times,

wings are used because they eliminate material build-up on the pulleys, but so do belt cleaners. Remember, the small area of contact on a wing pulley can also have the same effect on a mechanical fastener as the claw end of a hammer. There is a belt fastener manufacturer recommended multiplier of minimum pulley diameter for mechanical splices running on wing pulleys. Make sure you include this multiplier in your recommendations.

Belt cleaners – There are a lot of variations here. Primary, secondary return side plows, etc., to name a few. The primary reason they are used is to eliminate carry-back enhancing belt tracking and reducing operational cost. Remember it is very costly to have someone sweeping/shoveling ant hills along the length of a conveyor caused by carry back, or risk being cited by the government for environmental housekeeping issues.

Return side idlers – Because of their location these are the most overlooked. They are a major cause of belt mistracking due to material build-up. An ineffective belt cleaner can turn a flat return idler into a pulley with a major crown in short order.

The belt itself must have sufficient structural integrity for load support and splice retention. A belt lacking proper load support can sag between the cans on troughing idlers and result in accelerated carcass failure.

Cover thickness and compounds should be engineered for maximum performance, and lowest cost per ton conveyed. A system that has high shear loading can benefit from a thinner top cover. I have replaced many belts that had a 3/8” thick top cover with a 3/16” thick top cover belt and increased service life five to six times. In these instances it was not a wear issue but rather shearing the cover from the carcass.

Splices – There have been upgrades in mechanical fasteners over the years and they are much easier to install. There are other options to bolted style (yes I am showing my age) solid plate fasteners. We don’t have to wield 4 pound hammers - we now use power tools. Vulcanized splices are not the same as years ago. We can finger splice heavy duty black belt. Are the good old days of the step splice with its up to 50% loss of break strength on its way out?

Remember, change occurs if we want it or not. We must adapt and continually strive to improve performance in our own operations and those of our customers. If we don’t, our competitors and our customers will.

If anything in this article opens your mind for more information, remember the Edu/Technical committee has the following training sessions scheduled: Key Principles & Best Practices of Lightweight Belting, March 25-26, 2014 in Atlanta, GA and Vulcanized and Mechanical Heavyweight Splice Training, April 8-10, 2014 in Atlanta, GA.

See pages 13 to 14 for more information

Belt Line – December 2013