

What Is Standard Work?

Standard work is how Pella Corporation performs work in a prescribed sequence of steps with an associated time for each step. The total of each step will add up to a cycle time (CT) for each station within a particular work area or assembly line. Standard work must be designed to support takt time (TT). This seems simple, yet poses many challenges.

What Is Pace?

Pace is the process of controlling the flow of an assembly line or assembly area. Pacing methods are numerous and can range from a moving line, to a control at each station that will not move the product to the next station until the TT has been satisfied, to a simple countdown clock at the pack-out station with an audible andon to indicate the start and finish of a cycle. A countdown clock is a cost-effective approach to pacing—or pulsing as some may call it—but one of the more challenging to coach and maintain.

At Pella Corporation’s Gettysburg Operations, we use the countdown clock for a number of reasons. We implemented a clock on an assembly line for less than \$500 while reinforcing the culture of “TT every time.” Countdown clock implementation requires extensive training of the department’s leadership team along with shop floor team members, but once everyone is trained and appropriate follow-through is conducted, you will achieve a high-performing team environment, focused on abnormality identification and elimination.

Can You Have One without the Other?

You can, but your success rate goes down significantly if you don’t incorporate the two together, because they are enablers of one another. The team must have the discipline to follow the standard work as written, because the success of one station depends on the standard work of the pre- and proceeding stations. If one person is out of sync with their standard work, there will be a trickle-down effect throughout the entire line, resulting in poor flow or work-in-process (WIP) imbalances. Pace will give the

leadership team visibility of any CT variations that may exist due to lack of standard work adherence or any other abnormality. Along with well-written standard work, you must have an informed team, the correct support structure and processes, and a responsive leadership team.

“The pace clock is an effective tool used to maintain a consistent flow on the window assembly line and also helps operators meet takt time every time,” says Lyle Griffe, a Pella Gettysburg Operations Double Hung 2 team member. As with any other lean tool it takes commitment, support, and a sense of urgency to make it successful.

So What Are the Benefits?

Implementing pace is difficult and requires 100 percent commitment at all levels of the organization. So why invest in something like this? If you are a manager or lead of a line or department, the pace clock gives you visual management, that quickly allows you to survey your areas performance.

It is also an aid to Pella team members. Judy Wickline, Pella Double Hung 4 department manager says, “Team members alert the manager or lead of any CT issues with standard work, so the manager/lead can work on implementing a solution. It also provides a trigger for the team member to reference when the pace horn goes off, so they know if they are ahead or behind in their standard work.”

Using pace in the workplace allows team members to identify a bottle neck within a couple of seconds, which then permits response in a timely manner. A pace clock is an enabler to managing for daily improvement (MDI). When an abnormality occurs, pace allows us to respond with a short-term solution (save a unit mentality) and then put a long-term solution (eliminate the issue) in place by tracking and executing a solution based on the appropriate data. Pace makes those little abnormalities that may only account for 4 or 5 seconds an incident but that show up multiple times a day more obvious. Without pace it would be next to impossible to identify them. This behavior creates long-term sustainable growth. On average we have seen a 13 percent labor



efficiency improvement over our 2008 performance on all the lines with a countdown clock and a 5.6 percent improvement for those without a countdown clock.

Bottom Line

Well-written standard work coupled with the use of a countdown clock or pace system and with the appropriate support will deliver a culture of “Takt Time Every Time”. If you have a Takt Time Every Time culture you will create the following:

- **Safe work environment:** focus on the standards—injuries happen when team members deviate from standard work.
- **Customer satisfaction:** focus on standards along with a controlled pace—team members aren’t rushing and have time to look at the product to help ensure it is defect-free.
- **Productivity improvements:** focus on abnormality elimination or MDI—standard work creates the most efficient way to perform the work and pace will expose the small, but recurring abnormalities.

The combination of standard work and some form of pace can deliver outstanding results, but it is important that the team is engaged and understands the true purpose of the tools. Most importantly, the team must not view them simply as tools, but more as a “way of life.” The two tools used in conjunction will help deliver positive results for your business. ■