Where in the World is Paul Nugent?

PAUL NUGENT | MNOP

New Real-World Training and R&D

Finding a facility that offers both training and R&D for rotational molding is something unusual in any country. Pennsylvania College of Technology in Williamsport, Pennsylvania is working to fill this void for North America as they continue to develop their capabilities in both areas with the launch of a new seminar and an on-going commitment to build a Center of Excellence for the process. They have grinding, compounding, molding, data-logging and test equipment already in place and are currently negotiating for a larger molding machine with which they will be able to perform industrial scale trials.

Part of a much larger plastics program at the campus, the rotomolding group at Penn College recently staged their first Hands-On Training event for rotational molding. Held on June 10-11, twenty-six attendees participated in a series of classroom and practical sessions that focused on issues that affect real day-to-day quality. Four workshops covered (1) powder production and testing, (2) molding using internal data gathering and internal pressure, (3) product testing using impact and tensile measurements and (4) large part molding at nearby New Berlin Plastics. Classroom training covered materials, machinery, in-mold videos, bubbles, shrinkage & warpage and common problems in rotomolding. A special presentation by George Barton of Chemtrend on release agents was well received (even with his peculiar English accent). John Hammond of mold-maker Mainland Products in California provided a new test mold for the program - very useful for assessing material flow and for testing a range of inserts, textures, graphics, etc. A. Schulman provided materials for the molding programs and Terry Gillian of Paladin Sales was on-hand to support the Datapaq system for internal temperature measurements. Feedback was great and there have been enough people interested in signing up for the next one that they are considering another event sooner rather than next year as previously planned.

On a broader note, the staff at Penn College are growing their R&D capabilities for materials development, process refinement and general research programs. They offer short and long-term testing for molders and suppliers and are aiming to provide a US center that actively supports the industry with fundamental research and practically oriented testing. For more information, contact Gary McQuay (gmcquay@pct.edu, (570) 321-5533 x2).

Penn College Hands-On Seminar Attendees. Spot the Trainer…

Common Themes

You can't fool guys on the shopfloor. And as a consultant, you don't always get a warm reception from those who are frustrated by problems all day long. However, there is nothing more satisfying than finally reaching a skeptical person or group and opening their eyes to a new way of thinking. It isn't always the most sophisticated answer that works – sometimes it is just the fundamentals. I do a lot of work that can never be reported on but there are always some common, basic issues that I like to see molders addressing...

(i) Procedures vs. Actions

How many operations have elegant operating procedures that no-one follows? Worse still, how many have multiple

approaches across all shifts and then wonder why they have variability in their products? Having everyone work from the same page is always a great start in any factory.

(ii) Data Collection vs. Action

How much time is wasted collecting data that is never used? There is a theme in lean manufacturing that data should only be collected if it can help those at the front lines do their work – collecting data for management is a long second. We will always need to measure something but all too often data is collected but never makes it's way into an action plan to make improvements. One more measurement: check how much time is being wasted in your facility with unnecessary measurements.

(iii) Action vs. Reaction

"Add two minutes to the oven time, drop the temperature by 20 degrees, open the back door to the factory, change the material to the blue stuff in that bag, drop 5% in weight, change the reverse time to 2 minutes, start the cooling fans a minute later and take away 2 minutes of water. That should fix it - let me know how it turns out." Sound familiar? I hope not. However, how many people make changes like this without fully understanding all the possible interactions? Do you and your people have a feel for the following?

- Grinding settings vs. powder quality
- Powder quality vs. molding finish and cycle times
- Molding parameters vs. part properties
- Cooling parameters vs. part properties
- Operational delays vs. part size

(iv) Cleanliness (is Next to Orderliness)

No matter where you are in the world, there is nothing better than seeing a well organized molding operation. You know what I mean, clean, well laid-out, well-maintained equipment, key information available and engaged employees. Do you have one of them? If not, what are you doing to make the change? Start with organization and laying things out properly so that things flow. Think of work-in-progress and how your parts progress through your factory - can you see the floor? Can you see the operator? Come to think of it, can you even see the machine?

Old but Still Turning

There's lot's of second hand equipment appearing on the market at the moment. I'm sure there must be a market correlation but I don't have enough data to tell from this when the upswing will occur. Maybe it's time to pick up a bargain machine for future use – only for those with strong nerves and good bank balances though...