

Captain Meticulous' Eight Steps for Getting It Right Every Time

Or as the MBAs call it,
The Blow Molded Specialties'
"Value Development Process"

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Our quality management system is ISO 9001-2000 certified, and our Value Development Process (VDP) is part of that system. But we insist that it be more than that. To us, our VDP means no surprises for clients, no miscommunications or misunderstandings, and no disappointed expectations. It's crucial that we be completely up front with our clients, whether we can or can't give them what they need.

You can read the following short case study as a concise playbook for working with a blow molding company, whether us or someone else. We consider an explicitly articulated process, project and client management system to be as crucial to success as our engineering expertise. If your blow molding company doesn't have a similar process, run for the hills.

“Captain Meticulous’ Eight Steps for Getting It Right Every Time.”

I mapped out the VDP based on a case study, a successful engagement with the Cannondale Bicycle Company, as they developed an all-terrain vehicle (ATV). They had come to us and asked if we could make a small tank they could use as an engine coolant reservoir.

Step one in our VDP is just the introductory dialogue. At that point, I had said to them, “What you are trying to do can't be done.” We chose not to pursue it, but as sometimes happens, they pursued us. They needed this coolant reservoir and we were their best hope of getting it.

So we went on to **step two** and talked about where their goals, concerns, opportunities and strengths lay in building the vehicle. We understood the temperatures that this container would have to tolerate. It had to have multiple openings to accommodate filling and flow. It had to be able to be fastened to the engine in the vehicle.

Ultimately, after back and forth dialogue, we went on to **step three** and developed a proposal for them, which they accepted. It was basically a design and development proposal. We reached an agreement, which is **step four**.

They gave us an order to proceed and then we began more design discussion. Actually, early on, there was design discussion because we had to have a sense that they could adjust their expectations to come up with a design that we felt confident that we could, in fact, mold. That was probably about a three or four-cycle iteration before we even started to build the mold.

After that, in **step five**, we went through the design review, talked about the quality, built the mold and went through the product and process development, which begins with material and mold validation. We tried one material, high-density polyethylene, unsure if it could survive the high temperatures. It didn't, so we had to change to polypropylene that enabled the unit to tolerate the heat. (We're proud of the fact that Solvay, one of the largest manufacturers of specialty plastics, recommends us to their customers who need blow molding).

For **step six**, product and process development, we had a variety of things to do to assure that the wall thickness was adequate in all areas. So we had to uniquely adjust the extrusion tooling so that we could be assured of that. There had to be places to fasten the container onto the engine so we had to try to punch those holes out and still not violate the integrity of the container itself. We worked out a way that could be done in the molding machine without having to do it in a secondary operation. That required two or three iterations. Then we went on.

We validated the mold. When we knew the mold would give us what we wanted, then we went on to **step seven**, validating the process. Process validation requires a longer run, a run of several thousand pieces to make sure the process is repeatable, and to identify areas of instability.

At that point, we had to develop some special trimming capability. It was a very thick and heavy container. Special trim tooling and equipment was needed, and developed.

When we finally had that process, we went into production qualification, **step eight**. That requires three production runs at an acceptable level of productivity, which in our case would typically be 90% productivity before we would say it is production qualified.

The eight steps ensure that no matter what happens, everyone is in the loop and nothing gets overlooked. We do our best to identify the challenges and risks at the outset with Advance Product Quality Planning (APQP). Our goal is to create value for our customers.

Now That You're a Blow Molding Value Development Process Expert

Obviously, we don't sell blow molding services over the internet. We have to do a lot of talking back and forth to figure out what you need and whether we can provide it. So give us a call about your needs. If we can help, we'll send you some samples that will help the communication process. You can reach us at (401) 723-3000. Or visit our website at www.BMSplastics.com. We pay for that site whether you visit it or not, so you might as well.

If you have additional questions, or if anything I've written isn't clear, please drop me a line and I'll do my best to help. The more you understand about blow molding, the more effective we'll both be at meeting your needs, whether it be product development, engineering support or high quality production. And, it makes my alter ego, Captain Meticulous, feel good to share my passion with the world!

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