

The wonderful world of extrusion expertise...

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[\(10\)](#) » [Trade Secrets](#) » [Some Considerations in Drying](#) » [The wonderful world of extrusion expertise...](#)

We are all guilty of designing, revising or purchasing plastics processing equipment with the expectations that the extrusion process will work like a dream as advertised or anticipated. Everyone has experienced the screw, die, guide, cutter, sizer, marker, trimming equipment, winder or whatever downstream equipment that does not perform as promised.

These problems are the intriguing part of the business. When raw materials are correct and equipment is installed they seldom produce the desired product at start up. A glitch, gremlin or bug that necessitates the elimination of an obscure problem in the process seems to be always present. Even the raw material may be suspect. These problems in many cases need no more than a few minor, but oh so important adjustments. However, occasionally complete disaster can occur. More often than we would like no amount of banged knuckles, loss of sleep or additional gray hair will rescue the operation easily. The problem haunts our every waking hour. It takes patient analysis and much tinkering while there is never enough time. Occasionally another approach to the problem solution will be necessary. As one discovers, in no way will the original proposed system work. Once realized, the faster the change is made the better. Sometimes a re location of the equipment in the line will solve the problem.

We tend to discover a problem, recognize a possible solution, and leap to the correction. How many countless hours have we spent observing a new raw material, screw, die or other equipment while we seek the solution to the glitches as the equipment warms up to the production task? Once we have the product zipping through the line and packaged we pause just a minute to wonder what was the problem which made life so difficult?

Many times the solution to the problem remains a mystery until we go down our mental or written check list of possibilities. Sometimes we discover a problem and at tempt a solution only to discover the cause is elsewhere. Many times the solution is located in an area totally unrelated to the problem area we are investigating. More than one cause can contribute to a problem. Let us take a typical case of a saw that chips the product. The cause, or causes, could be: wrong blade tooth configuration, blade too thick, blade RPM incorrect, blade going the wrong direction, blade pressure wrong, saw-to-line synchronization off, dull blade, part running out of alignment, improper part clamping, saw travel set incorrectly and on ad infinitum. The good technical and production person will eliminate and check all possible causes as fast as one can read the list. Occasionally we will miss one, simple as it may appear to be, and that will be the one. The fun continues until we stumble across the villain. We later laugh at the idea of the TV set not working and the need for a repairman because we found out that the set merely needed to be plugged in. Many problems' solutions are as simple.

Consider how sophisticated we have become. Thirty years ago we had trouble running PVC pipe. Then we learned how to run it from powder. This was followed by doubling and tripling the rates. Each step required new raw materials with new and revised equipment. Each solved small problem opened up the next new GIANT PROBLEM. This evolution keeps us on our toes. We now have new hard-to-process polymers coming on the scene and the game continues anew.

Our ability to solve these problems fast will keep us in business. Nothing stays static and secret long in the plastics business. Our customers will not permit this. Someone will find a way and solve the next problem. The race begins with the recognition of the problem and the solution. It is a race to be well aware. It keeps us on our toes. This process forces us to make progress or we will not be around long. To stand still in the plastics business is to let the competition surge ahead. This is what it is all about— grow and stay in business.

- Speer Ezzard

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