Polymer Color Services
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Superior Colorants for the Plastics Industry.

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BOOK REVIEW - "Polymer Extrusion", 4th Edition

If you are an extrusion processor, or are involved in extrusion processing in any way, this is *the* book to own. If you already own the 3rd Edition, you need the substantial additions and expansions contained therein.

I have been involved in the extrusion industry since 1985, and was always searching for any information that would explain *why* we do what we do – Why a 24:1 versus a 36:1? Why vented versus non-vented? Why place the vent stack there? Why does this 3 ½ have a better ability to run ABC grade of plastic than that 3 ½? Of course, the simpler questions started getting answered, and then, the harder questions began begging – gearbox design, heating/cooling system principles, types of feed mechanisms, die design, rheology, mixing, screw design, etc. Unfortunately, the answers were becoming harder to obtain, and not all of the answers jibed with one another, nor did they always jibe with observed reality (the vent leakage is getting worse! Hmmm…) In many cases there were no real answers at all…

This book, like its predecessor Polymer Extrusion 3rd Edition, has the answers to your questions.

If you read and apply the engineering principles contained in this book, not only will your understanding of the extruder as a whole, integrated unit come alive, but your quality will increase and you will raise your output rates. It's that simple. You will also gain an understanding of the extrusion process as a continuous and intimately related complex of processes, versus the patchwork of separate, discrete functions that somehow all operated together. Chris Rauwendaal has basically given us his own version of the Yellow Brick Road, with the obvious difference being that Chris's version is *based entirely on sound, fundamental, immutable physics.* A + B = C not because "they always have", but because "they always have to, and here's why." If you make changes to your process, you will do so knowing *why* you are doing it, and will be confident that these changes will have the desired effect because they are based on physical reality, and not on blind intuition (these last two words go together more often than not).

If you already have the 3rd Edition and/or are already well-versed with the theoretical framework that underlies the extrusion process, you do not want to miss the new information presented in the 4th Edition. There are too many expanded areas (feed/solids conveying, mixing devices, mixing theory, die design, trouble-shooting, to name a few) and absolutely too many completely new sections (new melting theory, DSM melting, various dispersive and distributive mixing elements and models, die design for mandrel and coextrusion, twin-screw design issues, again, to name a few) to miss. To put it bluntly, your present knowledge and understanding will be dated.

What concrete, sink-your-teeth-into benefits has my company received from this book? Output increases ranging from 112% to 212% (yes, really). Mixing was quantified, and had increased by approximately 2.5 times. And these were redesigns of my *existing* equipment; the new equipment is better yet again. Oh, you really do need this book.

Matthew T. Aldenderfer
President

153 Hitt Road, Easley, SC 29640 • Phone 864.859.4777 • Fax 864.859.2211 • polymercolorserv@aol.com