

# PCM & AFT Partnership of flexibility & creativity

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## INTRODUCTION:

PCM, Papeles y Conversiones de Mexico, headquartered in Monterrey, Nuevo Leon, supplies corrugated sheets ready to be constructed into boxes across a wide range of markets. They have gained Banamex, Deloitte, and Tec de Monterrey recognition five times as one of the Best Mexican Companies.

PCM produces liner and fluting for their five corrugating plants across the country and then deliver corrugated sheets with quality printing to over one thousand customers. They are the third largest producer of POS thermal paper in the world, leading in Mexico and exporting to the USA, Central America and the Caribbean. They are among the top three label producers globally and run recycling and plastic recovery businesses.

This story focuses on PCM's recent advances on their PM2 in the board mill and the subsequent benefits for corrugating converting.

PCM's principal strengths are its entrepreneurial business approach, flexibility, and customer responsiveness. They excel at providing solutions for boxmakers of all shapes and sizes and their customers unique businesses.

### Adapting board machines to fit customer demands

On the outskirts of Monterrey, PCM has a containerboard mill to support an adjacent corrugating plant. Significant upgrades to their two-ply PM2 board mill, most notably the stock approach system.

To gain flexibility, higher quality, and support customer needs, they decided to switch from traditional degassing to an AFT POM approach system. The critical feature is getting air out early.

The AFT project included two POMp degassers and systems engineering. Training and commissioning/startup support were part of the package.

In addition, new rotors and cylinders were provided, as well as a refurbished screen.

### Air out early, high-speed flow "in"

Mill Manager & Technical Director, Ariana Corrales Hernandez has a way of speaking about the removal of air before the headbox in a rather poetic way. "With champagne, you celebrate your success, enjoying tiny bubbles churning in your glass. With a POMp Degasser, you celebrate the extreme absence of air in your process. This accomplishment is the foundation for consistent high quality at increased speed, delivering more strength and flexibility to our customers' boxes."

She adds, "A 12% increase in speed at the same grammage means a 12% increase in production. This pays back our capital investment very quickly."

**Figure 1: Ariana Corrales Hernandez, mill technology director and Agustin Anaya, founder and CEO of PCM with the reels of PM2 behind them.**

AFT's Project Manager, Tom Cichoracki, says, "As a result of intensive listening and interactions from highly motivated operators during training, the startup plan and execution was outstanding. Immediately, there was better machine runnability, fewer sheet breaks, and increased capacity."

### Rapid Payback with POM

- Less chemicals, defoamers, and retention aids
- Fewer sheet breaks, less broke to reprocess
- More stable press to the paper machine
- More capacity-improved wire drainage and forming
- Improved system cleanliness (as air carries dirt, stickies, bacteria & fines)
- Improved strength, faster machine speed
- Better fines retention in the sheet
- Lower energy consumption
- Fast start-up; faster grade changes (less off-grade paper)
- Greater strength of converted corrugated sheets

### Always seeking new technologies

The POM degassers reduce air entrainment to as low as 0.1 %, compared with a very high level of air entrainment before. Another valuable gain is space in a crowded part of the mill, where silos and other auxiliary equipment have been removed.







**Figure 2: Carlos Covarrubias, Instruments and Controls Manager (right), Mario Ramirez, President of Eysmar--AFT rep, and Rafael Betancourt (left), Maintenance Manager. In concert with Tom Cichoracki. of AFT, they supported training of all operators and staff.**

**Notes Cichoracki, "Carlos is a master of how everything works. He is a quick read of performance of all aspects of the control loop. He recognizes quickly when a process is not running optimally, troubleshoots and brings the process back into control and doesn't have a problem getting his hands dirty in the process."**

Owner and CEO Agustin Anaya, who has a long history in papermaking, looks to team members for constant improvement. He has a "walk-around management" style, observing and listening to managers, operators, and staff in all twenty of their mills and plants.

He says, "The key to our success is a constant commitment to quality and service. We have highly motivated people who employ the best technologies from strategic suppliers. We expect strategic suppliers like AFT to deliver their best and transfer knowledge to our people. We stay in touch long after projects are complete. We exceeded high expectations with our PM2 rebuild and in the marketplace."

Comments Corrales Hernandez, "Agustin Anaya is an enthusiast for new technology; pushing all the time for the latest version of everything. His deep knowledge of papermaking and corrugating makes him a different kind of CEO. He believes in continuous improvement, where everyone in the mill is encouraged to help make gains. Sometimes in Mexico there's a strong will to stay the same. At PCM we are never afraid to change."

Rapid payback matters a lot when ambitious growth is built into the business approach. For the past decade of their 30 years in business, PCM has grown at over 30% annually.

Continues Corrales Hernandez, "AFT's advanced equipment and know-how help us achieve flexibility in running the board machine at peak performance. During the project and afterward, a strong personal connection defines the success of our relationship."

AFT representative Mario Ramirez and his team, supported by AFT, delivered design, on-site optimization, training, and more to help support PCM's ambitious goals. A rapid return on capital investment contributes significantly to our partnership relationship with PCM. And so does fine tuning and follow up once the project is complete."

The piping design around the POM system has many carefully calculated twists and turns that add up to higher, consistent performance. Continues Cichoracki, "No stock preparation or POM design is identical. To maximize PM2's performance, understanding all of variables of their process matters a lot. The real test is always runnability and quality gains seen through the process to the reel... especially in the corrugated medium and fluting."

Adds Julio Cesar Ramirez, Eysmar service leader and AFT rep, "The POM system is especially effective in dealing with an overload of air in the board-making process. In addition, because pulsation instability was reduced, everything runs smoother. When the operators don't have to worry about constant small issues, success shows up in the sheet."



**Figure 3: Carlos Covarrubias showing a POM Degasser on the DCS.**



**Figure 4: (Left) PM2 is now so fast that the winder is being updated to handle the change. On average the machine produces 12% more liner and fluting than before, having the potential for up to 30% higher production. Improvement in sheet formation was immediately visible.**





**Figure 5:** “With a POMp Degasser, you enjoy the extreme absence of air in your process. This accomplishment is the foundation for consistent high quality at increased speed, delivering increased strength to the boxes of our customers,” says Mario Ramirez,

**AFT systems and engineering had a positive impact on air problems, dewatering, pinholes, cleanliness, stickies, spots and flocs. High chemical consumption was reduced. Web breaks are fewer and strength is way up. This also means that energy savings figures into improved running conditions.**



**Figure 6: (Above)** “With the goal to reduce air in the thin stock all the way through the boardmaking process, AFT piping design is both science and art. We fit extreme functionality into small spaces and keep the flow going to support steady, highly productive results,” says AFT’s Tom Cichoracki.



**Figure 7 (Right)** Refiner performance is maximized with Finebar plates from AFT, achieving high fiber strength and reducing energy costs. PCM’s 1000 plus customers value the attention they get for customized single, double and triple wall, as well as increased strength at lower basis weights.



### The PCM Promise

The foundation of PCM's business is improving customer productivity and reducing inventory costs with PCM corrugated sheets. Their credo is worthy of review by anyone in this business.

#### Reduce excess inventory

- Faster deliveries reduce inventory and free up space in your factory
- Reducing inventory increases cash flow and your ability to apply such resources in working capital
- Production minimums as low as 300 m

#### PCM corrugated sheets ready upon entry to boxmakers' production process

- Sheet delivered to exact measurements to reduce production time.
- Special coatings applied so corrugated sheets enters directly into your manufacturing process.

#### Broad diversity of corrugated products from a single supplier

- Double wall, triple wall corrugated products; Fanfold, A, B, C and E flute.
- Tape and yarn reinforcement systems.
- Anti-humidity, anti-abrasive, anti-static, anti-flame, etc. applications.
- Coatings applied on both sides of the corrugated

**PCM supports customers new business growth with an understanding of challenges and applications**