A strategic view of how **Total Cost of Ownership** can be decisive.

What are the right strategies for short and long-term value?

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The art of winning against process adversaries

The purchase of wear parts in industrial manufacturing processes is often considered a necessary evil to reduce interruptions in time and effort better spent on "more important" things.

But what matters more than fighting against persistent adversaries to your daily success? All becomes even more evident as the connection between the wear parts procurement process is isolated from those individuals who install, operate and maintain the equipment that directly contributes to both the potential revenue of the business and operational expenses that impact the bottom line.

In fact, strategic wear part purchasing has a valuable financial and environmental impact. By purchasing and properly utilizing the right wear parts, you reduce expenses (parts, labor, energy), increase process stability and reliability, while reducing the number of process interventions required by employees to achieve safety gains.

Having practiced and taught Martial Arts for decades, I propose an analogy for you... While the concept of "Martial Arts" may seem out of place in a heavy manufacturing context, it can be simply defined as facing an adverse condition using the skills and techniques learned through training and experience.

Martial Arts perspective within the mill: understanding the opponent

In our business, the opponent is often something wrong within the process itself. Process issues are combatants against quality and productivity – and impeding success at that moment and often long term.

AFT has long provided leading edge technology in its application critical wear parts, including pressure screen rotors and cylinders, and refiner plates.

AFT also understands that while the best can often cost more to purchase, we encourage our customers to weigh the total impact of our products on operation stability and reliability as well as the impact on finished product quality.

Defined Value = Fiscal Success

The Total Cost of Ownership (TCO) is the essential dynamic for maximizing strategic wear part purchasing.

TCO is commonly defined as the purchase price of an asset plus the cost of operation over its useful life.

This can also be explained as the purchase price of a wear part plus any associated installation and operational cost, minus any quantifiable savings documented during its use.

Continuously seeking the lowest purchase price may meet the fiscal objectives of the procurement function (local or centralized). But it may not provide the best value or even the lowest annual cost. The low-cost price tactic can be the move that deters success and leads to a real financial loss.

Only understanding the full playing field and practice can lead to success.

Downtime Cost is critical to understand including labor, parts, materials, etc., used for each wear parts replacement effort. Total Downtime impact should also include production losses for added replacement time, and losses from off-quality product.

Another impact of maintenance downtime is the inherent risk exposure of the personnel that must interface with the equipment. Initial purchase price savings that require more frequent wear part replacement is an increase in the potential for an accident and lost time.

Annual Savings impact of wear parts should be quantified. As an example, AFT has documented cases that quantify actual savings derived from the use of our wear parts.

When estimating Total Cost of Ownership (TCO) analysis, one must consider:

- Purchase Price
- Useful Life
- Downtime Cost
- Annual Savings

Screening:

- **Production rate**
- **Efficiency** – More fiber retention
- **Stickies Removal** – Process cleanliness
- **Energy Use** – Better process performance
- **Fiber Recovery** – Lower waste disposal/landfill costs
- **Longer Wear Part Life** – Less downtime

Finebar Refiner Plates:

- **Better Sheet Strength** – More bonding, faster speed
- **More Sheet Bulk** – Increased fiber retention
- **Reduced Fiber and Vessel Segment Picking**
- **Better Runnabilty** – Better process stability
- **Less Energy Use** – Reduced no-load power
- **Longer Life** – Less downtime

To determine the Total Cost of Ownership (TCO), the following equation can be used for the comparison of multiple wear part suppliers in various manufacturing scenarios:

A Purchase Price, USD
B Useful Life, weeks
C Downtime Cost, USD for each replacement
C1 Lost Production
C2 Maintenance Labor/Supplies
C3, **C4** ....
D Annual Savings, USD/Year
D1 Energy Reduction
D2 Improved Product Quality
D3, **D4** ....
E Evaluation Period, years

TCO for a Wear Part = Purchase Price + Annualized Downtime Cost/Useful Life **= Savings**

$$[A * (E*52)/B] + [(C1 + C2)*(E*52)/B] - [D1 + D2]$$

Consistent winning happens from experience and training, giving you the confidence and agility to act.

It's invaluable to have a partner supplier like AFT to support you with state-of-the-art technology, dedicated and capable employees, and a clear intent to objectively define what is best for your process.

From a martial arts mastery point of view, when you see the true "adversaries" in the process, and you defeat them in a timely way, you assure many victories ahead.

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