

PAPER MACHINE VARIABILITY BENCHMARKING SERVICE

Obtain a Clear Benchmark for Product Uniformity and Machine Performance

We can help you maintain your mill's competitive edge assessing the performance of your paper machines to reduce the variability of your paper production.

Impact of basis weight variability

The stability of the weight of a sheet being produced is a direct indicator of the amount of missed potential that exists in the operation of a

paper machine. Sheet basis weight is a direct reflection of the stability of the process that delivers fiber to the machine and the capability of the machine to turn that fiber into product.

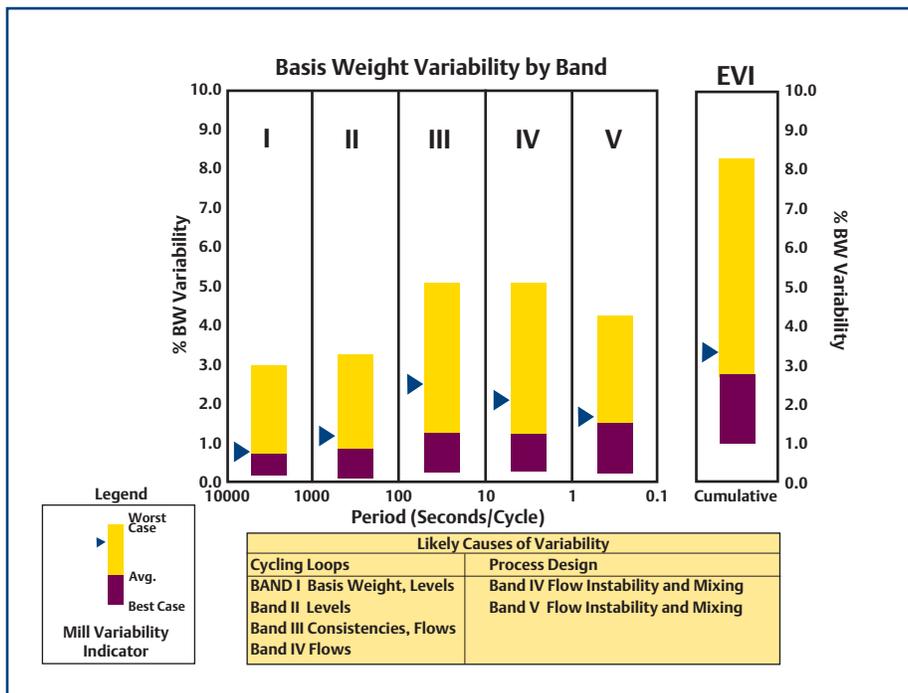
Every time there is a deviation from the ideal condition, the result is less-than-maximum throughput, quality or performance. Performance degradation is typically not caused by one factor, but rather the accumulation of many process issues.



Diagnosing the variability

Emerson Process Management is offering a paper machine variability index and benchmarking service. This solution uses the EnTech Variability Index (EVI) base line testing of your paper uniformity from basis weight data collected directly from the betagauge. A report detailing the findings—including MD variability, frequency analysis and the renowned EVI ranking provides the path to improved performance.

The EVI provides a clear benchmark for product uniformity and performance by using raw basis weight data from your gauging system. It classifies your paper





machine against a database of hundreds of machines in its class and industry standards by grade using:

- Basis weight variability by frequency
- Total variability in basis weight.

Low EVI ratings are achieved only where:

- Mills have programs in place to address variability issues, or
- The processes are relatively new, were designed well, and have not begun to deteriorate.

High EVI ratings indicate that there is range of problems that involve process design, control strategy, instrumentation maintenance and

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loop tuning issues. Lack of attention to dynamic response and balancing issues in process design will cause severe and costly variability problems.

An average EVI rating indicates that there is significant variability reduction potential, from all possible sources including process design, control strategies, instrumentation degradation and loop tuning. Emerson not only has the expertise to diagnose the source of variability, but also the expertise to help you address these sources.

Realizing better performance

If increased throughput is one of your business objectives, then an average EVI rating would indicate that there is 5 to 10% efficiency improvement potential. As the variability is improved, the quality of the product will also improve, and the quantity of product lost to off-spec will decrease. As the performance of the process is improved, the time lost on grade changes, startups or recovery from upset will decrease and production

will increase with the additional time available.

The EVI rating is actually a measure of how many constraints are being pushed; removing each constraint allows the next constraint to be pushed, while efficiency and productivity performance are being improved.

Working together

Most people implementing control strategies have little knowledge about interaction in process elements that are important to ideal performance. Very few people have the knowledge in process dynamics to be able to appropriately apply a coordinated loop tuning strategy to optimize control and minimize variability.

This service can augment your mill's "improvement team" capabilities in returning the most from your process control investments.

Contact us today to benchmark your performance and identify the opportunities for improved financial performance.

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