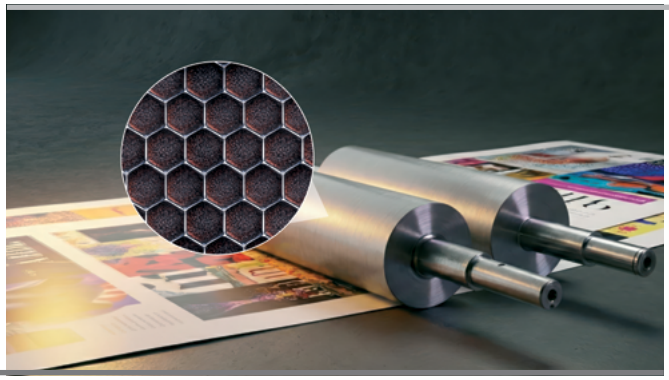
THE EXPERTS IN INK TRANSFER TECHNOLOGIES

ENGINEERING INK TRANSFER STABILITY

As press speeds increase and tolerances shrink, ink transfer stability is no longer optional—it must be engineered.

Daetwyler



In modern flexographic pressrooms, performance is defined by consistency.

Small variations in ink transfer can produce large downstream effects: increased blade wear, inconsistent color, excessive cleaning cycles, and rising operating costs.

Ink transfer stability depends on how well the anilox, doctor blade, chamber system, and ink characteristics function together as a system.When these components are engineered to work in harmony, pressrooms gain predictable ink transfer and lower cost per impression.

WHY TOLERANCES ARE SHRINKING

Modern flexographic printing is operating closer to its technical limits than ever before.

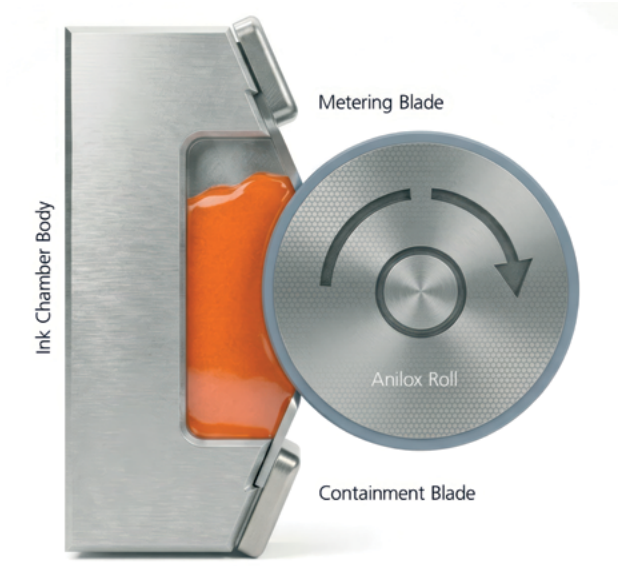
Several factors contribute to this tightening margin:

- Higher press speeds
- Finer anilox engravings
- Lower ink film thickness
- Increased demand for color consistency
- Greater automation and repeatability expectations

As tolerances shrink, small variations in blade geometry, chamber pressure, or ink behavior can disrupt ink transfer stability.

INK TRANSFER IS A SYSTEM

Ink transfer stability is not determined by a single component.



It is the result of a coordinated system:

Anilox Roller
Controls ink volume delivery through proper anilox roller specifications

Doctor Blade
Regulates metering and shear forces through proper doctor blade geometry

Chamber System
Maintains containment and pressure stability.

End Seals
Maintain chamber integrity and prevent leakage.

Ink Characteristics

- Viscosity and Rheology – Determines flow behavior under shear (how ink actually moves through the system)
- Drying and Curing Performance – Impacts transfer consistency and press stability at speed
- Ink Stability – Affects consistency over time and across runs
- Color Strength and Consistency – Influences density control and repeatability

There is often a gap between ink that performs well in controlled lab conditions and ink that performs consistently on press.

When the anilox, blade, chamber, and press dynamics are aligned, the system allows the ink to perform at its optimum level under real production conditions.

COMMON SOURCES OF INSTABILITY

Many pressroom issues trace back to instability in the ink transfer system.

Common indicators include:

- Increasing blade pressure over time
- Frequent cleaning cycles
- Excessive blade wear
- Inconsistent color density
- Plugging or contamination in anilox cells
- Ink misting or leakage

These symptoms are often treated individually but frequently share a common root cause: system imbalance.

THE COST OF INSTABILITY

Instability in ink transfer directly impacts operating costs.

Effects may include:

- Higher blade consumption
- Increased press downtime for cleaning
- Greater ink usage
- More rejected print runs
- Increased operator intervention

When viewed at the scale of millions of impressions, even small inefficiencies compound into meaningful cost increases.

STABILITY ASSESSMENT

To help pressrooms identify and correct instability, Daetwyler offers a structured Stability Assessment.

The assessment evaluates:

- Anilox specifications and condition
- Doctor blade configuration
- Chamber system performance
- Ink characteristics
- Press operating conditions

Using this information, we identify sources of instability and recommend adjustments that improve transfer consistency.

ENGINEERING STABILITY FOR LOWER COST PER IMPRESSION

When ink transfer stability is engineered correctly, pressrooms gain:

- Predictable print quality
- Longer blade life
- Reduced cleaning frequency
- Improved press uptime
- Lower cost per impression

By viewing the ink transfer process as a system rather than isolated components, pressrooms can achieve measurable improvements in efficiency and consistency.

Interested in evaluating the stability of your ink transfer system?

Contact Daetwyler to schedule a Stability Assessment and learn how system-level engineering can improve press performance.

Daetwyler

Certified Management System SQS ISO 9001

13420 Reese Blvd. West
Huntersville, NC 28078
Phone: 704 948-1261
All Orders: 800 627 1011
Fax: 704 875 0781
E-Mail: infodpr-usnc@daetwyler.com
www.daetwyler-usa.com