

Case History

KemForm S Retention & Drainage

Market Segment

Printing & Writing Offset Uncoated Freesheet in
Midwest US

Mill Situation

Wet End

Fourdrinier/dandy roll speeds up to 2000 fpm
Wood-free Alkaline sheet pH 7.8
Furnish: 62% hardwood, 20% soft wood, up to 25%
filler (65%PCC & 25%GCC) and 10% DIP Now -
65% HDWD, 25% SFTWD, 10% PCW/DIP, 15%
Broke

Chemicals

Retention Aid Program: colloidal silica, anionic
emulsion micropolymer, high MW anionic PAM
emulsion, cationic potato starch

Size: Alkenyl Succinic Anhydride (ASA) sizing
emulsified with potato starch

Customers Objective

Replace the oil in water anionic emulsion micropolymer,
increase additive efficiency without loss of production

Proposed Solution

Kemira Chemicals representatives completed a process
survey of the paper machine wet end to identify the
optimum feed locations and retention-drainage system
for improving product and machine performance.
KemForm S retention and drainage system was
recommended and trialed against the current retention
program. Fennosil ES210 micropolymer and Fennosil
515 Microparticle were applied for drainage/retention.
One BTG online monitoring system was invaluable to
demonstrate Kemira benefits.

Customer Benefits

- Increased retention levels were achieved, from 80+% FPR and 65+% FPAR
- Retention chemical cost is down almost \$2 per ton. Consumptions were also down US\$241,500/year
- Stabilised wet end chemistry (more robust and easily managed)
- Less deposition issues
- Breaks – 40% reduction by having a more stable wet end. Less deposits and higher couch solids going into the press section
- New production records set
- Drainage : Average speed increase was 2% during trial = 2,415 tons per year increase
- Eliminated the need for expected capital expenses on pm wet end (moving the “dandy roll” towards the headbox for improve formation and get higher speeds on heavy weights)
- Formation improvements confirmed the net gain with Kemira KemForm S program via MK formation analyzer

1950 Vaughn Road
Kennesaw, GA 30144
Tel. +770 436 1542
Fax +770 436 3432
www.kemira.com

NA.Retention@Kemira.com

Kemira