



Paper Technology

Volume 46 number 4
May 2005

The official journal of the Paper Industry Technical Association



The Fineness...



...is the Key to Your Success.

The unique fineness of InLine forming fabrics is shown in the perfect paper surface area - the optimal condition for improved printability.

PrintLine Q588 and ThinLine Q592 are new types of forming fabrics based on Albany International's revolutionary InLine technology.

Please ask for our formula for success.



It's All About Value

ALBANY
INTERNATIONAL

Forming Fabrics Europe
www.albint.com

Paper Technology

The official journal of the Paper Industry Technical Association

Volume 46
Number 4
May 2005

features

Published by PITA
5 Frecheville Court,
Bury, Lancs BL9 0UF
Tel: 0161 764 5858
Fax: 0161 764 5353
email: info@pita.co.uk
website: www.pita.co.uk

Editor
Margaret E. Marley
2 St Philip Street,
London SW8 3SP
Tel: 020 7622 9269
Fax: 020 7652 1632
email: mmarley@dial.pipex.com

Publishing Director
John Clewley

Advertisement Manager
David R. Cole

European Representative
Nicolas Pelletier
ENP 16 Rue
Bannier - F-45000
Orleans, France
Tel: +33 2 38 42 29 00
Fax: +33 2 38 42 29 10
email: enp@wanadoo.fr

Produced and typeset by
Zeebra Publishing, Failsworth,
Manchester

Printed by
Stephens & George Magazines,
Merthyr Tydfil, Wales

Paper
Supplied courtesy of M-real
Text pages on Nimrod Silk 115 g/m²
Cover pages on Nimrod Silk 170 g/m²

Subscription Rates (2005)
10 issues pa
£100 pa + postage
(£10 for single copy)



© PITA reserves all copyrights for the contents of this Journal. Technical papers may also carry first-authors' copyrights jointly with the Association. None of the contents may be extracted, circulated, or re-published without permission.
Registered Number*2928961
England Limited Liability.
ISSN 0 306-252X

19 *The Effect of Fines on Paper Properties*

Ben Pruden

The special nature of fines and their importance is well known in terms of the paper properties and recent research has been focussed on increasing this knowledge in order to improve paper properties for specific applications.

27 *Short Payback Solutions for Rebuilds*

Petteri Halme, Tapani Kultaranta, Arto Kumpulainen, Tomi Ulmanen and Kyösti Leppäkorpi

Lifecycle or asset management enables a mill to make the most of its plant and equipment. It provides the continuous stepwise operational improvements which raise revenue - from cost-efficient marginal capacity and improved quality.

35 *Rigid Paper turns to Reverse Osmosis to wrap up a boiler feed problem*

Andy Freer

Rigid Paper has achieved rapid payback on a £56,000 investment in Reverse Osmosis at Selby Mill. The compact RO plant removes more than 90% of the TDS in raw borehole water used by the mill.

39 *The role of some retention aids in water based gravure printing*

Dr Samya El-Sherbiny, Dr Fatma A. Morsy, Dr Essam S. Abdel-Saied

This feature discusses the influence of different retention aids on gravure water based ink printability.

2 *Comment*

3 *News*

15 *PITA Affairs*

47 *Industry Update*

52 *Products & Services Directory*

56 *Installations*

60 *Coming Events*

59 *Recruitment*

63 *Calendar of World and PITA Events*

FRONT COVER PICTURE



After almost 200 years of fine papermaking, Tullis Russell Papermakers continues to maintain its leading industry position through sales of its growing portfolio of high quality papers and boards. This, combined with an impressive ongoing investment programme, excellent customer service and a real commitment to its employees ensures Tullis Russell continues to be a major supplier to paper users throughout the world. As well as being a significant supplier to the UK market, Tullis Russell are key suppliers to overseas markets and enjoy sales in over fifty countries around the world. Tullis Russell Papermakers produces around 150,000 tonnes of fine quality and speciality papers annually.
See story on page 51.

Comment

Gas prices driven by oil and UK capacity constraints

By M.E. Marley

The huge impact that the price of oil is having on the economics of papermaking is highlighted once again in this issue of *Paper Technology*.

The rising price of oil is directly responsible for the massive escalation in wholesale gas prices over the last 6 years - up from 15p a therm in 1999 to an average of 30p last year, *figure 1*, and to a possible 45p this year.

'This is bad news for the UK paper industry, for which a 1p per therm increase in the gas price costs £6 million a year', says David Gillett, of the CPI.

There has always been a link between oil and gas prices, since 50% of the UK's gas comes from joint oil and gas fields. But the price link became more direct with the start up of the Interconnector in 1998 - the pipeline which exports gas to Belgium, and increasingly, imports gas into the UK.

With the start up of the Interconnector, UK gas prices became linked with the oil indexed gas markets of Europe; so, when oil prices rose from \$15 a barrel to \$25 in early 2000, the gas market followed suit with a shift from 15p a therm to 22p a therm. In 2004, a year of oil crisis, the price rose by another 20p a therm, from trough to peak.

Rising gas prices will feed through to general energy costs, since gas is the largest source of primary energy in the UK economy - today 40% of Britain's electricity is generated in gas fired power stations.

OFGEM - the UK oil regulator - believes that the oil-gas price link will be broken with the liberalisation of European gas markets, but there is some disagreement on this point. UKOOA (the UK Oil Operators Association) is not sure one way or the other; but believes that oil is likely to remain the most powerful energy price indicator worldwide for several decades to come.

Imports and capacity constraints

Prices are also being pushed up by the growing UK reliance on imported gas and the lack of an adequate importing and storage capacity. But this problem will be alleviated with the start up of new capacity in 2007:

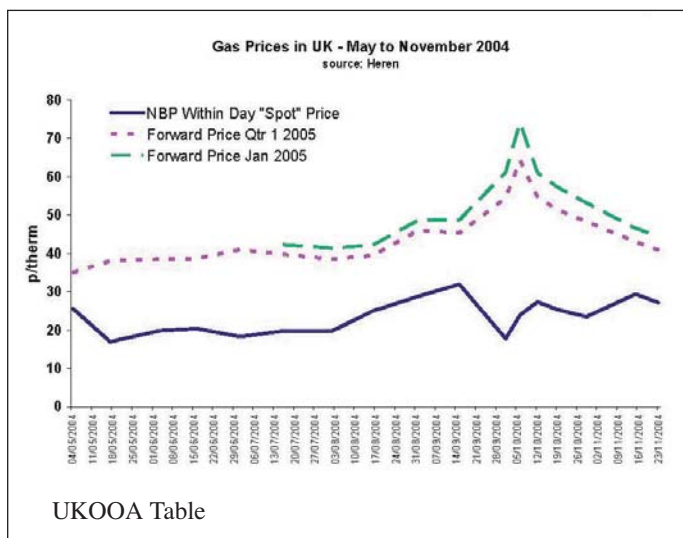
- the new Langeled pipeline from Norway which will supply up to 25% of the UK's gas requirement
- the expansion of the Interconnector
- the new BBL pipeline from the Netherlands.

Until this new capacity is on stream, the UK market will continue to experience price spikes - since imported gas is required to cover seasonal peaks in demand. In the winter of 2003-2004, the Interconnector ran at maximum import mode to meet UK demand.

But when the Interconnector is full (ie shut) there is a supply constraint for the UK.

This supply constraint creates the fear of shortage and at periods of peak demand - in the winter months - it pushes UK prices beyond European levels. The fears of shortage in the winter of 2004-05 caused the forward price spikes of 50p a therm for the 1Q 2005.

In view of these supply constraints, TISC concluded that the UK would be in an "uncomfortable position" in terms of supply and demand over the next two winters. That could mean that customers with interruptible supply contracts will be interrupted.



News

European prices continue to decline in uncoated woodfree sector

by M.E. Marley

Figure 1: The price of UWFs has been in decline, for 4 years.

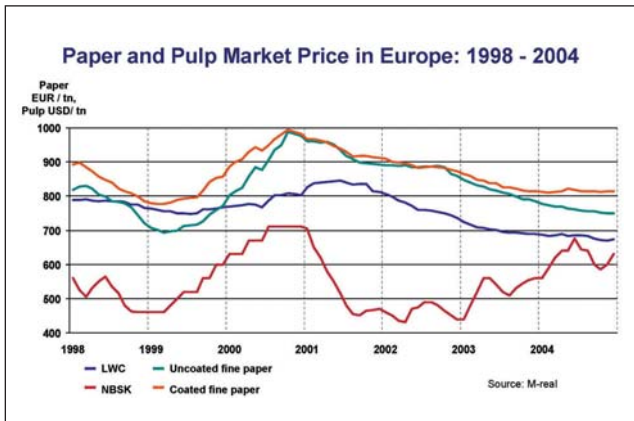


Figure 2: Persistent over capacity is exacerbated by a rising tide of imports.

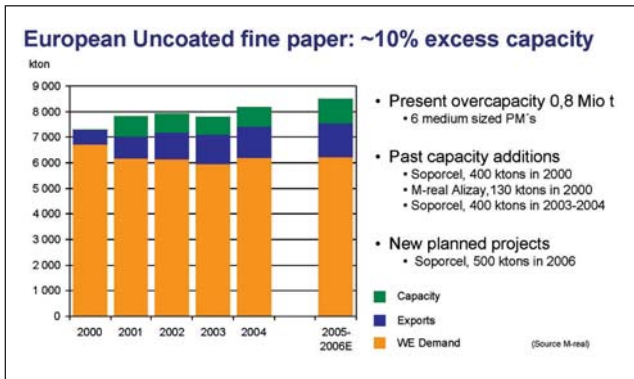
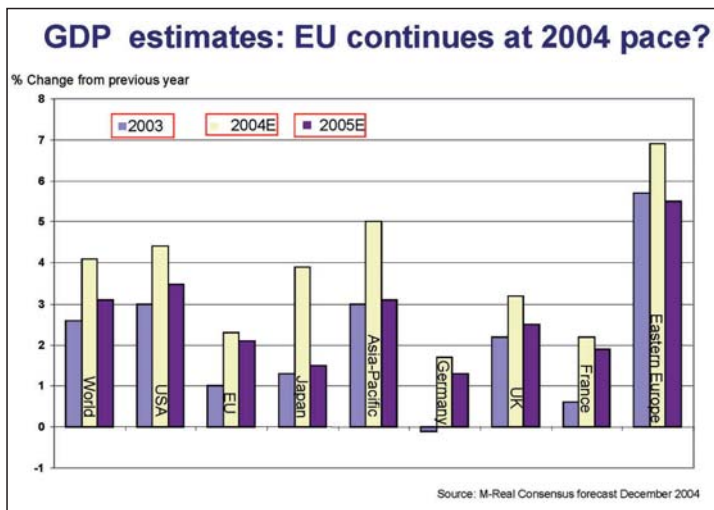


Figure 3: The economic slowdown is depressing demand for office papers.



The price of uncoated fine papers continues to decline in Europe, despite an attempted hike of 5-8% on 1 April - announced by leading producers in January.

Instead, the price of the B copier grade fell to €785 a tonne in early April, a decline of €90 from the 1st Quarter of 2004.

The price of uncoated fine papers has now been in decline for four years, since the peak of €1000 a tonne in early 2001. And, unlike the coated woodfree sector, there is no sign of a turnaround in the near term, *figure 1*.

'Events will conspire to prevent any improvement in prices in 2005', says Voytek Sylwestrowicz of RISI's Brussels office. 'Uncoated woodfree prices will continue to decline during the year as weaker demand and imports continue to pressure operating rates'. The price problem is rooted in:

- European overcapacity - some 800,000 tonnes, according to M-real, *figure 2*.
- The inflow of imports from East Europe, Latin America and Indonesia. In 2004, the glut of imported, unbranded copier undercut domestic brands and 3rd and 4th Quarter prices hikes failed, despite rising, overall demand.
- The increasing strength of the Euro vis a vis the Dollar, against which it floats freely -unlike the major Asian currencies which tend to track the Dollar. The 55% decline of the dollar over the last 3 years has created an exchange rate which is favourable to exporters to Europe, a situation which is likely to persist throughout 2005 when the Euro is expected to appreciate to \$1.40.
- The economic slowdown which is forecast for world economies in 2005, *figure 3*. Worldwide growth is expected to slow from 4% to 3% in 2005 as the US and China rein in their expanding economies - by increasing interest rates and reducing fiscal stimulus. In the EU, the moderate 2% growth of 2004 could fall to 1.1 -1.5%, according to some commentators.

EUROPEAN PRICE INDICES: FINE PAPERS 2004 – 2005						
	2Q 2005	1Q 2005	4Q 04	3Q 04	2Q 04	1Q 04
UWF	785.2	803-797	810-807	822-818	818-824	877-825
CWF	718.8	717-710	714-708	720-730	720-731	717-726

Table 1: A4 Copier B and CWF Reels: Prices in Euro/tonne (Foex:Pix)

THE EUROPEAN UNCOATED WOODFREE SECTOR 2004- 2005						
	Total Shipments		Export tonnage		Domestic Sales	
	Change	Vol	Change	Vol	Change	Vol
Feb	Down 2.2%	612k	Up 11.8%	95k	Down 4.4%	517k
Jan	Down 0.5%	619k	Up 22.4%	to 116k	Down 4.1%	to 515k
2004	Up 4.7% to		Up 8.1% to		Up 4% to	
	7.43m tonnes		1.23m tonnes		6.19m tonnes	
Dec	Up 5.7% to	591k	Up 20.8% to	116k	Up 2.6% to	475k
Nov	Up 8.5%	624k	Up 37.5% to	99k	Up 4.4% to	525k
Oct	Down 0.8%	623k	Up 1% to	106k	Down 1.1%	517k
Sept	Up 10.3%	663k	Up 19.1% to	131k	Up 8.4% to	532k
Aug	Up 12.2%	551k	Up 22% to	133k	Up 9.4% to	418k
July	Up 3.8% to	604k	Up 0.9% to	112k	Up 4.5% to	492k
June	Up 6.5% to	624k	Down 2.9%	100k	Up 8.5% to	524k
May	Down 1% to	599k	Down 8.2%	89k	Up 0.4% to	510k
April	Down 0.6%	621k	Down 19.2%	80k	Up 2.9% to	541k
Mar	Up 4.4% to	622k	Up 1.1% to	90k	Up 5%	572k
Feb	Up 4.4% to	618k				

Table 2: Shipments from European mills to domestic and export markets. Comparisons are year on year; Volumes in ' 000 tonnes. Source: CEPIFINE

M-REAL: PAPER CAPACITY BY GRADE							
Mills	Country	PMs	Cmag	CFP	UFP	Speciality	Total
Kirkniemi	Finland	3	730				730
Äänekoski	Finland	1		180			180
Kangas	Finland	2	320				320
Simpele	Finland	1				55	55
Kyröskoski	Finland	1				100	100
Stockstadt	Germany	2		215	210		425
Bergisch Gladbach	Germany	4		330			330
Düren	Germany	4				100	100
Husum	Sweden	3	250		415		665
Wifsta	Sweden	1			165		165
Alizay	France	1			300		300
Pont Ste Maxence	France	2			120		120
Biberist	Switzerld	3		380	70		450
Sittingbourne	UK	2		200			200
New Thames	UK	1			230		
Hallein	Austria	2		315			230
Total		33	1300	1820	1610	266	4886

Table 3: Coated Magazine; Coated Fine Paper; Uncoated Fine Paper, Speciality Capacity in ' 000 tonnes; Source: M-real.

Economy and demand

The slowing economy has a direct and immediate impact on demand from the business sector which historically accounts for some 70% of uncoated woodfree consumption - photocopier, envelopes, forms and printings.

Thus the softening economic conditions of the 1st Quarter are reflected in a 4% decline in European demand for office papers since December 2004.

Throughout 2004 - the first year of economic growth since 2000 - European demand for uncoated grades grew at twice the rate of the general economy - up 4% to 6.19 million tonnes, *see table 2, left*.

Exports from Europe rose by 8.1% to 1.23 million tonnes, bringing total deliveries to 7.43 million tonnes, a 4.7% increase over 2003 levels.

However, this was the slowest growth in the entire P&W sector. Demand for coated fine papers rose by 11% to 9.6 million tonnes, of which exports accounted for 2.69 million tonnes, a massive 19% increase on 2003.

The relatively poor performance of the uncoated woodfree sector is largely due to rising competition from offshore suppliers, who i) accounted for 12% of the European market in 2003 and ii) have a growing presence in the US and other importing countries.

Overseas competition

In Europe, domestic producers of uncoated fine papers are facing stiff competition from the East European, Asian and Latin American producers.

The East Europeans are the largest outside suppliers, while Latin American and Asian producers are rapidly gaining market share.

The Latins are integrating their hardwood pulp mills with papermaking lines and producing low cost uncoated grades, which return a profit at much lower selling prices than their European equivalents.

This situation is exacerbated by the strength of the Euro which makes Europe a highly attractive market to exporting countries with dollar denominated costs and Euro denominated sales.

Consequently, in 2004, West European imports of uncoated woodfrees soared by 36% to 1.26 million tonnes, while imports of coated woodfrees were a negligible 143,000 tonnes, a 9% decline from 2003, *figure 4, top right*.

In this climate, attempted price hikes failed in the 2nd, 3rd and 4th Quarters of 2004, as the big European producers were forced to yield to market pressure to maintain their market share. So far this year, the

story remains the same. The 5-8% hike proposed by M-real for 1 April has failed to take and prices continue to decline.

In contrast, the European coated woodfree sector has been more successful, despite excess capacity of 1.6 million tonnes - double that of the UWF sector. CWF producers succeeded in stabilizing prices in 2004 and in achieving minor price improvements in the 2nd Quarter, albeit far short of the €50 hike proposed for 1 April, *table 1, left*.

In its 2004 report, which shows an operating loss of €2 million despite a 7% increase in deliveries, M-real notes the negative factors at work:

- The weak Dollar
- The rise in imports of uncoated fine paper to W.Europe
- Overcapacity
- Falling Prices. There is 'a considerable need for price increases in uncoated fine papers', says CEO, Hannu Anttila.

Cutbacks and consolidation

Given the tough market conditions, M-real has launched another €200 million cost cutting programme which will be fully implemented by 2007. It will play a large part in underpinning the company's profitability but, success also depends on a stable exchange rate, improved prices and good operating rates.

Some €30m of the projected savings depend on operating rates of more than 90%. In 2004, M-real's operating rate was 88%, compared to 83% in 2003.

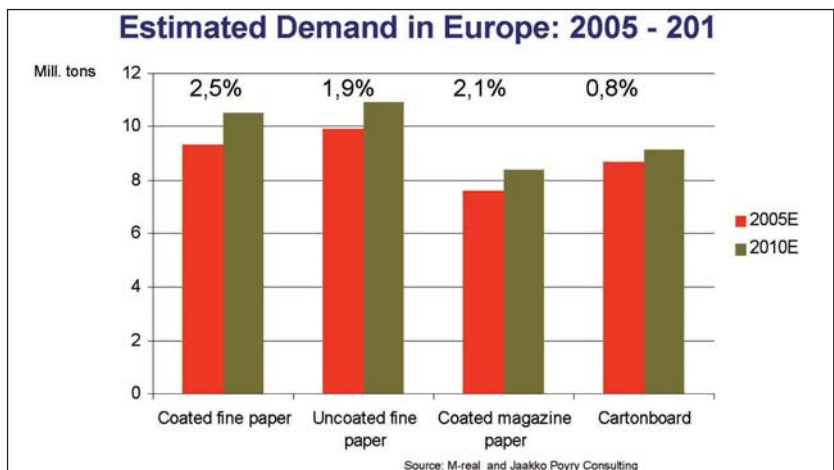
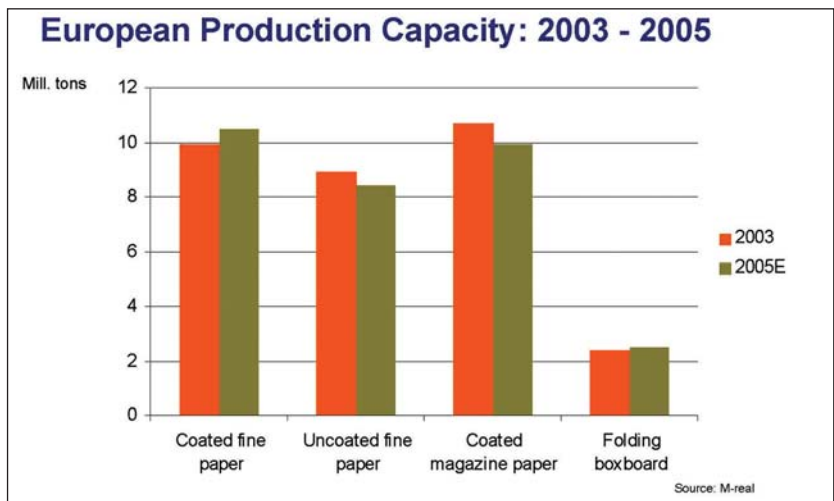
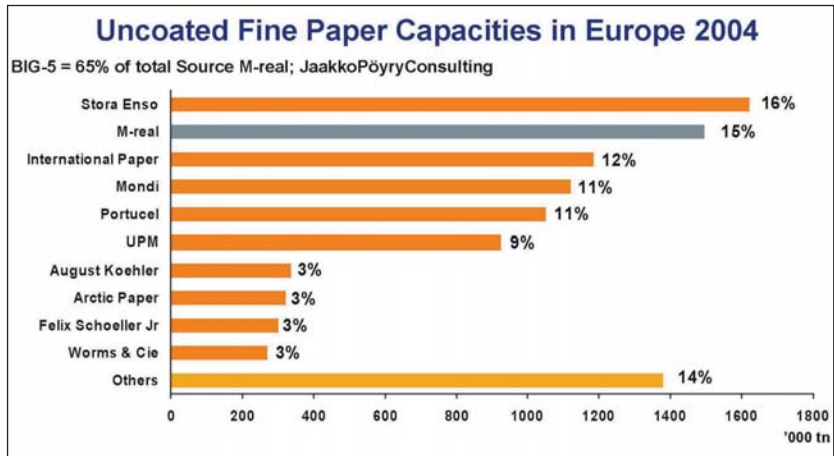
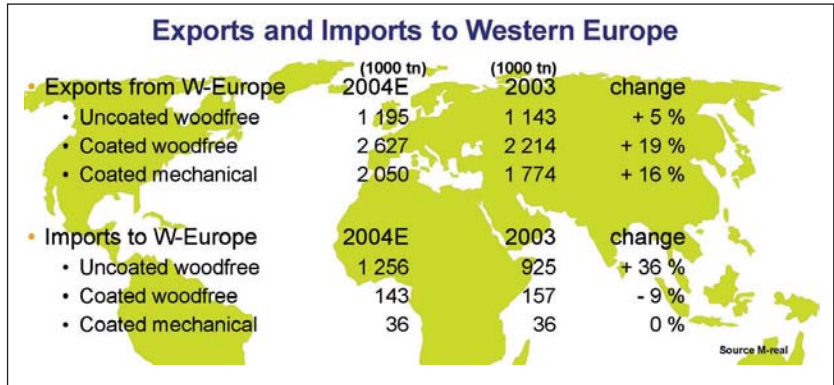
The required operating rates may result from progressive consolidation within the European woodfree sector, but rising imports remain a problem. Today some 65% of uncoated woodfree capacity is in the hands of the top five producers compared with 42% in 1996, *figure 5, right*.

Consolidation enables a more controlled approach to capacity. The tables on capacity and demand, show that uncoated fine paper capacity is set to decline 2005 while European demand is expected to rise by 1.9%, *figures 6 and 7, bottom right*.

In addition to reducing domestic overcapacity, the process of consolidation will bring a degree of price stability.

With the closure of high cost machines, tight markets are no longer characterized by the steep price increases needed to cover the high production costs of the marginal, nonintegrated mills; and conversely, at times of falling demand, producers can avoid a price collapse. In 2001, for example, while pulp prices plunged, the price of uncoated woodfree grades went into gradual decline, *table 1, top left*.

'Consolidation has evened out some of the sharp fluctuations in the price cycle', says RISI.



Aylesford Newsprint trials sludge recycling technology

Aylesford Newsprint is running sludge recycling trials in a Canadian sludge processing plant which is the first of its kind in Europe.

The innovative plant is designed to overcome the limitations to sludge processing and could therefore remove a major barrier to the expansion of recycling in the UK paper sector which generates 1 million tpy of sludge.

Installed with the help of funding from WRAP, the Aylesford demonstration plant will be operating at full capacity by June and trials will run until November 2005. The findings will then be fully disseminated throughout the paper industry.

The new process, which was developed by the First American Scientific Corporation (FASC), separates the fibre and filler components of sludge, thereby creating the potential for an increased range of by-products, including:

- From the fibre fraction: lower grade paper applications, insulation, and fuel briquettes
- From the filler fraction: a range of products for the construction sector.

The mill will derive economic benefit from the by-products and reduce the amount of sludge sent to

landfill, an increasingly expensive process and a growing obstacle to the expansion of recycling in the UK.

‘With higher quality requirements for paper, and rising landfill costs, the volume and cost of sludge disposal is becoming an inhibiting commercial factor for the further expansion of recycled paper manufacture,’ says David Powlson, WRAP’s Technical Manager for Paper.

‘This WRAP project will use new technology to explore the potential for overcoming this barrier and improving the economics of producing new paper products from recycled fibre.’

40% of material input turns into sludge

Sludge is the main waste product from recycled white papers, and, when higher quality grades are produced, it can represent as much as 40% of the material input. Since the end uses for sludge are limited, the main options for disposal are landfill, land-spread or incineration.

The KDS Micronex sludge processing technology opens up new possibilities by addressing the main obstacle to sludge recycling, ie, its composite nature which is typically 50% fibre and 50% fillers.

The FASC process is based on the fact that these two components can be recycled more easily individually than in combination. The sludge is dried into a fluff - as opposed to a compacted residue - allowing the fibre and fillers to be separated out.

If the results are positive, the impact on the industry could be significant, says Chris White, Commercial Manager at Aylesford Newsprint. ‘This project could address one of the major challenges facing the paper recycling sector and Aylesford Newsprint is excited to be part of the project team.’

The three stage KDS process.

The KDS Micronex provides a three stage process: i) the moisture content of the sludge is reduced from 50% to 10%; ii) the resulting sludge fluff is split into its fibre and filler constituents using screening equipment; and iii) the materials are assessed for their recycling potential.

Initially, the plant is being operated by RB Plant, a company with in-depth experience in this field. RB Plant will also carry out the market development phase, identifying where industrial trials are appropriate.

Brian Nichols, President of FASC, is confident that the demonstration will deliver positive results. ‘The stringent environmental legislation, high disposal costs for waste and high energy costs in the UK and the European Union create a significant opportunity for this type of technology’.

WRAP is the UK Government’s Waste & Resources Action Programme. It focuses on the creation of stable markets for recycled materials and products and the removal of the barriers to waste minimisation, re-use and recycling. WRAP is backed by substantial Government funding from DEFRA, DTI and the Scottish Welsh and Wales and Northern Ireland authorities. www.wrap.org.uk

The KDS Micronex, below, uses kinetic energy to dewater sludges with a moisture content of up to 80%. The kinetic energy grinds and dries the sludge into a fluff from which fibre and fillers can be separated for recycling. The process is extremely energy efficient.



SURFACE SIZING

Creating Innovative Solutions



At Cerestar we offer a wide range of starches, equipment and services for surface sizing applications.

We know that output counts in your business as does quality. At our state-of-the-art Application Center, Cerestar's expert application specialists are developing products for improved productivity and working on solutions to meet the next generation demands from the printing industry. In close cooperation with our local application specialists these solutions are put into practice. With Cerestar as a partner you can be sure to remain at the cutting edge of surface sizing technology.



Paper market forces hold NBSK price hikes in check: at \$640 a tonne

THE PULP CYCLE: SOFTWOOD AND HARDWOOD PRICES						
		1ST APRIL		USA	EUROPE	ASIA
List Price	NBSK				\$640/650	
	Spot Price	NBSK			\$520/540	
Sodra Cell	Eucalypt and birch	\$20			\$600	
Ence, Portucel	Eucalyptus	\$20			\$600	
Ence	Eucalpytus	€ 15			€ 465	
Aracruz; Cenibra; BEK		\$20/30	\$635		\$600	\$570
Suzano, VCP						
P&W	SBHK				\$580	
		1ST MARCH		USA	EUROPE	ASIA
List Price	NBSK				\$640/650	
	Spot Price	NBSK			\$530/550	
Sodra Cell	Eucalypt and birch	\$30			\$580	
Aracruz;Cenibra	BEK		\$615		\$580	\$540
Suzano, VCP						
Domtar	Maple NBHK	\$20	\$620			
	Mixed NBHK	\$20	\$610			
	SBHK	\$39	\$590			
Millar Western	BCTMP	\$30			\$540	\$510
Bowater	NBHK	\$30	\$610			
	SBHK		\$600			
Fraser Papers	Maple hi bright		\$660			
	Maple single spc		\$620			
	NBHK		\$610			
Sappi Fine Papers	NBHK		\$610			
	Maple NBHK		\$620			
P & W	SBHK	\$30			\$560	
Alberta-Pacific	NBHK	\$20	\$610			
		1ST FEBRUARY		USA	EUROPE	ASIA
List Price	NBSK				\$660	
	Spot Price	NBSK			\$550/570	
Sodra Cell	NBSK				\$660	
Metsa Botnia	NBSK				\$660	
Tembec	SBSK	\$30			\$630	
Tembec	NBSK	\$30	\$680		\$670	\$550
Arauco	Radiata Pine					\$530
Bowater	NBSK		\$680			
	SBSK		\$650			
Canfor	NBSK	\$30	\$680		\$670	\$550
Domtar	NBSK		\$680		\$660	
	SBSK		\$650			
P&W	SBSK	\$30	\$650		\$630	
Pope & Talbot	NBSK		\$680		\$660	
Weyerhaeuser	NBSK	\$30	\$680		\$660	\$550
Western Pulp	NBSK		\$680		\$660	\$550
Russian Suppliers	NBSK	\$30				\$520
Alberta Pacific	NBHK	\$10	\$590			
Domtar	Maple NBHK	\$10	\$600			
	Mixed NBHK	\$10	\$590			
Fraser Papers	Maple NBHK	\$10	\$600			
Smurfit Stone	SBHK				\$560	

Softwood

Hardwood

NBSK prices are being held in check by the conflicting forces in the European pulp market. Thus, while the attempted \$20 hike of 1 February has failed to take, producers have held on to the increases achieved in January. The list price is now \$640 to \$645 a tonne - up from a bottom of \$580/590 in early October 2004.

The weak dollar, which has declined by some 55% against the Euro, over the last 3 years, is driving the demand for a further price increase. Some producers are said to be operating at or below break-even level, as a result of i) the rising cost of energy and raw materials and ii) reduced dollar earnings.

Desperate for revenue, these producers have released a considerable volume of spot tonnage. The spot market is said to be 'awash with NBSK', and by April a \$100 gap had opened up between the list and spot prices. In April, the spot price was \$520 to \$540 a tonne, with most transactions at the bottom end of the range and some below it, at a rumoured \$510.

The pulp producers' need for higher selling prices is counterbalanced by the tough trading conditions in the markets of their customers - the European producers of coated and uncoated woodfree papers.

The price for uncoated woodfree grades has now been in decline for four years, following the failure of an attempted 5-8% price hike on 1 April - and the prospects for an increase this year are slim, *see page 3*.

The coated woodfree sector is only marginally better, having achieved less than half of the €50 hike proposed on 1 April, again, after a four year decline.

Hardwood producers asking for \$600

The hardwood producers have been much more successful, having pushed their prices up by \$30 to \$580 in March - from \$500 at the bottom of the cycle in October 2004.

A further \$20 hike was proposed on 1 April by the big European and South American producers, *figure 1* left, but market resistance is very strong and the outcome is unclear.

At \$600 a tonne, hardwood kraft is significantly more expensive than spot NBSK, which gives European mills a high quality, cost effective alternative, or at least a strong bargaining counter.

The successful hikes in the hardwood sector are due largely to tight supply. The March hike of \$30 a tonne, went through smoothly because the February tonnage from four Brazilian producers didn't arrive until March. And, although this was a temporary hitch, supply remains tight and is likely to remain so through the summer months.

The UK continental shelf: a mature gas province

The UK has extracted some 2000 billion m³ of gas from the Continental Shelf since 1965, and is currently the No 4 producer in the world - and the No 11 oil producer.

The remaining proven and probable gas reserves are an estimated 900 billion m³. When exploration potential is taken into account, the resource rises to 1250 billion m³ of gas - the equivalent of 12 years of production at current rates.

But the UKCS is a mature oil and gas province. Exploration costs are rising; new discoveries have halved in size; substantial parts of the offshore infrastructure are over 25 years old and operating and maintenance costs continue to rise.

Gas prices likely to remain high for next two years

Wholesale gas prices, which have escalated since 1997, are likely to remain high over the next few years and price spikes will continue - until new supply routes and storage facilities come on stream - according to a report from the Trade and Industry Select Committee (TISC) of the House of Commons.

'This is bad news for the UK paper industry, for which a 1p per therm increase in the gas price costs £6 million a year', says David Gillett, Head of Environment at the Confederation of Paper Industries (CPI).

At almost 45p a therm, forward wholesale prices are now three times the 15p/therm of the years following the liberalisation of the UK gas market in 1996. This is due to three main factors:

- i) Declining UK production and a growing dependence on imports. The UK has been a net exporter of gas since 1994 but will be a net importer from 2005/2006 onwards. Imports, which currently cover seasonal spikes in demand, will account for 45% of the country's requirements by 2010 and for 70% by 2020.
- ii) Uncertainty about supply, which causes price spikes, such as those of Oct 2004 and Feb 2005. The UK is moving rapidly from surplus to a need for imports, for which the infrastructure is not yet in place. TISC stresses the urgent need for more import and storage capacity. By 2007, the Langeled pipeline, which is now under construction, will link the UK to a hi-tech underwater installation off the coast of Norway. It will transport 20-

25 billion m³ of gas per year and supply nearly 25% of the UK's gas requirements.

- iii) The direct linkage between oil and gas prices, which began in 1998 with the start up of the Interconnector - the pipeline which runs from Norfolk to Zeebrugge in Belgium and exports gas to the continent. The European market now provides a floor for UK gas prices, through the oil price index. When oil prices rose from \$15 a barrel to \$25 in early 2000, the gas market followed suit with a shift from 15p a therm to 22p a therm. In 2004, a year of oil crisis, the price rose by another 20p a therm, from trough to peak.

Structural flaws in the market

The TISC report exonerates the UK offshore producers from responsibility for these price movements. The committee found no evidence of 'collusion or any other illegal behaviour in the offshore production market.' Instead, TISC attributes the 'failures in the market' to structural flaws, such as:

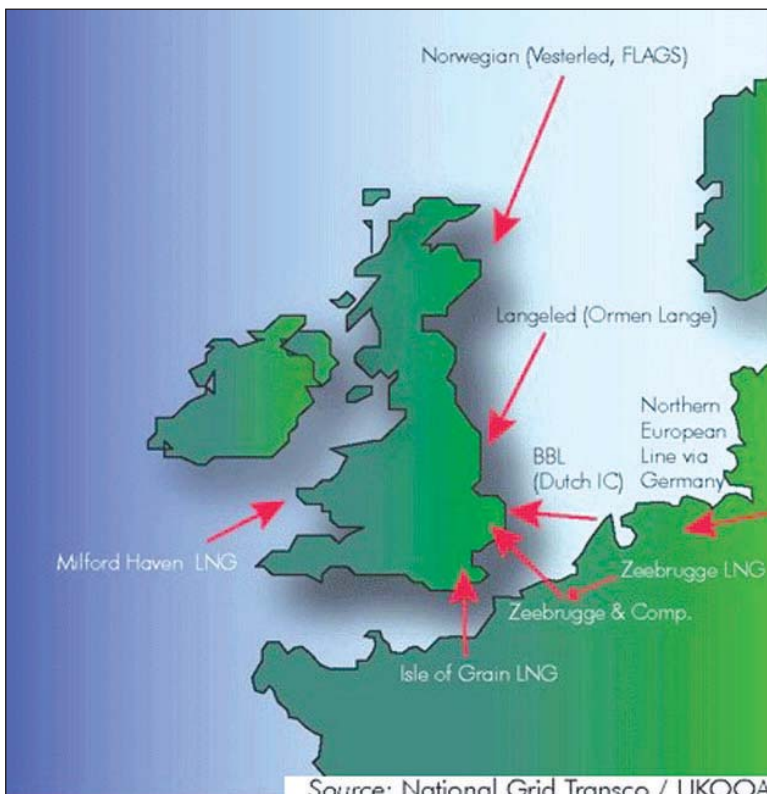
- significant problems with physical supply,
- a lack of transparency. With more information, the market could adapt to periods of low production and 'take a more rational view on pricing'
- the relatively unliberalized continental market. Without real rather than cosmetic liberalisation on the continent, the UK wholesale market will continue to malfunction, says TISC. The Committee welcomes the EU investigation into the gas market, but notes that it might take a long time.
- A lack of traders willing to sell gas into the forward market.

TISC warns that further price increases are 'inevitable', and they will drive up the price of electricity, some 39% of which is now generated by gas-fired power stations. With the decline of coal mining in the 1990s, gas became the main source of electricity generation in the UK.

"Over the medium to long-term, electricity is unlikely to be as cheap in real terms as it has been over the last six years', says TISC.

These developments are having a significant impact on industry, and TISC advocates a respite - via a reduction of the climate change levy. This energy tax seeks to promote energy efficiency by pushing up costs, but 'it is now thought major users have taken all the measures they can, short of shutting down'.

Left: The UK is developing a new supply and storage capacity for imported gas. The Interconnector is being expanded and new pipelines are being run to The Netherlands and Norway - including Langeled, the longest submarine gas pipeline in the world. LNG facilities are being built on the Isle of Grain and at Milford Haven. Russia is the world's No 1 gas exporter followed by Norway - after the start up of Langeled.



Source: National Grid Transco / UKOOA

PRICE MOVEMENTS IN PAPER CHEMICALS

BASF	Paper coating latex: Temporary surcharge	€20-€90 per tonne in Europe	1st Apr 05
	Coating additives	Up 5 to 7% in NA	1st Jan 05
	Wet End Chemicals	Up to 7% in Europe	15th Oct 04
Buckman Laboratories	Chemicals for aqueous systems	Up 7-15% depending on product	15th Ap 05
Clariant	Wet end chemicals; coating chemicals and Optical Brighteners	Up by 6 to 8%	End 2004
Ciba Specialty Chems	Paper Chemicals	Up 15% in NAFTA	1st Ap 05
	Entire paper and water treatment range	A global hike of 15% (ex-NAFTA)	1st Jan 05
	Entire paper and water treatment range	A global hike of up to 20%	18th Nov 04
	Styrene Butadiene Latexes (SB)	Up 10-15% in Europe	1st Aug 04
Dow Chemical Co	Caustic Soda, diaphragm grades	Up \$50 per dry short ton in US	3rd Nov 04
	Membrane grades	Up \$60 per dry short ton in US	
Dow Emulsion Polymers	SB Latexes; Styrene Acrylate(SA) Latex and Solid plastic pigment products	Up \$0.04 per dry lb in NA	1st Jan 05
	Styrene-based hollow plastic pigments	Up \$0.10 per dry lb in NA	1st Jan 05
DuPont P&IP	Elvanol polyvinyl alcohol (PVA/PVOH)	Up \$0.07 per lb	1st Nov 04
DuPont Titanium	All TiO ₂ grades	Up 5 cent per lb in NA or acp	1st Ap 05
	All TiO ₂ grades	Up 6 cents per lb in NA	1st Jan 05
	All TiO ₂ grades	Up by 6 to 8 cents in NA	1st Oct 04
Georgia-Pacific Resins	Wet strength resins and internal sizing prods	Up 8%	1st May 05
	Surface sizing products	Up 10%	1st May 05
	Wet strength resins	Up 7%	1st Nov 04
Hercules Pulp and Paper	Most process and functional chemicals	Up 15%. More for some grades	16th Mar 05
	Process and functional chemicals	Up 8 to 10% in Europe, or acp	15th Dec 04
	Process and functional chemicals	Up 8 to 10% in NA. May be	15th Nov 04
Huber Engineered Materials	Silica and silicate	Up 8% as contracts permit	1st Nov
	Hydrous and calcined kaolin clay	6 to 10% as contracts permit	
	Ground calcium carbonate	8 to 10% as contracts permit	
Imerys	Kaolin and carbonate products	Up by 6 to 15%	1st Jan 05
Kemira	Coagulants Al-salts and Fe-salts	Up by 6 to 10% in Europe	1st Jan 05
	Wet end chemicals; sizing; retention, wet and Dry strength; defoaming; deposit control	Up 5 to 10% depending on product	1st Dec 04
Kerr-McGee Chemical	TiO ₂ Tronox pigments	Up €110 a tonne in Europe Up 5 cents per lb in US	1st Apr 05
	Tronox TiO ₂ pigments	Up €120 a tonne in Europe	1st Jan 05
	TiO ₂ pigments	Up €120 a tonne in Europe	1st Aug 04
Kolb Paper Chemicals	Process chemicals for paper and board	An average price increase of 5%	1st Mar 05
Kronos Worldwide	All Kronos titanium dioxide pigments	Up 4 to 6 cents per lb in NA	1st July 04
Lanxess Deutschland	TCMTB active ingredient	80%, worldwide hike of €0.70/kg	15th Apr 05
	Entire range of Paper Chemicals	30% hike in Europe, Asia and LA	1st Dec 04
	Inorganic pigments; Bayferrox, Bayoxide, etc	Up €40-80 a tonne in some regions	1st Nov 04
Millenium Chemicals	All TiO ₂ products: Tiona & RCL	Up by €150 a tonne	1st Oct 04
	Other rutile and anatase products	Up by €130 a tonne	
Nalco	Speciality Chemicals	Up by 5 to 10%	1st Nov 04
Nexen Chemicals	Liquid chlorine	Up \$25 a ton in US (C\$30 a tonne)	1st Mar 05
	Sodium chlorate	Up \$30 ton in US (C\$20 a tonne)	1st Dec 04
	Liquid chlorine	Up \$20 ton in US (C\$30 a tonne)	
Omya	Ground calcium carbonates, precipitated calcium carbonates, talc and dolomite	Up by 4 to 8%	1st Jan 05 or ACP
RohmNova	SB and SA latexes	Up \$0.05 per dry pound	15th Aug 04
	Hollow-sphere pigments	Up \$0.10 per dry pound	15th Aug 04
Sartomer Company	Styrene Maleic Anhydride(SMA) Resins	Up 5-7% depending on grade	15th Apr 05
	Powder and flake SMAs	Up \$0.11 per lb;	
	Liquid SMAs: H, Hna and MA grades	Up \$0.06 per lb	
Solvay Chemicals	100% basis Hydrogen peroxide	Up \$0.05 a lb in US (C\$150 a tonne)	15th Sept 04
	100% basis Hydrogen peroxide	Up \$0.05 a lb in US (C\$133 a tonne)	1st Mar 05
Thiele Kaolin	Kaolin products	Up 5 to 9% depending on grade	1st Jan 05
Vinamul Polymers (National Starch & Chem)	Vinyl acetate homopolymer and Ethylene vinyl acetate copolymer emulsions	Up \$ 0.03 per wet lb in the US	1st 04 Nov

New coating pigment enhances gloss and strength

A new coating pigment, which enhances gloss, strength and printability, has been developed by Imerys and launched at the TAPPI Coating Conference in Toronto.

Known as *Contour Xtreme*, it is a fine platy pigment - a shape-engineered kaolin which combines the benefits of platy clays and fine glossing clays and provides synergy with carbonates.

The result is superior glossing, coverage, brightness, strength and high print quality in the coated graphic paper and packaging markets.

Papermakers can use *Contour Xtreme* to add an extra dimension to structured coating design - replacing expensive pigments like plastic pigment and TiO₂.

Contour Xtreme is produced from Middle Georgia crudes. The production technology involves radically new pigment characterization methods and improved mining and processing techniques. IMERYS Pigments for Paper is a world leader in white pigments - kaolin, ground calcium carbonate (GCC) and precipitated calcium carbonate (PCC). It has 44 manufacturing plants in 19 countries.

Clariant launches biodegradable tissue softener

A biodegradable softener of facial and toilet tissue has been developed by Clariant, using patented chemistry. This is a first for the tissue sector which is facing increasing environmental pressures, and it will help producers meet the requirements for eco-labels, says Clariant.

The new *Cartaflex TNS* is a low foaming liquid which is easy to use, readily dispersible in cold water and can be applied at the wet end or sprayed onto the surface of the tissue web.

"*Cartaflex TNS* has been developed and extensively tested to ensure that it is not only extremely effective as a tissue softener but readily meets the biodegradability requirements of eco-labels such as the Nordic Swan," says Nick Dunlop-Jones of Clariant.

Clariant is a global producer of specialty chemicals with headquarters in Switzerland and representatives on five continents. It has 5 divisions including :Paper Chemicals, Pigments & Additives and Functional Chemicals. www.paper.clariant.com

Black economical empowerment in chemical sector

Reatile Paperkem is South Africa's first black owned chemical company to supply the full range of specialty chemicals to the pulp and paper industry. The new company was formed when BIM of Sweden sold a majority stake in Paperkem to the black owned Reatile Resources (Pty).

While Reatile Paperkem is now 80% owned by South Africans, BIM has kept a minority ownership along with a supply agreement for all BIM technologies.

To BIM, the sale of Paperkem is seen 'as an opportunity to satisfy the requirements of i) Black Economical Empowerment (BEE) and ii) the market need for a fully independent supply company.

The new company will enable pulp and paper mills to 'comply with their empowerment score cards', says Simphiwe Mehlomakulu, the Chairman of Reatile Resource. It will also provide them with 'An independent and credible technology supplier as Reatile Paperkem will have access to all the best technologies in the world'.

BIM develops specialty chemicals for the pulp and paper industry and is owned by the Wällberg family. It is headquartered in Gothenberg, Sweden and has operations in Scandianavia, England, Germany, Estonia, Belgium, Czech Republic, Spain, Portugal, South Africa and Canada.

Buckman helps mill with productivity and costs

Buckman Laboratories has been named supplier of the year by National Gypsum, having helped the mill to increase productivity and reduce chemical costs - including a reduction of basis weight and a related 10% speed increase on the mill's *Hiflex* paper grade.

National Gypsum uses Supplier scorecard metrics to evaluate the performance of its suppliers every year. The criteria by which companies are measured include: on-time

deliveries, percent of rejects, compliance with policies, transaction accuracy, electronic invoicing, payment capability, customer survey results, cost reductions and value-added services.

In 2004, Buckman scored 95.53%, the top rating for the year. The company's on-site technical experts helped the mill achieve:

- 2% machine output gain
- 2% gain in machine up-time
- elimination of a scuffing problem and additional measurable, consistent, benefits from value-added programmes
- a 20% reduction in chemical costs

Buckman Laboratories is a privately-owned company with headquarters in Memphis, Tennessee, USA. It provides the worldwide paper industry with a broad range of specialty chemicals: microbicides, enzymes, scale inhibitors, corrosion inhibitors, polymers, dispersants and defoamers. www.buckman.com

Left: Buckman has been named Supplier of the Year by National Gypsum.
L to R: Joe Leracitano, Ray Syracuse (National Gypsum), David Weatherman, Roger Smithson, & Michael Alpert.



SCA improves formation with a simple headbox retrofit



Concept III formation without sheets



Concept III formation with sheets

Figures 1 and 2: The retrofit of flow stabilizing sheets to headboxes brings immediate improvements in formation.

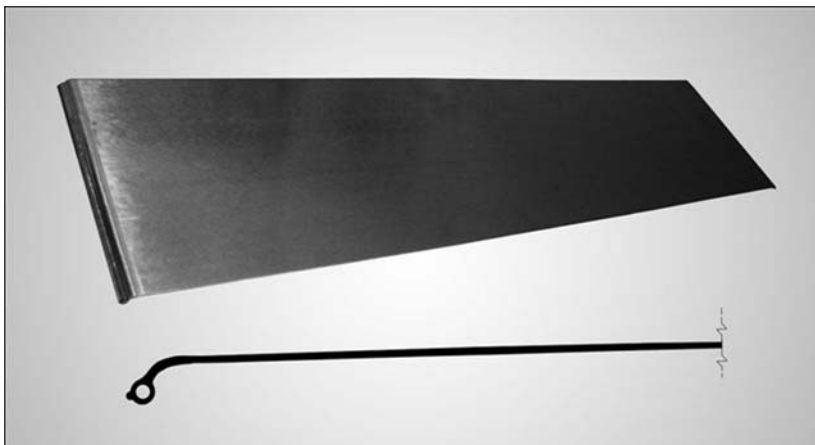


Figure 3: The Turbo vane

The formation on Europe's widest tissue machine was improved significantly by a simple retrofit - the installation of a set of carbon fibre sheets in the headbox of PM4 at the Ortmann mill of SCA.

'The installation of the Metso DuraSheets took only some minutes', says Mr Berger, Production Manager, of PM4 'Because of the now stable micro turbulence in the nozzle area, a significantly improved formation, in MD and CD direction, has been achieved'.

Figures 1 and 2 show the improvement in formation following the installation of sheets in the headbox.

Around the world, many single layer headboxes are operating without flow stabilizing elements - sheets, vanes, wings. Some were supplied with flexible sheets, which have been removed by the mill and others, of older design, never had any vanes in the first place.

In many of these headboxes the flow is not as stable as it could be. A typical sign of this is formation defects, such as lower weight areas - "moving" uncontrolled over the paper width.

Some of these headboxes were manufactured by Beloit and Valmet, companies which are today part of Metso Paper. The two companies realized early on that there was a need for flow stabilizing elements in the headboxes, and, as a result, Beloit added the flexible Lexan sheets while Metso developed the Turbo vane, figure 3.

The results were remarkable, and, consequently flow stabilizing elements - sheets, vanes, wings - are now a typical part of new headboxes.

Retrofits are also popular, and over the years, there have been many upgrades of the HTB classic Valmet Headbox, both in Europe and in North America. In all cases, the installation of Turbo-vanes has brought about clear improvements in formation.

Late last year, a Turbo-vane was installed on PM4 at SCA Kostheim, and production manager Martin Klenk confirms that the quality of formation has improved.

The installation of a DuraSheet needs no special design change to the headbox. If the headbox was designed to accept sheets, DuraSheets can be built to fit and will slide into the existing slots without any problems. With the HTB headbox, an adapter needs to be built in - an easy and fast operation. Formation improvement is immediate.

Contact kenneth.mattsson@metso.com, Tel +46 541 71335, for information on the HTB headbox and katarina.ogenvall@metso.com +46 541 71128 for the Beloit Headbox.

Rapid payback from a fully automated, modular boiler system

A modular, fully automated boiler system is now possible with the development of the Loos Water Analyser, the LWA. Complete automation is possible because the LWA takes over the continuous measurement and monitoring of:

- the pH and O₂ content of the feed water
- the residual hardness of the make-up water
- the pH of the boiler water.

The use of dosing products can be controlled and the measured values can be logged, which means that there is no need for a boiler log to be kept by hand.



The retrofitted LWA ensures optimum water quality and pays for itself in a very short time

The LWA is a one off investment which brings rapid payback through savings in chemical dosing and energy and the reduction of downtime.

These benefits are demonstrated by a recent retrofit, when an LWA was installed in a boiler house with 2 shell boilers. The system was already highly automated; only the water analysis was carried out manually, as with almost all systems. The following improvements were achieved:

- all data from the continuous, fully automatic water analysis are forwarded by bus to a screen writer, displayed and saved. There is no longer any need to keep a boiler log by hand
- chemicals are dosed as required - on the basis of the pH and O₂ in the feed water. As a result, costly over-dosing, increased desalting and blowdown losses, are avoided
- a vapour valve is triggered as a function of the oxygen content in the feed water tank. This prevents unnecessary energy losses
- Capacity utilization has been optimised as a result of fully automated quality monitoring of the softening unit through integrated hardness measurement in the LWA. Previously the softening unit was volume-controlled.

Your Partner in Machine Performance™



Projects & Site Services



Thermal Spraying



Engineering Services

BENDER

For further information from Bender

Call: +44 (0)1706 225521



Certificate No. FM 20177

Bender Machine Services Ltd, Manchester Road, Haslingden, Lancashire, BB4 5SL, England, UK.
Fax: +44 (0)1706 218844. Web: www.bendermachine.com Email: swithers@bendermachine.com

Neutralizing static during the winding operation

A static control system which can neutralize charged materials travelling up to 2,500 feet a minute is set to revolutionise sheet handling, according to WLT, the UK distributor of the PerforMAX3.

The system can be installed up to 250 mm from webs and up to 500 mm on winders. It features a rugged bar construction with precise emitter spacing along with detachable cable and daisy chain (bar-to-bar connection) capability.

A bar graph display indicates the system is neutralising the charged material, and indicator lights display the status of the system.

The emitter point is current-limited. It will not cause shocks to the machine operator if the points are touched when the static bar is on. An LCD screen indicates when there is a charge, the performance of the bars and if there is a problem from dirty contacts.

The fault indicator automatically alerts in the event of a faulty hard arc, cable damage, bar damage or power supply failure, all of which trigger the device to shutdown.

PerforMAX 3 is available with a plug-in wall converter, remote on/off capability and a simple one piece connecting cable. It can be connected by PLC to other machines, or to a computer for monitoring and or data logging.

Suitable for hazardous and non-hazardous conditions, it is CE approved, UL listed and US rated as a Class I, Division 1, Group D approved. www.wlt.co.uk

Condition monitoring and evaluation round-the-clock

Paper mills are alerted to incipient machine problems by the round-the-clock monitoring system from SKF's Multilog Condition Monitoring Unit (CMU).

The CMU records and evaluates vibration and process machinery data from permanently installed sensors on a scheduled basis. This provides timely and efficient detection and analysis which enables mills to capture alarms as they occur.

Machine data is transmitted via an Ethernet or LAN connection to a host computer running dedicated software - the Machine Analyst for On-Line Systems. Once installed, the system is configured via the software on any networked PC - even while

the system is online.

The system features multi-parameter monitoring, for identifying a range of machine problems; increased memory and dynamic measurement; distributed processing; modularity; rugged construction and upgrade capability.

Each CMU functions independently of other units - it does not rely on the host computer. This distributed processing helps to ensure system reliability and eliminates the bottlenecks which arise when data is processed at a single location, for example, only in the software.

Contact: SKF (UK) at, Bedfordshire; Tel: 01582 490049; phil.burge@skf.com

Narrow slitter and winder designed to work in sync

The Müller narrow tape slitting machine and the SAHM winder, which are run together via a central process control system, are the result of a significant R&D effort by both companies.

Ideal for tapes and speciality grades, such as banknotes, the new technology improves slitting tolerances so that narrow webs can be very accurately slit. By extending the durability of the systems, downtime is reduced significantly. While knives formerly had to be changed frequently, they only need to be changed once a shift.

New sensors and control systems can guarantee the quality of output. And, new splicing tables produce a high quality joint which negates the need to cut joints out - thus resulting in another reduction of downtime.

The SAHM machine controls tape tension individually using a pneumatically operated dancer arm. This means that delicate tapes -

such as foam-backed adhesive tapes - can be wound without hitch. The Müller machines enable the shaft to be moved, traversing in and out thus reducing the tendency for very thin materials, such as bank note security strips, to flip over since the machine is not pushing on the edges of the material.

There is also greater flexibility - the same machine can offer different cutting systems, such as traditional pneumatic knife holder systems and a very narrow material with a slitting cassette. Again, downtime is reduced. The machines can be specified to suit customers' materials or other production requirements.

Adolf Müller Maschinenfabrik specialises in bespoke narrow tape slitting machines and slitter rewinders. GEORG SAHM is a manufacturer of parallel and precision cross winding machines.

Contact: Tel: 01264 860186; Fax: 01264 860180; Email: clare@simplexturbulo.com

Protecting pumping systems from entrained solids

To prevent solids or foreign materials from entering a pump, Viking Pump has introduced the Lid-Ease strainer which reduces the need for repairs of pumps and downstream process equipment - increasing uptime and prolonging equipment life.

The Lid-Ease strainer accommodates differential pressures by means of a perforated stainless steel basket which supports an inner stainless steel screen. Differential pressure indicators which show when the basket needs to be cleaned are optional.

To stop entrained solids and foreign materials, the strainer basket comes in 10 to 100 mesh screens, or no screen (basket

openings 0.188" dia.). The basket can include optional magnetic inserts for trapping ferrous particles.

Maintenance is made trouble-free by a breech lock lid that enables top removal of the basket for cleaning.

Lid-Ease strainers come in three port options: grooved, tapped, and flanged. They are also available in several materials including aluminum, cast iron, ductile iron, and stainless steel. Capacities range from 20 to 1,500 gpm.

Contact Viking at Cedar Falls, Indiana, USA. T: +1 319 266-1741; F: +1 319 273-8157.

PITA Affairs



CONTENTS >

- 15 The Director's Diary
- 16 Around the Districts

The Director's Diary

After all the emphasis on the Coating Conference in March it has been a case of back to normal in the PITA office in recent weeks. However before we close the subject totally for another couple of years it has been pleasing to receive much complimentary feedback about the event from various quarters. We were particularly pleased to learn of a world wide Press Release issued by one of our first time exhibitors CalciTech which, inter alia, included the following statement *"In March the company attended the Paper Technology Association's (sic) conference in Bradford, England together with it's sales organization GUSCO Handel, where CalciTech had a very successful stand"* and a further quote from Mark Lakmaaker, Director of Corporate Communications *"During this two day conference, a number of representatives from the paper industry approached us for possible further cooperation, thereby validating our presence"*.

Working Groups

This has been a busy month for the Working Groups with four of the Groups having held meetings. First up was the **Raw Materials Group** who met at the Arjo Wiggins, Butlers Court facility and enjoyed not one but two excellent presentations. Robert Langley got the meeting off to a good start by giving an excellent description of the structure of Arjo Wiggins and their product range. This was a real eye opener for everyone as even those of us who have been around for some time had little idea of the width of operation of this now essentially French company. After the regular business of the Group the members enjoyed another most interesting presentation from a company called Knowaste who are in the business of recycling incontinence pads and disposable nappies. This may at first glance appear to be a rather unsavoury subject but there is potentially up to one million tonnes of high quality fibre available from this source. The technology is proven with plants now in operation in Australia, California, Canada and much closer to home in Rotterdam. Talks are well advanced in the UK and the first plant in this country is likely to be up and running early in 2006. Not content with the two presentations the members then enjoyed a tour of the Butlers Court laboratories and pilot plant.

The Environmental Group were next to meet with their re-arranged date in Yorkshire, the original meeting having postponed due to a severe weather (heavy snow) warning. This meeting was also to be affected by the weather as torrential rain made the planned visit to the Knostrop Industrial Waste Treatment Works an impossibility as all the operators were fully occupied keeping the plant under control. Despite this the Group had their usual constructive discussions focusing on this occasion on the 36 month review of PPC permits that are due for most mills around this time. The next day it was down to Slough for another re-arranged meeting, this time of the **Finishing Group**. Jarshire Ltd were the hosts for this meeting with David Jobson being the latest recruit to the Finishing Group. In making a presentation to the Group, David was not only able to tell the members about the company's activities of direct relevance to the paper and converting industry but also to introduce some of their other activities in waste handling and treatment. The tyre shredding operation was of immediate interest to everyone. Apparently tyres need no longer just go to landfill, they can be recycled and put to good use in all sorts of ways.

Finally the **Engineering Group** met at the offices of John Crane in Trafford Park. Bolstered by two new members this Group had their biggest attendance for some time so had a lot of catching up to do. The meeting was followed by a tour of the John Crane facilities.

District Activities

District activities are beginning to wind down at the end of what has been a largely successful season. It is also the time when District AGMs are held and new officers are appointed or perhaps re-appointed for a second year. It is therefore timely to offer thanks to all those people who take on responsibility in the Districts on a purely voluntary basis. Without such people there would be no evening meetings which are still such an important part of this Association. The first AGM was that of the Northern District held in early March when Steven Clarke was re-appointed for a second year as Chairman, Anne Plewes took over the role of Deputy

with Barry Read and Peter Slater joining the District Committee. In Peter's case it was a question of rejoining as he was an active member of this committee before he went off



Julius Grant Essay prize winner Ben Pruden receiving his award from Ron Chambers (Right) and John Clewley (Left), representing the Sponsors – PMATA and PITA. Photo courtesy of Frank Wilson Photography.

to the USA for a few years. Steven's Chairman's report is published below in "Around the Districts" for the information of all those members who were unable to attend the AGM.

Julius Grant Essay Prize

After several years without being able to award the prestigious Julius Grant Essay Prize this year there were three excellent entries that presented the adjudicators with a very difficult task. Their conclusion however was that this year's winner should be Ben Pruden of Clariant UK. In keeping with several past winners Ben is a recent graduate in Paper Science from the then UMIST, unfortunately one of the last of a special group of people. The prize, a cheque for £1000 which is jointly sponsored by the Julius Grant Trust Fund, the PMATA and PITA, was presented to Ben by Ron Chambers the current PMATA President at the PMATA Annual Dinner in early April where Ben was a top table guest. The winning entry is published in this issue of Paper Technology (see page 19).

John Clewley

Around the Districts

PITA Northern District – Chairman's Report 2005.

This is the end of my first year in office and one, once again, where change has taken place that affects the Northern District.

As part of our on-going drive to maintain a healthy meeting attendance and to address the costs involved your committee decided to change venue to the Red Hall. It is pleasing to report that, so far, attendances have held up well since this change. Certainly the Red Hall offers a good opportunity to debate, discuss and most importantly for the paper industry, to socialise.

We have also made an attempt to extend the reach of our meetings to like organizations where a common overlap of interests could occur on certain subjects. Both CIWEM (Chartered Institution of Water and Environmental Management) and IEMA (Institute of Environmental Management and Assessment) were approached. Though not yielding instant results maybe being more aware of each other's activities could lead to future possibilities e.g. joint presentations.

Maintaining good attendances in the future will remain a challenge. Your committee will continue to work to produce as wide and interesting a programme as possible. Suggestions and offers of papers are always welcome. Please do not hesitate in putting your ideas forward. Sadly two local mills, Papermarc and Mondi Creams have both closed within the last year. The support given to PITA Northern District by these companies

and their individual members will be greatly missed.

The Northern District committee would like to thank all of the speakers and their companies who have contributed to this seasons programme. Without such commitment very little would be possible.

Our social calendar is presently centred around one main event – the summer meeting. The annual dinner dance, a very successful social event in the past, has been reviewed by your committee with the object of its possible re-instatement in some form. A survey of member companies was carried out which was reasonably encouraging. It would be good to hear back from individual members on this subject.

Returning to the summer meeting this year we were delighted to visit Iggesund Paperboard Ltd at Workington. I would like once more to thank all those involved in making this visit and the social events afterwards so successful. Particularly from Iggesund the visit co-ordinator, Marlene Johnston, and the management and staff involved throughout the day. From the PITA side, thanks to Ann Plewes, Sharon Hoole, Linda Pickup, David Dredge and Ray Collinge.

I must thank all of the Northern District Committee for their support during this year and to you the Northern District members for participating in our meetings and events. Especial thanks to David Dredge and Linda Pickup as my seasoned mentors and to Sharon Hoole who has kept everything together as

Hon. Secretary. Finally thanks go to John Clewley and his colleagues at PITA head office and to my company, Blackburn Chemicals Ltd, for their back-up.

*Stephen Clark
Northern District Chairman*

Southern District – 17th March 2005

Thursday 17th March saw the Southern District hold another meeting aimed at cross-association cooperation. Our last such meeting, held in association with the APPT, was on the subject of Digital Printing; held at the Digital Academy in February 2003, it attracted 39 delegates. This time we decided to focus on conventional printing (Lithography), and the obvious venue to choose was the Head Office and showroom of Heidelberg, the largest manufacturer of sheet-fed litho presses in the world, which happens to be in our District.

The event, which was advertised to members of the APPT, IP3 and the Institute Of Physics (IOP), in addition to PITA members, attracted 46 delegates – the largest attendance at one of our technical meetings for five years. Delegates came to hear four excellent technical talks on the subject of inks, founts, blankets and coatings (sealers), by technical managers and directors of the four respective companies who provided speakers.

Brian Catchpole of Shackell Edwards, the UK's largest independent ink manufacturer, started proceedings. He outlined the general constituents of inks, and related how these are altered to cope with changes in both press conditions and substrate properties. Near the end of the talk he posed a number of observations regarding changes he (as an ink manufacturer) has noted in the last few years, particularly regarding paper quality and properties. (This was an essential part of the meeting; the chance for we "paper" people not only to learn about the constitution of the various materials that come into contact with paper during the printing process, but also to hear how our product is perceived by suppliers of these products.)

Paul Harvey, Technical Manager of Varn, gave the next talk on the subject of founts. Varn are a leading supplier of these materials, and Paul took us through the rather complex make-up of what to many, including myself, was generally perceived as a simple aqueous surfactant solution. It turns out the fount has a multitude of different jobs to perform on the press, and hence there are a wide variety of materials that go into their manufacture. Among the many gems Paul expounded was that the supply of one important constituent of founts, Gum Arabic, is largely controlled by the Bin Laden family – a most interesting, and potentially disturbing connection, between printing and a notorious family.

An interval followed, during which Heidelberg demonstrated a new Speedmaster press with coating unit. Steve Cavey (Heidelberg's Marketing Manager) gave a reprise of his DRUPA performance of last year, donning a headset and talking us through the workings and technicalities of the press. Where possible the covers were removed so that everyone could see the workings, and gain as much technical insight as possible into how the paper travels through the machine.

The second half of the meeting commenced with John Smith, Technical Manager of Day International (UK), manufacturers of blankets. As was the case with founts, the idea that printing blankets are rather simple materials that contribute little to the printing process was soon dismissed. John started by describing the gross structure of the blanket, before commenting upon the fine (chemical and physical) nature of the surface. For both levels of structure he described how the incorrect choice of blanket by a customer, or materials by a supplier, can have a detrimental effect on the printing process.

The final talk was given by Richard Brown, Technical Director of Hi-Tech Coatings. A "coating" in this context describes an aqueous acrylic dispersion applied to the substrate, which seals the surface, and gives both aesthetic and functional properties. These are becoming more and more popular for use on coated stock, as they can give benefits of faster turn-round of material on a press, in addition to functional changes, such as limited grease and water resistance. We were left realising that, with the multitude of materials that his company makes, a vast number of subtle changes can be made to the paper surface.

The event ended with a sumptuous buffet, provided by our hosts. This gave the perfect opportunity for people to mingle and network. Steve Cavey and Jim Todd (Heidelberg's Sales Director) remained on hand to field questions and act as hosts. In effect they provided an extra presentation, both with the demonstration during the interval, and with their presence during the buffet.

The statistics from this most successful event also make interesting reading, with a breakdown of participants as follows: 50% PITA, 20% APPT, 10% IP3 and 20% no affiliation. Participants also travelled widely; from Cornwall (Imerys) and Devon (Arjo-Ivybridge), to Suffolk (Paper Co) and Lancashire (Greenbank). Likewise, two of the speakers came from far: Paul (Manchester) and John (Scotland). So with this event we managed to reach both a large audience from other organisations, and draw people from wide distances, not just from our "core" of the Kent area.

Having made the contacts at a local level, we intend to keep our "sister" organisations

fully appraised of our future events, in the hope that some will prove of sufficient interest to encourage other members to attend our meetings. I am most grateful to Lisa Whitty and Maggie Carnegie (APPT); and David Pryke, Duncan Place and Peter Wade (IP3) for offering to further the advertisement of SD PITA meetings locally. It is also hoped to include the IOP in this loop. (In return we will endeavour to publicise the events of IP3 and the IOP to our SD members, as a reciprocal gesture.)

Overall I would like to thank all four speakers, and our hosts (Heidelberg) for making this a most special event. I would also like to note the special arrangements made for us by Heidelberg, which included moving Director's cars into the yard behind the showroom to make way for the large number of delegates' cars; and the provision of both an excellent and comfortable meeting room, fully equipped with computer projection equipment, in addition to the warm welcome and excellent buffet provided. In this respect I must add grateful thanks to Jane Chudleigh, PA to Jim and Steve, who did so much background work to make this event run smoothly.

Daven Chamberlain

Northern District 7th April 2005.

“Viewpoint on Safety”

A well attended meeting heard two excellent presentations; the first by George Farrell of St Regis, Hollins Mill, covered the development of Safety Culture and the second by Geoff Sword representing the BPMSA, who covered the progress on CEN standards and the Contractor Passport Scheme.

George Farrell opened his presentation by reflecting on the impact on him of a fatal industrial injury that occurred in a mill in which he was Operations Director. He then looked at the difficulties in changing the macho culture within a mill and discussed the mixed messages that are sometimes given to front line managers.

George expressed the view that the real safety issue is "People". His analysis of mills' approach to safety categorised three types of organisation.

- Those that are "regulation led" and only do what is necessary to keep within the law.

- Those that are "management led" and have management driven systems.
- Those that are "people led" and aspire to be an organisation with an inherent safety culture.

He also analysed the effects of Influence and Attitude on Safety by the Organisation and the importance of front line managers understanding how important their role is in influencing the attitudes of the workforce. George reflected that changing culture in a mill is difficult and that Safety is not about initiatives that last for a week but "Is a way of life".

Geoff Sword gave an overview of the CEN standards which will harmonise British standards into CEN standards and finally into ISO standards. The UK is represented by the CPI, HSE, Trades Unions and the BPMSA. He outlined the progress that had been made to-date and indicated some of the difficulties in working in committees that need to translate into three languages. Geoff gave some examples of impractical standards and commented on the slow rate of progress. He also gave an example of the different levels of application within Europe that put UK Mills at a disadvantage.

Geoff also discussed the Contractors Safety Passport scheme and reflected on the frustrating variances that exist. He reflected on the inconsistency in application, the sometimes poor communications within a mill regarding the Passport Scheme, the associated costs, the widely differing safety cultures within mills and the actual training content of the Passport. Geoff also commented on the poor response from mills to the questionnaire sent out by the BPMSA. He indicated that with a more consistent approach the site specific induction should be between 20 and 40 minutes. The Passport would be renewed every 3 years and that the CCNSG or similar scheme would be acceptable provided the content was modified to suit paper mills. It was also deemed important that the mill should monitor contractors to ensure that standards are upheld.

A lively discussion ensued and the speakers were thanked by the Chairman for their excellent presentations.

Clive Ward

VISIT the PITA WEBSITE
 for a host of useful information including "Industry Update"
 • CONSTANTLY UPDATED • ALWAYS FASCINATING



www.pita.co.uk

The Effect of Fines on Paper Properties

JULIUS GRANT ESSAY PRIZE WINNER 2005

Fines have properties very distinct from their associated fibre fractions. They are often regarded as a special paper furnish component that must be controlled to maintain the optimum sheet properties.

The special nature of fines and their importance is well known in terms of the paper properties and recent research has been focussed on increasing this knowledge in order to improve paper properties for specific applications.

Fines have a marked impact on formation and the physical and optical properties of the papers produced. They are seen as particularly beneficial when considering printing and writing paper grades.

Fines also have a significant impact at the wet end, affecting features such as drainage and retention. All of these effects will be discussed at length in this feature.

The classifications and definitions of fines will also be discussed in order to clarify the way in which they can affect properties.

Properties of fines

Fines are generally regarded as any particle in a paper making furnish which will pass through a 200-mesh screen on a Bauer-McNett classifier. This is also the definition as recommended in the Tappi standard, which states that fines consist of “particles that will pass a round hole 76 μm in diameter or a nominally 200 mesh screen”⁽¹⁾.

Fines are made up from cellulose, hemicelluloses, lignin, and extractives in approximately the same proportions as the other fibre fractions of a pulp. When screens with finer mesh wires are used, the fines and particles that are collected in this way are appreciably smaller than the fibre fractions collected using the 200-mesh screen, generally being smaller than 200 μm in any dimension⁽²⁾.

The smallest particles often tend to be fibrillar in nature with widths in the range of 0.02 – 0.5 μm , 20 μm . Fines also have a high specific surface area of around 10 to 50 $\text{m}^2 \text{g}^{-1}$ whereas the associated fibres typically have

values of around 1 $\text{m}^2 \text{g}^{-1}$. Another important characteristic of the fines is the fact that they have a negative surface charge.

There is no specific definition for fines particles in terms of their size and the definition above is a generally accepted definition since the dividing line between fines and fibres is rather an ambiguous one.

History of fines characterisation

Some of the earlier work carried out on the classification of mechanical pulp fines by Brecht *et al*⁽³⁾ led to the characterisation of two distinct types of fines within a mechanical pulp. They are “Mehlstoff (flour stuff)” and “Schleimstoff (slime stuff)”.

Mehlstoff is made up of larger lignin rich particles originating from the middle lamella of fibres, it has poor bonding potential and a dusty appearance. The Schleimstoff is made up of finer cellulose rich particles with high bonding potential. The diagram in figure 1 shows these two fines types in relation to the

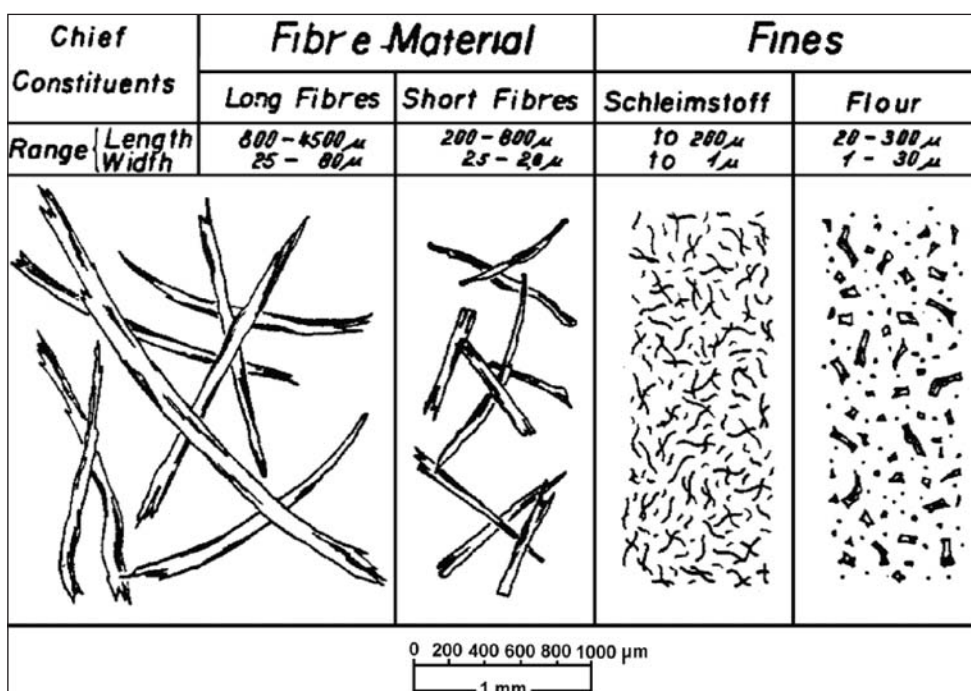


Figure 1: the constituents of a groundwood pulp⁽³⁾.



MOSAIC® THE PATTERN OF SUCCESS

Buckman Laboratories' Mosaic® system is the latest Wet End Management program that surpasses the best performance of existing microparticle technologies. The Mosaic system combines the proven performance of our comprehensive polymeric technologies with a new generation of engineered products, the MP 800 series, that provides a complete solution for drainage, retention, and formation.

ALL YOU NEED IS BUCKMAN.

Buckman
LABORATORIES



Buckman Laboratories : Unit 4, The Bollin, Millbank House, Riverside Business Park, Bollin Link,
Wilmslow, Cheshire SK9 1BJ / Tel 01625 524875 / Fax 01625 525988 / www.buckman.com

©2004, Buckman Laboratories International, Inc.

To View this article you must be a
member/subscriber of PITA

Call +44 161 764 5858

Or

info@pita.co.uk

To receive your reference number or
application form.

**Petteri Halme,
Tapani Kultaranta,
Arto Kumpulainen,
Tomi Ulmanen and
Kyösti Leppäkorpi**
Metso Paper Business Line

Short Payback Solutions for Rebuilds: Cost Effective Asset Management

Lifecycle or asset management enables a mill to make the most of its plant and equipment. It provides the continuous stepwise operational improvements which raise revenue - from cost-efficient marginal capacity and improved quality.

Metso has developed tools to overcome operational bottlenecks, to improve efficiency and quality and to provide short payback times. They include:

- *Retrofit of a headbox dilution system. In terms of profile control and sheet stability, the retrofit is comparable to the latest dilution control headboxes.*
- *Beloit updates: The Bel-Baie gap former - as on Hylte PM4- can be upgraded by installing a high-vac flat suction box before the pickup roll and mist removal capacity on the fabrics. A stationary porous shoe at the jet landing area enhances initial dewatering.*
- *BelBond hybrid formers can be equipped with loadable blades. Existing parts are reused in rebuilds, and for a modest cost a mill can improve quality, formation and symmetrical fines and filler distributions.*
- *The CurVac Suction Box, as on Setubal PMI, increases former drainage, reduces wet >*

The frequency of paper machine shut-downs has been quite significant during recent years. Mills find their position in the survival game limited not only by the paper market but also by the technology applied at the mill.

How to win at the survival game? Ongoing workout programme planning is the key to step-by-step improvements in paper machine operation. Once paper mills reach their dimensional capacity and quality at the best possible efficiency rate, their future does not have to be based solely on static operations.

The evaluation of further opportunities is based on earnings and is connected to changes in the paper market, competition, and available technology. Lifecycle management refers to a continuous stepwise improvement plan that is implemented to stay competitive.

Top managers in the industry are calling for asset management of the operating tools, which is understood as healthy capacity development in the paper market. This can be carried out by closing down depreciated and uncompetitive machinery while simultaneously adding new capacity and/or improving the competitiveness of existing machinery.

This feature focuses on tools developed by

Metso Technology Teams for improving existing machine operations, as shown in *Figure 1*.

Analysis of Machine Bottlenecks

It is essential to identify factors that influence operational bottlenecks by analyzing a machine line's operating efficiency in the light of operating data.

Figure 2 (overleaf) shows the majority of high-speed newsprint machines in operation in 2002 based on their annual average speed and total line efficiency. When the market absorbs all of the paper produced, opportunities lie in efficiency improvements.

However, the available speed increase is limited since the machine speed is mostly dependent on the design adopted, dimensioned capacity, process technology, and controls. Based on the experience of machine builders, the dimensioned design speed can seldom be exceeded by more than 15% without a major rebuild. The existing drainage capacity also depends on basis weight.

It is obvious that revenue from cost-efficient marginal capacity and quality improvements is of continuous interest to every operation. Additional development

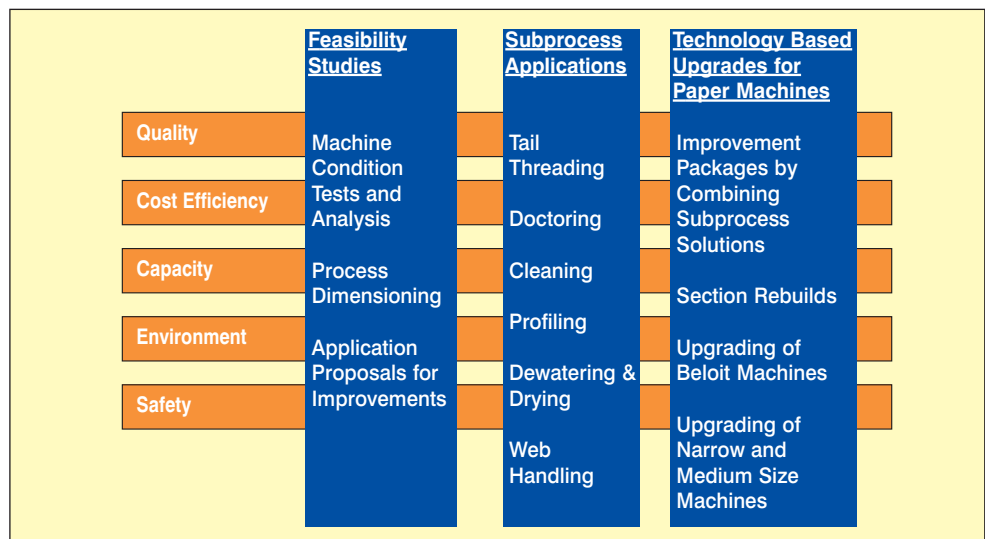


Figure 1 Rebuilds and process improvements

To View this article you must be a
member/subscriber of PITA

Call +44 161 764 5858

Or

info@pita.co.uk

To receive your reference number or
application form.

Andy Freer

Business Development Manager - Industrial, ELGA Process Water

Rigid Paper has achieved rapid payback on a £56,000 investment in Reverse Osmosis at Selby Mill.

The compact RO plant removes more than 90% of the total dissolved solids (TDS) in the raw borehole water used by the mill and, as a result, the demineralisation process needs a minimum of chemicals - less than 10% of the acid and caustic regenerant chemicals previously required.

RO produces water with only 50 mg/l of TDS compared to the 250 mg/l left by the old system. The resulting chemical savings are some £30,000 a year.

Rigid Paper turns to Reverse Osmosis to wrap up a boiler feed problem

Selby, a thriving market town in what used to be the West Riding, is the home of Rigid Paper, one of the leading paper packaging mills in the UK. It is also the location of the Brown Cow Brewery, a beautiful Norman Abbey, Eggborough and Drax power stations.

Rigid Paper is one of three UK sites owned by VPK Packaging Group of Belgium and, with two hundred and fifty employees, is one of Selby's biggest employers. The mill recycles 80,000 tonnes of waste paper and board each year, mostly from supermarket chains, figure 1.

From this recovered paper, Selby produces some 70,000 tpy of corrugating medium: Test 2, Test 3, Chip and Waste Based Fluting. Some of this material is used within the group, but an increasing amount is used by other leading corrugated box manufacturers.

Yorkshiremen have a reputation for, shall we say, looking after the pence, so it is no surprise that the steam used in the mill is generated in a Gas Turbine CHP plant. The waste heat boiler is a 26 tph 13.8 bar water tube boiler, and the steam drives a power generating turbine before passing to the mill, and about 75% of it is recovered as condensate. This means a make-up of about 7 tph of demineralised water. And this is where the problems start.

The hard, alkaline borehole water, that contributes so much to the local beer, is expensive to demineralise, table 1. When the CHP plant was installed, a conventional ion

exchange demineralisation train was installed with it. This consisted of

- two streams of weak acid cation dealkalisation
- a degasser for carbon dioxide removal
- two streams of strong acid cation-strong base anion two bed demineralisation.

In 2000, the dealkalisation units were showing signs of age, and Mill Chief Engineer David Walker sat down to review the options for replacement.



Figure 1 Rigid Paper recycles 80,000 tonnes of waste paper and board each year, mostly from supermarket chains, turning it into 70,000 tonnes of corrugating medium: Test 2, Test 3, Chip and Waste Based Fluting.

Demineralisation at Selby Mill

The borehole water used at Selby Mill is hard and alkaline, with a total dissolved solids (TDS) concentration of about 600 mg/l. Of this about 350 mg/l is alkalinity or 'temporary hardness'. A demineralisation train was therefore installed along with the CHP plant. The conventional ion exchange train comprised:

- two streams of weak acid cation dealkalisation which by 2000 had begun to show signs of age
- a degasser for carbon dioxide removal
- two streams of strong acid cation-strong base anion two-bed demineralisation.

Table 1: The alkaline borehole water at Selby is difficult to demineralise

To View this article you must be a
member/subscriber of PITA

Call +44 161 764 5858

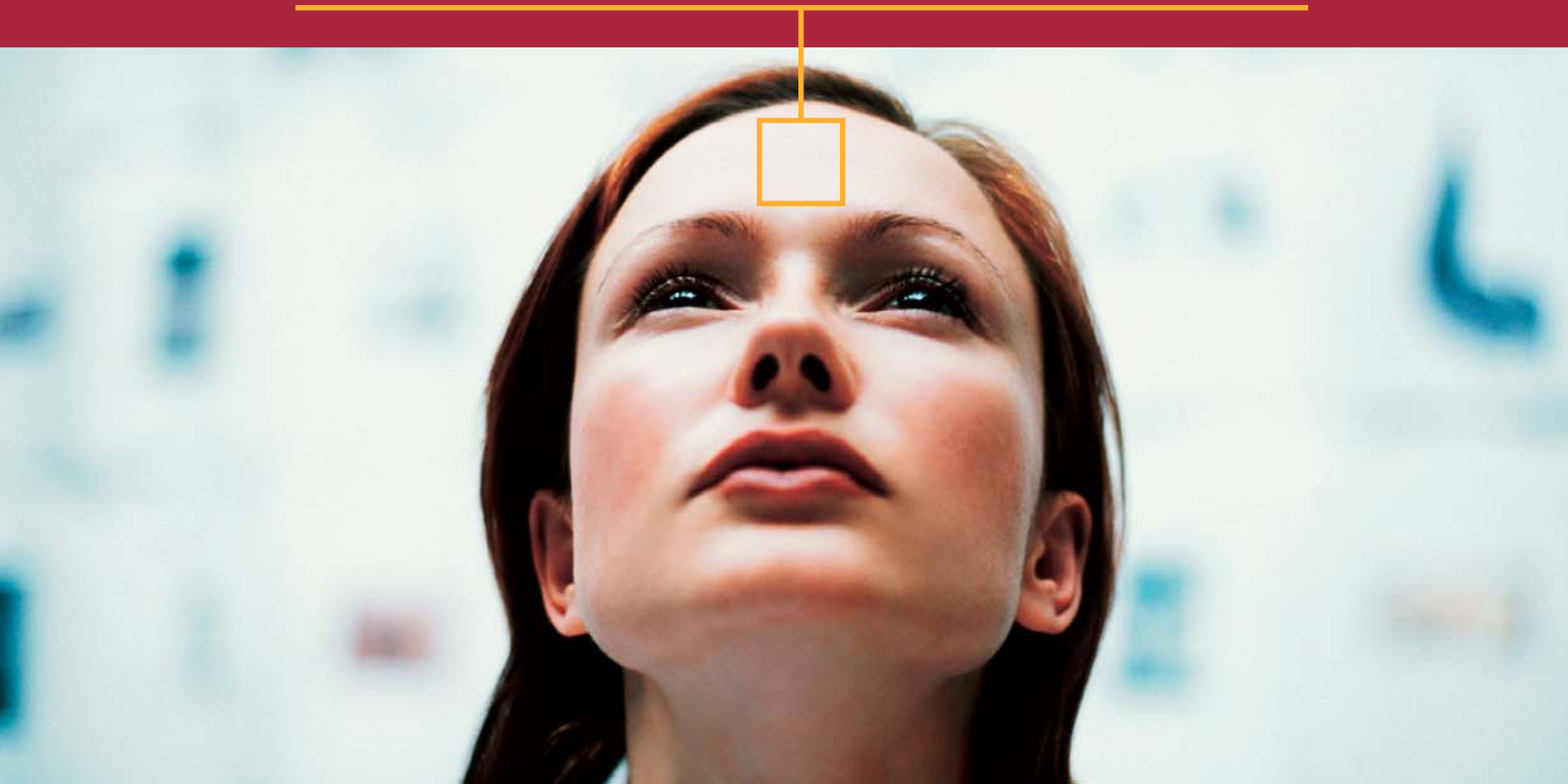
Or

info@pita.co.uk

To receive your reference number or
application form.

REALISE YOUR AMBITION

Guarantee your publication looks as amazing on paper
as it did in your head.



If you want to stand out from the crowd, you need a paper that does your aspirations justice. To meet your needs, the Galerie range of graphic papers have been specially developed to bring even the most challenging images and editorial to life. So no matter how high you're aiming, M-real's Galerie papers can help you achieve the impact your ambition demands.

Galerie Papers

www.m-real.com

m·real

M-real UK Ltd: Tel. 01628 411611

Dr Samya El-Sherbiny*
Dr Fatma A. Morsy*,
Dr. Essam S. Abdel-Saied**

*Dept. of Chemistry, Faculty of Science, Helwan Univ., Cairo
** Cellulose and Paper Department, National Research Centre, Cairo

The role of some retention aids in water based gravure printing

Several commercial retention systems employing either synthetic or natural additives are now able to achieve an acceptable level of filler retention even during high speed paper forming. However, despite their importance, there have been very few reports in the literature regarding the influence of different retention aids on gravure water based ink printability. In the current work, a series of uncoated handsheets containing the retention aids rosin-alum, cationic starch, polyacrylamide and chitosan were prepared under controlled pH conditions. Chitosan is a natural additive only very recently employed in commercial papermaking systems. After printing with two water based ink systems, both printability and print quality were then assessed in terms of print density, gloss and ink transfer. The effect of surfactant addition to gravure water based ink was also studied. The results showed that the amount of ink transferred and the print density both decreased as the percentage of the selected additives increased. The addition of chitosan to the paper furnish led to a substantial decrease in both the amount of ink transferred and the print density compared to the other additives. Conversely, the presence of surfactant in the printing ink enhanced the

Publications printed using gravure printing are typically printed with solvent based inks, where the primary solvent is generally toluene. Toluene is not only a volatile organic compound (VOC) but it is also classified as a hazardous air pollutant (HAP). During the past two or three decades, the printing ink industries have felt growing pressure to shift from solvent based to water based systems, and especially since 1970 after the establishment of the environmental protection agency EPA⁽¹⁾.

The availability of acceptable water based inks depends on the substrates that are to be printed on and the end use requirements for which the product is being produced. Most paper and board based substrates readily accept water based inks. The use of water based inks on other substrates such as films and foils vary and may require special treatment in order to achieve satisfactory adherence of the inks.

The transfer and setting of ink on paper and board is mainly controlled by physico-chemical interactions. In the case of solvent-based inks, the interactions are purely physical in nature. With water based inks the situation is much more complex. They have polarity components that can be influenced by the surface chemistry of the paper which has been the subject of many studies. Serafano and Rosinski⁽²⁾ and Busche *et al*⁽³⁾ demonstrated the effect of pH of both paper and ink on print quality. The results indicated that printing with an acidic ink showed a substantial loss in gloss and also gave low tonal density, whilst use of alkaline ink resulted in comparatively superior print quality.

Auerbach *et al*⁽⁴⁾ investigated the impact of acid-base interactions on ink spreading on the paper surface using dynamic contact-angle measurements. They found that the acid base reactions appeared to be very fast processes controlled by the rate of water penetration into the bulk of the paper and also acidic diffusion from the paper into the ink/varnish film.

During the wet formation process, paper makers use many different synthetic and natural chemical additives, for a variety of different reasons, all of which have a great effect on resultant paper chemistry. Specifically, they are used to influence the efficiency of the formation process and also to impart specific sheet properties. Such additives as alum, sizing agent, mineral fillers, starch and dyes are commonly used⁽⁵⁾.

One of the most important areas of paper making additives is in the retention of fines during the dewatering and consolidation of the wet web. Additives used for this function are often polymeric and frequently charged. They rely for their effect, as do many additives, upon adsorption to particle surfaces and on the influence that the adsorbed molecules have upon the state of flocculation of the dispersion⁽⁶⁾. Despite the significance of these retention aids, their effect on water based ink printability is unknown.

The aim of this study was to investigate and assess the printability of paper containing some of the conventional retention aids such as rosin-alum, cationic starch, and polyacrylamide, and also evaluate the use of chitosan on printability. This is a natural additive that has recently been employed in commercial systems^(7, 8, 9). The study also aims to investigate the effect of pulp suspension pH on the behavior of these additives.

Experimental

A - Paper Samples Preparation

Raw materials and additives

A mixture of bleached rice straw and bleached wood pulps in a ratio of 60:40 (supplied by RAKTA Company, Alexandria, Egypt) was used as a base furnish to prepare papers having various levels of retention aids additives. All papers contained 2% kaolin.

Four different polymeric retention aid additives were used in this study, these were: Cationic starch and polyacrylamide (obtained from BDH Laboratory, Egypt), rosin and alum (Simo Company, Egypt) and chitosan (Sigma Chemical Company, Egypt).

To View this article you must be a
member/subscriber of PITA

Call +44 161 764 5858

Or

info@pita.co.uk

To receive your reference number or
application form.

Industry Update

Activecraft closes Bury Mill

Activecraft is closing its recycled containerboard mill for economic reasons, according to John Wild, the owner of the mill.

The mill's 2.5m machine produces some 25,000-30,000 tpy of containerboard in the 70 to 160 g/m² range: Testliner 3, recycled fluting and schrenz of 80-120 g/m² band. A large proportion of output was supplied to Jefferson Smurfit.

PITA Finishing Working Group

David Jobson, of Jarshire is to join the Finishing Working Group of The Paper Industry Technical Association. He attended his first meeting of the Group, when it was hosted by Jarshire at their Slough premises on 7 April.

David is the manager of Jarshire's Converting Division and has over 15-years' experience of the industry.

The PITA Working Groups, which are made up of volunteers, aim to discuss and disseminate technology with the aim of improving performance and efficiency of both process and operation. The Finishing Group is principally concerned with sheeted material and finishing equipment.



Klippan to close Swedish mill and issue new shares

Klippan, the owner of the Inveresk group, is restructuring. Paper making will be stopped at the Mölndal Mill in Sweden and the business transferred to Lessebo Mill. The Mölndal Board Service Centre will remain in operation - it has a converting operation where board is cut into sheets.

Over the last few years, Klippan has suffered from a long drawn-out recession characterised by falling sales volumes for most of its products. This led to a number of cost cutting measures which entailed high one-off costs during 2004.

To finance the continued re-structuring and create preconditions for Klippan to capitalize on future business opportunities, the board is proposing a new share issue of Sk 200 million, with pre-emption rights for the company's current shareholders.

The proposal will be put to the AGM on 9 May 2005. Shareholders representing 36% of the shares and 36% of the votes are in favour of the issue for which Nordea Corporate Finance is the financial advisor.

Klippan to acquire French mill

Klippan is negotiating with International Paper (IP) for the acquisition of Papeteries de Maresquel, a fine paper mill in northern France.

Strong focus on education at the Paper Discovery Centre

There is a strong focus on education at The Paper Discovery Centre which was officially opened a month ago in Appleton, Wisconsin by Governor James Doyle.

The interactive science and technology museum features: a Paper Lab where visitors can make their own hand-made paper; a Tree to Tissue exhibition; a Paper Theatre and a Paper Industry International Hall of Fame.

"One of the favourite exhibits so far is the Tree to Tissue exhibit, where visitors can explore the process of making paper through touch, sight and smell," says curator Carrie Feld. This exhibit shows all the stages of papermaking and visitors can try their hand at the controls of The Amazing Tissue Machine.

A wide range of educational programmes and activities are being developed, including artist workshops, kite-making sessions, paper

The mill, which manufactures tinted papers, would strengthen Klippan's position as a leading supplier of colored paper. For IP Europe, tinted paper is not a core segment.

In 2004, IP retained an advisor to assist in exploring opportunities for Maresquel. During the assessment process, a number of third-parties expressed interest in the mill, and IP believes "that the sale to Klippan is the best option for the mill."

"Becoming part of a company that is strategically focused on tinted and value-added paper products would provide a development opportunity for the Maresquel mill and would contribute to better use of Maresquel's paper machine capacity," says Thomas Kadien, president of International Paper Europe.

In 2003, IP modified Maresquel PM 3 to enable it to produce ink jet printing paper. The 90,000 tpy machine produces uncoated woodfrees. In addition, the 15,000 tpy PM1 was shut down.

New MD: Late last year, the board of Klippan appointed Thomas Billing (57) as managing director and group CEO. He takes over during this Quarter. Mr Billing has been group CEO for the Stenqvist group for 16 years.

airplane engineering, and speaker presentations.

The educational programmes will place a strong emphasis on science, complemented by art, creative thinking and local history.

"We want people to know that this is just the beginning!" says executive director Val Wylie. "Now that the facility is open, we will need the support of our entire community to make this project successful." More than \$1.4 million is still needed to complete the entire project and help develop on-going educational programmes.

An outdoor learning centre is planned for the future. It will focus on the industries' role in sustainable forestry practices.

The Paper Discovery Centre is located along the Fox River at 425 W. Water Street in Appleton.

Kappa Roermond Papier develops industrial rescue box

Kappa Roermond Papier has developed a rescue box for the safe transport of accident victims from closed spaces - such as a PM dryer or a boiler which are entered via a manhole.



Figure 1: In a field test, a volunteer was put in the COONY and pulled out of the drying cylinder within 1 minute.



Figure 2: The cover of the rescue box also is divided into 2 halves to cater for situations when the rescue box cannot be entirely pulled out, as, for example in the case of drying cylinders under the PM hood.

The COONY rescue box is designed to stabilise an unconscious body and transport it through the manhole, quickly and simply. In a field test, a volunteer was put in the COONY and pulled out of the drying cylinder within 1 minute, *figure 1*.

In paper mills, work is often required in closed spaces which can only be entered through a manhole. This work can entail a number of risks and an ill or injured worker has to be rescued as quickly as possible.

It is always difficult to evacuate a victim through a manhole - a process during which additional injuries can be incurred. The COONY presents a simple and effective solution in the form of a stable stretcher or rescue box which can contain the injured party.

Following safety regulations

There are legal regulations and definite rules which must be followed when work is carried out in closed spaces. They include the measuring of oxygen and temperature, and the using of a safety belt and lifeline.

Unfortunately the safety belt and lifeline can be hazardous or even dangerous when carrying out the work, but even more while rescuing an injured worker - another pressing reason for the development of the COONY.

The COONY is made of aluminium and consists of 2 halves which fit into the conventional manhole and can be pushed into the closed space. It can be adjusted to fit differing manholes. When the victim has been put into the box the cover is locked with clamps. On both ends carrying bars are inserted and the rescue box can be pulled out through the manhole.

The cover of the rescue box also is divided into 2 halves to cater for situations when the rescue box cannot be entirely pulled out, as, for example in the case of drying cylinders under the PM hood, *figure 2*. By opening the half of the cover which has been pulled out, the victim to be removed from the COONY.

Contact Ing. J.H.H. (Henk) Oitmann at Kappa Roermond Papier;
email: henk.oitmann@kappapackaging.com;
Tel. +31 (0)475 38 43 51

Tamfelt doubles belt capacity at Tampere

Tamfelt has opened a new belt factory which will double belt production capacity and enable the Finnish company to meet growing demand for shoe press belts.

The Tampere factory will make both Tamfelts and Metso Belts for papermills all over the world - Tamfelt supplies the belts for Metso's new shoe press installations and for the belts installed by Metso's service operation.

There are some 440 shoe presses in the world at the moment and demand is growing. In 2004, around 1200 belts were installed worldwide.

Tamfelt started the R&D work to develop belts in 1993 and delivered its first belt in 1995. Since then, the delivery volumes have grown steadily. The exclusive agreement with Metso was formed in 2003.

M-real reorganises its legal affairs

Nina Kuulusa has been appointed General Counsel of M-real, reporting to CFO, Juhani Pöhö. She will also continue as the secretary of M-real's board of directors and its committees.

In addition to responsibility for the overall legal affairs of M-real, Ms Kuulusa will be responsible for matters related to the Securities Market Act and for legal issues related to corporate governance as per the rules of the Stock Exchange.

The parent Metsäliitto Group has established a new service unit of legal affairs in order to

- i) develop the quality of legal services;
- ii) reduce costs related to the management of legal affairs, and
- iii) achieve group synergies by integrating services acquired from outside.

The legal services provided by the unit are available to all companies of the Metsäliitto Group, and the lawyers are responsible for the legal affairs of the various companies of the Group. Esa Kaikkonen is the General Counsel of Metsäliitto Group.

Voith to close US Service Centre

Voith Paper is to close its Service Centre in Farmington, New Hampshire when current projects are completed. The move is dictated by the decline of NA paper-making capacity, says Stanley Brandon, Senior VP Voith Paper Service.

"The NA paper industry has idled more than 10% of its production capacity over the last five years, and ... there is just too much underutilized capacity in North America for businesses specializing in paper machinery and equipment servicing."

Voith will maintain five service facilities in NA.

£5 million earmarked for R&D on brand protection

Pira International and the Robert Gordon University will be key players in a research project aimed at the development of an end-to-end system to protect brands against the global counterfeit market which has reached an estimated \$700 billion worldwide.

The research is being funded by ITI Techmedia, a member-based organisation that identifies, develops and manages commercially driven Intellectual Property for the benefit of Scotland and the Scottish Economy.

ITI aims to develop innovative tags which can be attached to goods and which are machine readable. The market for such tag technology could be as high as \$820 million by 2010.

Throughout the lifetime of the pro-

gramme, ITI will employ a number of research providers, reflecting the scope and depth of the R&D required. RGU and Pira will be involved in the initial stages - in the identification and analysis of potential tag solutions to meet the market needs. Further research providers will be integrated into the programme in due course.

The project will develop a technology platform for the encoding, writing and detection of security tags, all of which will be embedded into an end-to-end Trust Management System. The system will provide varying degrees of product security and allow solutions to be offered to the market at a price point commensurate with the product being protected. www.ititechmedia.com

ArjoWiggins parent to change name

The parent company of ArjoWiggins, plans to change its name from Worms & Cie, to Sequana Capital - because the name Worms is identified with Banque Worms.

In 2004, Worms achieved net earnings of €64 million - a considerable drop from the €112 million in 2003 and one which was forecast in the company's profit warning late last year.

In 2004, turnover increased marginally to of €4,281 million from €4,214 million and operating profit soared to €206 million €179 million.

The drop in profits is partly due to a restructuring exercise at Arjo Wiggins, which is designed to improve profits by optimising production and brands. It is expected to start paying off this year and to bring significant benefits in 2006.

IP sells its fine and industrial paper businesses

International Paper (IP) is to sell its Fine Papers business to Mohawk Paper Mills of New York. The business produces writing, text and cover papers and artist papers segments and includes:

- the 65,000 tpy Hamilton Paper Mill in Ohio
- the Saybrook Converting Centre in Ohio
- the Westfield converting operation for artist papers in Massachusetts.

The divestment is part of IP's strategy to improve profitability and focus on core businesses. The two companies expect to close the deal in this Quarter.

International Paper (IP) is also divesting its Industrial Papers Business which includes the lightweight packaging papers and pres-

sure sensitive papers segments and related converting assets.

The prospective buyer is Kohlberg and Company and the price is \$180 million subject to certain adjustments at closing. The agreement also includes a supply contract for IP - the Androscoggin Mill in Maine will produce lightweight specialty papers for Kohlber. Completion is expected this Quarter. The sale includes:

- paper mills in DePere and Kaukauna, Wisconsin
- the Akrosil business with paper converting facilities in Menasha, Wis., Lancaster, Ohio, and Heerlen, Netherlands
- the Thilmany Packaging operation at Kaukauna Mill.

Finnish material handling firms merge

Pesmel of Finland has purchased the majority of Advanced Warehouse Automation, another Finnish company with which it collaborates on global material handling projects.

This acquisition will enable the Pesmel Group to deliver even larger material handling systems from slitting to dispatch.

AWA emerged as an independent in 1990, having previously been owned by Kone Oy.

It has reference projects in Scandinavia, England, France, Germany, Italy, the Netherlands, Spain and the US.

For example, AWA supplied Burgo of Italy with a fully automated warehouse building for paper reels at their Verzuolo Mill. This warehouse building was completed in 2001.

The two companies are certified to quality standard ISO 9001.

G-P in Spain and Russia

Georgia-Pacific (G-P) is to install a new tissue machine at its 118,000 tpy Allo mill in Navarra, in NE Spain. Start-up is scheduled for the 2nd H of 2006. Demand for tissue is growing faster on the Iberian peninsula than in the rest of western Europe.

G-P is also seeking approval for a 150,000 tpy greenfield tissue mill in Russia, in the Moscow region where G-P already has an 8,900 tpy tissue converting plant.

Kadant to acquire the Johnson Corporation for \$102m

Kadant is expected to acquire the privately owned Johnson Corporation by the end of this Quarter, subject to official and financial clearances. The purchase price is:

- \$102 million in cash, subject to a post-closing adjustment.
- an earn-out provision over a 12 to 15 month period which will increase the price by up to \$8 million.
- a letter of credit to the sellers for some \$4 million - depending on expected tax benefits of Johnson which will be realized by Kadant.

Johnson supplies steam and condensate systems, hardware, and controls for the drying section. At its Michigan headquarters, Johnson has a world-class R&D centre with two commercial-size drying cylinders for product research and customer trials, and extensive joint and seal testing capabilities.

In 2004, Johnson had estimated revenues of \$76 million and EBITDA margins of 15 to 17% based on production.

Stora Enso introduces structural change at board level

The Stora Enso Board will be made up of 10 members in the future, and a Nomination Committee is being formed to prepare proposals on the remuneration of:

- The Chairman, Vice Chairman and members of the Board of Directors and
- The Chairman and members of the committees of the Board of Directors
- The number of members of the Board of Directors.

The Committee will convene before 31 January 2006 and will present its proposals for the 2006 AGM to the Board. At the 2005 AGM, the following rates of annual remuneration for the Board of Directors were approved:

Chairman €135,000
Deputy Chairman €85,000
Members €60,000

BOARD OF DIRECTORS	
Chairman	€135,000
Deputy Chairman	€85,000
Members	€60,000
Financial and Audit Committee	
Chairman	€10,000
Member	€7,000
Compensation Committee	
Chairman	€5,000
Member	€3,000
Nomination Committee	
Member	€3,000
The rates of annual remuneration agreed at the 2005 AGM. The new Nomination Committee will propose next year's remuneration rates at the 2006 AGM.	

Figure 1: Stora Enso Remuneration Rates.

For members of Board committees, the rate of annual remuneration are shown in table 1. Remuneration for the Board of Directors and committees is paid only to non-executive members, except for the remuneration for the Nomination Committee, which is paid only to those members who are not members of the Boards of Directors.

The Nomination Committee has four members:

- the Chairman of the Board of Directors
- the Vice Chairman of the Board of Directors
- two members appointed by the two largest shareholders

The 2005 AGM approved a proposal that the Board of Directors shall have 10 members. It also approved the re-election of: Lee Chaden, Claes Dahlbäck, Harald Einsmann, Jukka Härmälä, Ilkka Niemi, Jan Sjöqvist and Marcus Wallenberg.

Several new members were elected to hold office until the end of the 2006 AGM. They are: Gunnar Brock, Birgitta Kantola and Matti Vuor.

At its meeting held after the AGM, the Stora Enso Board of Directors elected from among its members Claes Dahlbäck as its Chairman and Ilkka Niemi as Vice Chairman.

PricewaterhouseCoopers has been elected to act as auditor of the Company until the end of the 2006 AGM.

Stora Enso has operations in more than 40 countries and about 16.4 million tonnes of paper and board capacity.

www.storaenso.com

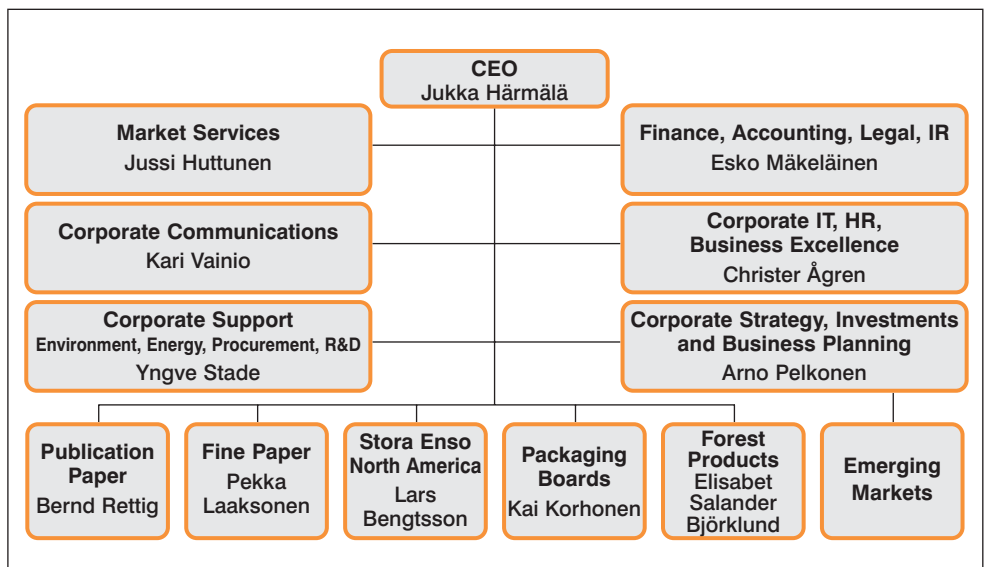


Figure 2: Stora Enso Organisation.

GL&V acquires UK firm

Groupe Laperrière & Verreault (GL&V) of Montreal has acquired the water treatment assets of Jones & Attwood of Birmingham and those of its US subsidiary in Chicago.

The C\$ 5 million (\$4 million) deal relates to assets in effluent liquid-solid filtration and separation process equipment for municipalities and industry

During the fiscal year, these assets generated sales of C\$ 15 million, of which 68% in Europe, 28% in the United States and 4% in the Asia-Pacific region.

GL&V has our three major groups: Pulp and Paper Group; Water Treatment and Process.

TietoEnator acquires ERP business

TietoEnator has acquired an Austrian ERP business which serves the global Pulp and Paper industry, focusing mainly on SAP and Oracle deliveries, maintenance and development.

The former CSC Austria business, which has 80 employees in Vienna, Graz and Linz, is now part of a new Austrian subsidiary, TietoEnator GmbH.

Bender acquires Millwide Engineering

Millwide Engineering has been acquired by Bender Holdings, a deal which establishes Bender as "the UK's largest independent provider of Engineering Services to the paper & board industry", according to Bender's operations director, Bob Byrom.

The deal combines the resources and expertise of the two companies with proven track records and provides UK mills with a competitive and flexible package which comprises:

Bender's maintenance, repair and overhaul services with patented technologies.

Millwide's process design and project management, backed by a team of qualified and responsive Engineers and Project Managers.

"Understanding customer's future needs and anticipating requirements to meet them, means having the right resources, knowl-

"This acquisition will provide us with a valuable ERP competence and it will enable us to expand our offering to our forest customers in Central Europe", says Sakari Ruotsalainen, Senior Vice President, TietoEnator Forest.

CAC Austria customers will benefit from TietoEnator's forest know-how and industry specific solutions and IT-services.

edge, communications and skills now" says Chris Faulkner, General Manager of Millwide.

The management structure of Millwide will stay the same and will remain as a separate legal entity.

Bender and Metso Yankee Service Agreement

Metso Paper and Bender Machine Services have closed a two-year service agreement with one of the world's largest tissue producers. They are now the preferred supplier for Yankee dryer grinding and inspection services to the company worldwide.

Metso Paper and Bender teamed up in 2004 to provide a worldwide service programme for Yankee and MG cylinder grinding and thermal spraying.

Tullis Russell launches European "Express" delivery service

Tullis Russell has launched an express delivery service for the Dutch, Belgian, German, Austrian, Swiss and French markets – regions within which there is sustained

demand for the company's leading Trucard Brand.

The express service guarantees delivery of Trucard within five working days for volumes between two and ten tonnes. The focus is on bespoke sheet sizes between a minimum of 300 x 560 mm or 320 x 415 mm and a maximum of 1440 x 2000 mm.

The service is being run from a base in Holland where reel stock will be stored ready for cutting, wrapping and onward delivery. There are plans to extend the Trucard express service to other European markets later in 2005 and in 2006.

"Due to its performance and versatility, Trucard has built a loyal following across Europe," says Gregor Milne of Tullis Russell. "The express service will give us a real advantage over our competitors for the supply of bespoke items at short notice."

The qualities available through the express service are

- i) Trucard C1s in the following grammages 240, 260, 280, 300 and 350 g/m²; and
- ii) Trucard duo gloss of 280, 300 and 350 g/m².



Tullis Russell is providing express deliveries to European markets from a warehouse and converting plant in Holland.

Products & Services Directory

COMPANY	LOCATION	CONTACT	TELEPHONE	E.MAIL
ABSORBENCY AIDS				
Blackburn Chemicals	Lancashire	Amanda Lamb	01254 52222	alamb@bbchem.co.uk
AIR SHAFTS EXPANDING				
Jarshire Ltd	Slough	Bruce McNair	01753 825122	sales@jarshire.co.uk
AIR TURN SYSTEMS				
Spooner Industries	Ilkley	Steve Newell	01943 609505	snewell@spooner.co.uk
ANTISCALE				
Crosmill	Sandbach	David McMillan	01270 758777	david@crosmill.co.uk
ANTI-SLIP SURFACES				
Scotgrip (UK) Ltd	Kincardineshire	James Smith	01330 825335	sales@scotgrip.com
AUTOMATED HANDLING & WRAPPING REELS AND PALLETS				
Jarshire Ltd	Slough	Bruce McNair	01753 825122	sales@jarshire.co.uk
Pesmel of Finland	West Yorkshire	Jukka Tamminen-Jackson	01924 848399	jukka.tamminen@pesmel.com
AUTOMATED SPRAYING AND CONTROL				
Spraying Systems Ltd	Farnham, Surrey	Rowland Bailey	01252 727200	info@spray-uk.co.uk
BARRIER COATINGS				
GBC (Speciality Chemicals)	Oxford	Adrian Iley	01608 813088	gbcspecs@enablis.co.uk
BIOCIDES				
Crosmill	Sandbach	David McMillan	01270 758777	david@crosmill.co.uk
Kolb Distribution	Lancashire	Malcolm Austin	07720 287460	malcolm.austin@kolb.ch
BLADE HOLDERS, COATING & CREPING				
BTG	North Harrow	John Grensinger	020 8515 6050	sales@btgppt.com
Jarshire Ltd	Slough	Bruce McNair	01753 825122	sales@jarshire.co.uk
BLADES, COATING, CREPING AND PRINTING				
BTG	North Harrow	John Grensinger	020 8515 6050	sales@btgppt.com
Jarshire Ltd	Slough	Bruce McNair	01753 825122	sales@jarshire.co.uk
BROKE ROLL HANDLING				
Core Link AB	Falkenberg, Sweden	Thomas Nilsson	+46 346 56824	t.nilsson@corelink.se
BROKE ROLL SPLITTERS				
Core Link AB	Falkenberg, Sweden	Thomas Nilsson	+46 346 56824	t.nilsson@corelink.se
CHARGE MONITORING CONTROL WET END				
BTG	North Harrow	John Munday	020 8515 6050	sales@btgppt.com
CHUCKS				
Jarshire Ltd	Slough	Bruce McNair	01753 825122	sales@jarshire.co.uk
COATING CONSULTANTS				
Jarshire Ltd	Slough	Bruce McNair	01753 825122	sales@jarshire.co.uk
COATING EQUIPMENT & MATERIALS				
Jarshire Ltd	Slough	Bruce McNair	01753 825122	sales@jarshire.co.uk
COATING SYSTEMS				
BTG	North Harrow	John Grensinger	020 8515 6050	sales@btgppt.com
CONDITION MONITORING				
Monitran Ltd	Buckinghamshire	Suzanne Pearl	01494 816569	suzanne.pearl@monitran.co.uk
CONSULTANCY SERVICES				
Clearwater Paper Technology Ltd	Devon	Ron Slucky	01884 255455	ras@clearwater-technology.com
Clearwater Poole	Bury	John Poole	0161 797 3437	jpoole@clearwaterpoole.co.uk
The PITA Register	Bury	John Clewley	0161 764 5858	info@pita.co.uk
CONTRACT RESEARCH				
BC Paper	North Wales	Dr. Richard Quinney	01248 370588	r.f.quinney@bangor.ac.uk
University of Manchester	Manchester	Bob Wilde	0161 306 3904	r.wilde@umist.ac.uk
CORE CUTTER & CORE HANDLING				
Core Link AB	Falkenberg, Sweden	Thomas Nilsson	+46 346 56824	t.nilsson@corelink.se
COUPLINGS				
John Crane UK Ltd	Manchester	Gary Webb	07711 650660	gary.webb@johncranemcr.co.uk
CRANES				
Konecranes	Lanarkshire	Gordon Adie	01355 220591	gordon.adie@konecranes.com
DEFOAMERS				
Blackburn Chemicals	Lancashire	Amanda Lamb	01254 52222	alamb@bbchem.co.uk
Kolb Distribution	Lancashire	Malcolm Austin	07720 287460	malcolm.austin@kolb.ch
DE-INKING CHEMICALS				
Kolb Distribution	Lancashire	Malcolm Austin	07720 287460	malcolm.austin@kolb.ch
DOCTOR BLADES				
Jarshire Ltd	Slough	Bruce McNair	01753 825122	sales@jarshire.co.uk

Products & Services Directory

COMPANY	LOCATION	CONTACT	TELEPHONE	E.MAIL
DRYING CYLINDER SERVICES				
Bender Machine Services	Rossendale	Steven Withers	01706 225521	swithers@bendermachine.com
DRYING CYLINDERS				
Clearwater Poole	Bury	John Poole	0161 797 3437	jpoole@clearwaterpoole.co.uk
Sandusky Walmsley	Bolton	Mike Valentine	01204 396060	mavalentine@sanwal.co.uk
DRYING CYLINDERS MAINTENANCE				
Intertechnics-Cumel-ReDoc	Oxford	Anthony Shepherd	01993 810080	info@intertechnics.co.uk
DRYING HOODS & VENTILATION				
Greenbank Engineering	Blackburn	David Wilkinson	01254 690555	info@greenbanktechnology.co.uk
DRYING ROLLERS				
Sandusky Walmsley	Bolton	Mike Valentine	01204 396060	mavalentine@sanwal.co.uk
DRYING SYSTEMS				
Greenbank Engineering	Blackburn	David Wilkinson	01254 690555	info@greenbanktechnology.co.uk
Jarshire Ltd	Slough	Bruce McNair	01753 825122	sales@jarshire.co.uk
Spooner Industries	Ilkley	Steve Newell	01943 609505	snewell@spooner.co.uk
DYESTUFFS				
Albion Colours	Halifax	David McCarthy	01422 358431	David.McCarthy@albionchemicals.co.uk
EDGE GUIDANCE SYSTEMS				
Fine Controls	Wirral	John Donaldson	0151 343 9966	John@finecontrols.com
EFFLUENT TREATMENT				
Huber Technology	Chippenham	Nick Hunt	01249 765000	nh@huber.co.uk
KWI (UK) Ltd	Flintshire	Phil Woollen	01352 700224	info.uk@kwi-intl.com
END OF LINE PACKAGING SYSTEMS				
Pesmel of Finland	West Yorkshire	Jukka Tamminen-Jackson	01924 848399	jukka.tamminen@pesmel.com
ENGINEERING, MAINTENANCE AND INSTALLATION				
Smithtech Engineering	Chorley	JD Smith	07775 732857	jd@trubody.freeserve.co.uk
ENGINEERING SERVICES				
Bender Machine Services	Rossendale	Steven Withers	01706 225521	swithers@bendermachine.com
Clearwater Poole	Bury	John Poole	0161 797 3437	jpoole@clearwaterpoole.co.uk
FIBRE RECOVERY EQUIPMENT				
Huber Technology	Chippenham	Nick Hunt	01249 765000	nh@huber.co.uk
KWI (UK) Ltd	Flintshire	Phil Woollen	01352 700224	info.uk@kwi-intl.com
FILLERS				
Luzenac	Toulouse, France	Kari Alenius	0800 032 3114	kari.alenius@europe.luzenac.com
FILTRATION				
Premier Filtration	High Wycombe	Chris Smith	01628 527704	premier@filt.fsnet.co.uk
FILTRATION SYSTEMS WATER				
John Crane UK Ltd	Manchester	Gary Webb	07711 650660	gary.webb@johncranemcr.co.uk
FLAME RETARDANTS				
Mare Paper Chemicals Group	Luton	Mitch Cook	01582 811900	Mitch.Cook@maregroup.co.uk
INFRARED DRYERS				
Compact Engineering	Thirsk	Tim Klemz	01845 525356	apollo@compact.co.uk
Jarshire Ltd	Slough	Bruce McNair	01753 825122	sales@jarshire.co.uk
INSTALLATION & ALIGNMENT SERVICES				
Bender Forrest Ltd	Rossendale	Stefan Wilds	01706 225521	swilds@bendermachine.com
Clearwater Poole	Bury	John Poole	0161 797 3437	jpoole@clearwaterpoole.co.uk
INSTRUMENTATION				
Fine Controls	Wirral	Gareth Hall	0151 343 9966	Gaz@finecontrols.com
LUBRICATION MANAGEMENT				
ChevronTexaco Global Lubricants	Staffordshire	Mick Doxford	020 7719 2227	mickdoxford@chevrontexaco.com
LUBRICATION SYSTEMS (CENTRALISED). DESIGN & INSTALL				
Harrison Lubrication	Bolton	Phil Vause	01204 691352	sales@hle.co.uk
John Crane UK Ltd	Manchester	Gary Webb	07711 650660	gary.webb@johncranemcr.co.uk
MACHINERY SAFETY & INSPECTIONS				
Laidler Associates	Teesside	Derek Coulson	08700 111375	enquire@laidler.co.uk
MILLWIDE SYSTEMS				
Applied Software Control (A.S.C.)	Aberdeen	David Capel	01224 643792	d.capel@ascman.co.uk
PACKAGING MATERIALS, MACHINES AND SYSTEMS				
Pesmel of Finland	West Yorkshire	Jukka Tamminen-Jackson	01924 848399	jukka.tamminen@pesmel.com
PAPER, TISSUE & BOARD MACHINES				
Clearwater Poole	Bury	John Poole	0161 797 3437	jpoole@clearwaterpoole.co.uk
Jarshire Ltd	Slough	Bruce McNair	01753 825122	sales@jarshire.co.uk
Sandusky Walmsley	Bolton	Tony Pope	01204 396060	tpope@sanwal.co.uk
Voith Paper	Manchester	Keith Millington	0161 655 2912	keith.millington@voith.com

Products & Services Directory

COMPANY	LOCATION	CONTACT	TELEPHONE	E.MAIL
PEARL LUSTRE PIGMENTS				
Merck Chemicals Ltd	Poole	Stephen Harpham	01202 785313	stephen.harpham@merckscld.co.uk
PILOT PLANT FACILITIES				
BC Paper	North Wales	Dr. Richard Quinney	01248 370588	r.f.quinney@bangor.ac.uk
University of Manchester	Manchester	Bob Wilde	0161 306 3904	r.wilde@umist.ac.uk
PIPEWORK & VESSEL FABRICATIONS				
Bender Forrest Ltd	Rossendale	Stefan Wilds	01706 225521	swilds@bendermachine.com
PITCH CONTROL				
Luzenac	Toulouse, France	Kari Alenius	0800 032 3114	kari.alenius@europe.luzenac.com
PRECISION PNEUMATICS				
Fine Controls	Wirral	John Donaldson	0151 343 9966	John@finecontrols.com
PROCESS CONTROL				
BTG	North Harrow	John Munday	020 8515 6050	sales@btgppt.com
PROJECT ENGINEERING/CONSULTANCY				
Bender Forrest Ltd	Rossendale	Stefan Wilds	01706 225521	swilds@bendermachine.com
Clearwater Poole	Bury	John Poole	0161 797 3437	jpoole@clearwaterpoole.co.uk
PULP AND PAPER MILL DESIGNERS & ENGINEERS				
Clearwater Poole	Bury	John Poole	0161 797 3437	jpoole@clearwaterpoole.co.uk
QUALITY CONTROL INSTRUMENTS				
Tendring Pacific	Saffron Walden	Anton Hutson	0870 240 1886	anton@tendringpacific.com
QUALITY INFORMATION SYSTEMS				
QISoft Limited	Leyland	Tim Perris	01772 641133	info@qisoft.com
RAW WATER TREATMENT				
Huber Technology	Chippenham	Nick Hunt	01249 765000	nh@huber.co.uk
KWI (UK) Ltd	Flintshire	Phil Woolen	01352 700224	info.uk@kwi-intl.com
REBUILDS, MAJOR				
Clearwater Poole	Bury	John Poole	0161 797 3437	jpoole@clearwaterpoole.co.uk
Sandusky Walmsley	Bolton	Tony Pope	01204 396060	tpope@sanwal.co.uk
Voith Paper	Manchester	Keith Millington	0161 655 2912	keith.millington@voith.com
REBUILDS, RECONDITIONED PLANT/PARTS				
Clearwater Poole	Bury	John Poole	0161 797 3437	jpoole@clearwaterpoole.co.uk
REEL & PALLET WRAPPING SYSTEMS				
Jarshire Ltd	Slough	Bruce McNair	01753 825122	sales@jarshire.co.uk
REEL STANDS				
Jarshire Ltd	Slough	Bruce McNair	01753 825122	sales@jarshire.co.uk
REFINING AND DEFLAKING				
JOCRO Technology	Bolton	Joe Crook	01204 840937	bryants-house@supernet.com
Pilao International Ltd	Darwen	Mel Hadfield	01254 873871	info@pilao.co.uk
REPLACEMENT PARTS				
Clearwater Poole	Bury	John Poole	0161 797 3437	jpoole@clearwaterpoole.co.uk
Sandusky Walmsley	Bolton	Derek Lees	01204 396060	dlees@sanwal.co.uk
RF/AIR DRYING				
Greenbank Engineering	Blackburn	David Wilkinson	01254 690555	info@greenbanktechnology.co.uk
Jarshire Ltd	Slough	Bruce McNair	01753 825122	sales@jarshire.co.uk
ROLL GRINDING, REFURBISHMENT & SERVICING				
Bender Machine Services	Rossendale	Steven Withers	01706 225521	swithers@bendermachine.com
Sandusky Walmsley	Bolton	Tony Treloare	01204 396060	tatreloare@sanwal.co.uk
Voith Paper (Service Centre)	Manchester	Robert O'Shaughnessy	0161 655 2933	robert.o'shaughnessy@voith.com
ROLLERS				
Sandusky Walmsley	Bolton	Mike Valentine	01204 396060	mavalentine@sanwal.co.uk
ROTARY JOINTS AND SYPHONS				
Deublin Ltd	Hampshire	Denzil Ralph	01264 333355	dralph@deublin.co.uk
Johnson Systems International Ltd	West Yorkshire	David Moss	01943 607550	dmoss@joco.nl
SEALS				
Advanced Sealing Solutions Ltd	Northampton	Paul Marchant	01604 830183	paul82@netlineuk.net
John Crane UK Ltd	Manchester	Gary Webb	07711 650660	gary.webb@johncranemcr.co.uk
SHOWER SYSTEMS/SPRAY NOZZLES				
Spraying Systems Ltd	Farnham, Surrey	Rowland Bailey	01252 727200	info@spray-uk.co.uk
SITE SERVICES				
Bender Forrest Ltd	Rossendale	Stefan Wilds	01706 225521	swilds@bendermachine.com
Clearwater Poole	Bury	John Poole	0161 797 3437	jpoole@clearwaterpoole.co.uk
SIZING				
Mare Paper Chemicals Group	Luton	Mitch Cook	01582 811900	mitch.cook@maregroup.co.uk

Products & Services Directory

COMPANY	LOCATION	CONTACT	TELEPHONE	E.MAIL
SLITTING & CUTTING EQUIPMENT				
Jarshire Ltd	Slough	Bruce McNair	01753 825122	sales@jarshire.co.uk
SLUDGE DEWATERING				
Huber Technology	Chippenham	Nick Hunt	01249 765000	nh@huber.co.uk
Jarshire Ltd	Slough	Bruce McNair	01753 825122	sales@jarshire.co.uk
SLUDGE PROCESSING AND UTILISATION				
EnviroSystems (UK) Ltd	Preston	Liz Russell	01772 860085	liz@envirosys.co.uk
Huber Technology	Chippenham	Nick Hunt	01249 765000	nh@huber.co.uk
SOLENOID & CONTROL VALVES				
Fine Controls	Wirral	Gareth Hall	0151 343 9966	Gaz@finecontrols.com
STEAM AND CONDENSATE SYSTEMS				
Deublin Ltd	Hampshire	Denzil Ralph	01264 333355	dralph@deublin.co.uk
Johnson Systems International Ltd	West Yorkshire	David Moss	01943 607550	dmoss@joco.nl
STICKIES CONTROL				
Kolb Distribution	Lancashire	Malcolm Austin	07720 287460	malcolm.austin@kolb.ch
Luzenac	Toulouse, France	Kari Alenius	0800 032 3114	kari.alenius@europe.luzenac.com
STOCK CHEST CLEANING				
Spraying Systems Ltd	Farnham, Surrey	Rowland Bailey	01252 727200	info@spray-uk.co.uk
STOCK PREPARATION				
Sandusky Walmsley	Bolton	Alan Morley	01204 396060	amorley@sanwal.co.uk
Voith Paper Fibre Systems	Manchester	Darryl Holt	0161 655 2907	darryl.holt@voith.com
John Wilkie - Hett GmbH	Perthshire	John Wilkie	01764 685267	WilkieMaryfield@aol.com
STRETCH FILMS AND WRAPPING MACHINES				
Pesmel of Finland	West Yorkshire	Jukka Tamminen-Jackson	01924 848399	jukka.tamminen@pesmel.com
STROBOSCOPES				
Euroto Ltd	Bolton	Tony Aspinall	01204 665050	sales@euroto.co.uk
SYPHON SYSTEMS				
Deublin Ltd	Hampshire	Denzil Ralph	01264 333355	dralph@deublin.co.uk
TALC				
Luzenac	Toulouse, France	Kari Alenius	0800 032 3114	kari.alenius@europe.luzenac.com
TESTING AND ANALYTICAL SERVICES				
BC Paper	North Wales	Rebecca Snell	01248 370588	r.snell@bangor.ac.uk
University of Manchester	Manchester	Bob Wilde	0161 306 3904	r.wilde@umist.ac.uk
THERMAL SPRAY/METAL SPRAY COATING SERVICES				
Bender Machine Services	Rosendale	Steven Withers	01706 225521	swithers@bendermachine.com
TRAINING				
Bury College	Bury	Heather Saul	0161 797 4325	heather.saul@burycollege.ac.uk
PITA Trainers	Bury	John Clewley	0161 764 5858	info@pita.co.uk
University of Manchester	Manchester	Bob Wilde	0161 306 3904	r.wilde@umist.ac.uk
USED RECONDITIONED MACHINERY				
John Wilkie Papermill Services Ltd	Perthshire	John Wilkie	01764 685267	WilkieMaryfield@aol.com
VACUUM PUMPS & SYSTEMS				
Flowtech Pumps	Manchester	Ian Pendleton	0161 794 8038	ipendleton@pumpgroup.co.uk
Gardner Denver Nash UK Ltd	Winsford	Alan Birchall	01606 542421	alan.birchall@gb.gardnerdenver.com
VALUATION SERVICES				
John Wilkie Papermill Services Ltd	Perthshire	John Wilkie	01764 685267	WilkieMaryfield@aol.com
VALVES				
Lohse GmbH	Croydon	Kevin Bracken	020 8667 3013	kevin.bracken@voith.com
VIBRATION EQUIPMENT				
Monitran Ltd	Buckinghamshire	Suzanne Pearl	01494 816569	suzanne.pearl@monitran.co.uk
WASTE TRIM REMOVAL SYSTEMS				
Jarshire Ltd	Slough	Bruce McNair	01753 825122	sales@jarshire.co.uk
WATER CLARIFICATION				
Huber Technology	Chippenham	Nick Hunt	01249 765000	nh@huber.co.uk
Jarshire Ltd	Slough	Bruce McNair	01753 825122	sales@jarshire.co.uk
John Wilkie Papermill Services Ltd	Perthshire	John Wilkie	01764 685267	WilkieMaryfield@aol.com
KWI (UK) Ltd	Flintshire	Phil Woollen	01352 700224	info.uk@kwi-intl.com
WATER RECOVERY				
Huber Technology	Chippenham	Nick Hunt	01249 765000	nh@huber.co.uk
KWI (UK) Ltd	Flintshire	Phil Woollen	01352 700224	info.uk@kwi-intl.com
WEB BRAKE DETECTION				
Fine Controls	Wirral	John Donaldson	0151 343 9966	John@finecontrols.com
WET/DRY STRENGTH RESINS				
Crosmill	Sandbach	David McMillan	01270 758777	david@crosmill.co.uk
Mare Paper Chemicals Group	Luton	Mitch Cook	01582 811900	mitch.cook@maregroup.co.uk
WIRE AND FELT CLEANERS				
Kolb Distribution	Lancashire	Malcolm Austin	07720 287460	malcolm.austin@kolb.ch
WRAPPING EQUIPMENT				
Pesmel of Finland	West Yorkshire	Jukka Tamminen-Jackson	01924 848399	jukka.tamminen@pesmel.com

Installations

Mill	Supplier	Equipment review
Aracruz Celulose Guaiba Mill Brazil	Voith Paper	A shoe press for the pulp dewatering machine - a key element in a 30,000 tonne increase in the mill's capacity to 430,000 tpy of eucalyptus pulp. Start-up late this year. QualiFlex sleeves will also be supplied with the press. This is the 300th installation of a Voith shoe press, No 1 having started-up in Austria just 21 years ago.
Celulose Nipo-Brasileira (CENIBRA) Japan Brazil Paper and Pulp Resources Development Co. Belo Oriente Mill Brazil	Metso Paper	Chemical pulping technology for the modernization of the No 2 fibre line - from brown stock washing up to bleached stock storage. The bleaching sequence is O2-DHT-EO-D-P. The line will be recommissioned in May 2006 with a daily capacity of 2,000 tons of bleached eucalyptus pulp. The €20 million order includes: the upgrade of the oxygen delignification stage to a two-stage OxyTrac process; TwinRoll wash presses for the new washing stages. OxyTrac enables a higher kappa reduction without sacrificing pulp quality which reduces chemical consumption in the bleaching process. The rebuild is designed to improve the mill's economy and reduce its environmental impact. Output will increase from 940,000 tpy to a potential 1,140,000 tpy. JBP is a group of 17 Japanese companies, the largest stakeholders being Oji Paper and Itochu with a 39.5% share each.
CMPC Santa Fe Mill Chile	Rader (via Metso Paper)	Chip thickness screening equipment and a chip truck dumper/hopper. The 2 screen lines will include Rader DynaGage bar screens, air density separators, and DynaYield chip conditioners. In addition, a Rader back-on extended arm truck dumper and chain reclaim hopper will be installed to receive purchased eucalyptus chips. This equipment is part of a major woodyard and pulp mill expansion. Deliveries in Oct 2005 for a 2006 start-up.
Duropack Bupak Papirna Budweis Mill Czech Republic	Voith Paper	A FloatLip, cylinder forming headbox with centrifugal distributor for BM 6. Also includes automatic remote adjustment of dilution water control, as well as supervision of installation and start-up. This will be the first use of a FloatLip former for a speed of 450 mpm in a packaging PM. The cylinder forming technology of the FloatLip will ensure the uniform distribution of the suspension across the entire width. Formation and profiles will also improve.
	Voith Paper Automation	The basic engineering for the integration of all control and operating functions into the DCS of BM 6. Includes central distributor equipment with dilution valves and a remote control for manual profile correction. Voith will also supply the electric and pneumatic control and the local control panels for the FloatLip former. BM6 produces testliner and corrugating medium of 90 to 200 g/m ² . The untrimmed working width of the machine is 4,340 mm, its operating speed is 450 mpm. website: www.voith.com
Fabrica de Papel San Francisco Mexicali Mill Baja California Mexico	Kadant Black Clawson	A new deinking line to be added to their existing DIP system. The \$2m contract includes: a screening system; cleaning and washing equipment; and a MAC flotation cell, which will replace the existing flotation system. The new DIP line, which will process MOW will start-up this autumn and will increase capacity to 250 bone dry tpd. The mill needs more DIP for a new tissue machine.
Felix Schoeller German and Canadian Mills Germany	Cognex Corporation	A \$1.8 million order for the SmartView surface inspection system which will be installed in Felix Schoeller's German and Canadian mills. SmartView automatically inspect paper for defects such as holes, creases, and stains while it is being manufactured. It can detect and classify defects smaller than a square millimeter and early detection enables mills to maximize yield. The robust, flexible and scalable platform makes SmartView reliable and easy to use. Felix Schoeller specializes in the manufacture of high-end photographic, digital imaging and other specialty papers.
Fritz Peters GmbH & Co Gelsenkirchen Mill Germany	Voith Paper	A TwinPulp pulping system which will replace the recovered paper pulper and increase pulping capacity to a maximum of 900 tpd. Apart from handling the B12 and B19 recovered paper grades the mill intends to process a mixture of W62, W52 and B19 recovered kraftliner. The new system, which will include some existing machines, will come on stream in August. The order includes: a complete pulper feeding station, the pulper itself, as well as pulper detashing machines. Also includes assistance with process engineering, the complete control and instrumentation engineering, erection and start-up.

Mill	Supplier	Equipment review
Fujian Heng Li Group Nanan City Fujian Province China	Metso Paper	A complete Advantage DCT 100 tissue line including stock prep. The PM has a wire width of 2.8m and an operating speed of 1600 mpm. It will produce 60 - 90 tpd of facial and bathroom tissue. Start up in 1Q 2006. Includes an OptiFlo II TIS headbox, a 15-foot Yankee cylinder, AirCap yankee hood, sheet control, tail threading equipment and WetDust dust management systems as well as air and ventilation equipment. Metso Automation will supply the QCS and DCS systems by Metso Automation.
Guangzhou Paper Guangdong Province China	Metso Paper Valmet-Xian Machinery	A 5.3m PM which will produce 500 tpd of printings at an operating speed of 1400 mpm. Start-up is scheduled for 2Q 2006. Includes the latest gap forming and belt technology along with: headbox, wire section press section, dryer section; calender and ValReel. Guangzhou Paper operates four newsprint machines with a combined production capacity of 300,000 tpy
Holmen Paper Group Sweden	Vattenfall Nordic	A 10 year electricity supply and energy efficiency agreement - starting in 2006 - under which Holmen will purchase some 1.5 TWh of electricity a year. This is almost half of the purchased electricity that Holmen needs. In 2004, Holmen Sweden consumed 4.3 TWh of electricity some 33% of which was supplied from its own production - from back pressure production at its mills and at wholly or part-owned hydroelectric power stations. The two companies will also improve energy and process efficiency at all of Holmen's mills.
Ilim Pulp Ust Ilimsk Pulp Mill Russia	Andritz, Austria Metso, Finland	Process equipment for an upgrade of Pulp Line No. 2 which will boost the mill's capacity by 15% to 630,000 tpy of bleached market pulp. The supply contracts will exceed €10 million. Ilim has signed a credit agreement with HSH Nordbank of Germany for a five year, €40 million facility at an interest rate of LIBOR +1.19% pa. The transaction is underpinned by insurance provided by Finnvera, the Finnish export credit agency. The credit line will secure financing of Finnish machinery and equipment for Ilim subsidiaries - the initial investment being at Ust Ilimsk.
Kartogroup Deutschland Leuna Mill Saxony-Anhalt	PMT Italia	A new 60.000 tpy tissue plant which started up late last year. The 5.4m Crescent Former has an operating speed of 2000 mpm. It was supplied by PMT with 2 stock prep lines and auxiliary systems. It processes virgin fibre to produce 14 -28 g/m ² tissue which Kartogroup converts into toilet paper and kitchen rolls. The delivery also includes a combining line with 4 unwind stands and an operating speed of 1800 mpm. The entire plant engineering was carried out by PMT Kartogroup and Erma Engineering of Switzerland.
Kimberly-Clark Hakle-Kimberly Mainz Mill Germany	Parsytec, Aachen Germany	A tissue inspection system based on Parsytec's advanced classification technology. The surface inspection of tissue faces major challenges such as the very high degree of dust and the fact that certain holes are at a material thickness of only 14 g/m ² . This requires a classification performance, which allows targeted direct interventions into the running production in real time. The first 5 installations of the Parsytec system are running successfully in the tissue plants of the German Wepa group.
Lee & Man Paper Hongmei Guangdong Province China	Papertech Vancouver, Canada	A third WebVision Plus order for the new PM 7, a 7.1m (ww) machine which produces linerboard at speeds 1,150 mpm. The previous WebVision systems, which were installed on Donguan PM4 and Changsu PM6, have brought substantial break reductions and an increase in PM speed.
Mercer Zellstoff Stendal Saxony-Anhalt Germany	Metso Paper	A €6 million order of Two SuperBatch digesters which will expand the cooking process and increase the mill's flexibility for the production of special pulp qualities from different pulpwoods. It will also enable an increase of capacity at the 550,000 tpy mill which produces fully bleached softwood market pulp. The new digesters will be on stream by the end of this year. Stendal started up in August 2004 with a SuperBatch cooking process comprising eight 400-m ² digesters. The process is designed to accept varying chip qualities, while producing high quality reinforcement pulps. As well as bespoke pulps, the expansion will enable the mill to run at full design production with lower cost wood raw material than originally specified.
Mondi Business Paper Syktyvkar Mill Komi Republic Russia	Metso Paper	A fibre line modernization which will be a cornerstone in the conversion of the softwood line to ECF bleaching. Start-up in mid 2006. Includes a new oxygen delignification process and improvements in the bleaching process. TwinRoll wash presses will be installed for both pre and post washing of the oxygen stage. The new systems will produce a low kappa number and a low carry over to pulp bleaching which reduces consumption of bleaching chemicals and the amount of effluent. Also includes a pulpQ advanced process control system and a VirtualSite training simulator. The mill, which is located some 1100 km Northeast of Moscow, has four paper and board machines. The pulp is mainly used for P&W grades and paperboard.

Mill	Supplier	Equipment review
Nippon Paper Group Kitakami Paper Ichinoseki Mill Japan	Kadant AES, USA (via Kobayashi Engineering Works, Fuji City)	An Octopus stock approach system which features an integral dilution header and consistency profiling controls. It will feed a new hydraulic headbox on the Ultraformer C wet end machine which produces linerboard at speeds up to 550 mpm. The Octopus replaces the conventional tapered inlet and enables the mill to control CD basis weight profiles.
Norske Skog Saugbrugs Mill Norway	Parsytec, Aachen Germany	Following the installation of Parsytec web inspection on PM6, a web quality control infrastructure is to be installed at Saugbrugs Mill. The order includes 3 Parsytec systems for the supercalenders SC61, SC62 and SC63 and Parsytec 5i. The Surface Excel will provide comprehensive defect tracking from the PM to the respective supercalenders. Norske Skog is the world No 2 in publication papers, with 24 mills in 15 countries. Parsytec inspection systems are applied in seven of these mills.
Procter & Gamble Deutschland Neuss Mill Germany	Andritz, Austria	The upgrade of the dry end of a tissue machine. Includes a new dust removal and web stabilization system between the creping doctor and reel. The aim is to minimize dusting problems on the machine and in the hall, and to improve the sheet run for high-speed operation. The upgrade presents a special challenge, due to the tight space at the tissue machine. Installation this month along with a safety package which was ordered last summer. website: www.andritz.com
Rizhao SSYMB Pulp and Paper Co Rizhao Mill Shandong China	Voith Paper Automation	A service contract in the field of automation. It includes extensive service for trouble diagnosis, maintenance, repair and training for BM1 which produces liquid packaging board and FBB from virgin fibre. The contract covers the main automation fields such as fibre systems, PM, calender and winder. Remote Diagnostics will enable a fast response from Voith experts at the Automation Service Center in Shanghai and there will also be local "Emergency on Call" support. Training programmes for the technical operation and maintenance personnel are also included.
Stora Enso Hylte Bruk Mill Sweden	Kalmar, Sweden	Five DCE 80-9 HE trucks with hydrostatic operation for the handling of newsprint rolls. They have integrated automated functions and are fitted with twin pedals which act as a foot support when at rest, thereby reducing strain on feet and legs. The order follows 6 months, on-site trials of the new 8-tonne truck which has an integrated paper clamp. The trials established the high level of accessibility, which was crucial to the deal. At Hylte, the trucks will collect paper rolls that have travelled on conveyor belts from the PMs and take them to the warehouses. The trucks will also be used in onward movements from the warehouses. Clamp pressure is precision-adjusted so that the paper roll can neither slide nor suffer any damage. The rolls are deposited at exactly the right angle and the lowering speed is automatically controlled so that set down is gentle.
Stora Enso Kaukopaa Imatra Mill Finland	PMT Italia Mitsubishi Heavy Industries	A High Capacity Top Former which started-up early this year on BM2. Involved the rebuild of a MB-Former on the middle-ply. The unit was engineered and manufactured by PMT Italia within a Mitsubishi Heavy Industries contract. BM2 produces high-grammage coated boards from bleached hardwood and softwood furnishes. The new former, with its higher drainage capacity, has increased flexibility - it allows wider operating ranges in refining, in headbox flows, and in the pre-forming zone. The rebuild has improved Ambertec Formation of the middle-ply and paper surface characteristics.
Stora Enso Kvarnsveden Mill Sweden	Pacific Simulation PacSim	The Pacific Simulation Advanced Quality Control Solution for the TMP2 line. The AQC solution is a part of the Metso Optimal Refining concept and Metso Automation was involved in the supply of a trial system which demonstrated the capability to i) reduce process variability for freeness and fibre length; ii) reduce specific energy usage and iii) improve overall quality production. These benefits were accomplished without process changes, additional equipment, modifying operating conditions, or a degradation in quality and Kvarnsveden opted for a larger installation of AQC Solution. Installation begins this Spring for hand over later this year. The ACQ project and will be coordinated with the new SC paper line. Upon hand over, Stora Enso and Pacific Simulation will embark on a seven year partnership. Kvarnsveden produces some 700,000 tpy of newsprint, improved newsprint and uncoated magazine paper on 4 PMs. website: www.metsoautomation.com

Mill	Supplier	Equipment review
Stora Enso Skoghall Mill Sweden	Kalmar, Sweden	Two ECE80-6 electric trucks for the handling of board rolls as they are moved from BM to warehouse. Clamp pressure is precision-adjusted so that the paper roll can neither slide nor suffer any damage. The rolls are deposited at exactly the right angle and the lowering speed is automatically controlled so that setting down takes place.
Stora Enso Veitsiluoto Paper Mill Kemi Finland	Honeywell	Two Hilcont Proweb II web monitoring systems for the coaters on the No 1 and No 5 production lines which produce coated, wood containing grades. Last year, PM1 and PM5 were equipped with Hilcont systems. The aim is to improve runnability and maximize the production capacity through the web monitoring systems. Coater 1 will be monitored by a system with 14 cameras, while coater 5 will have a 12 camera system. During the past year, Veitsiluoto installed eight Honeywell systems which have shortened web break analysis times and web break durations. The cameras, which monitor the paper web continuously, record each web break and the break moment. The break moment is displayed by the system along with the factors causing the break when the operator is guided the break location on the web.
Unipak Tissue Mill Halat Mill Lebanon	Recard, Italy	A new 15,000 tpy tissue machine which will produce facial tissue paper, as well as standard and bulky bathroom tissue, one to three-ply napkin paper and towels. The 2.7 m wide PM2 will have an operating speed of 1,200 mpm and will use 100% virgin fibre as furnish for some grades and a blend of virgin pulp and recovered fibre for others. The mill's PM 1 is a Beloit twin wire machine with a design speed of 1,500mpm. Middle East demand is high, and the company has plans for a third tissue machine in the region.

Recruitment



To advertise in this section ring **David Cole**
Advertisement Manager on **0161 764 5858**

ADVERTISERS

ALBANY INTERNATIONAL LTDCover ii
BENDER MACHINE SERVICES13
BUCKMAN LABORATORIES23
CERESTAR UK7
JAMES CROPPER plc (Recruitment)59
M-REAL UK37
SPCI 05Cover iii

PRODUCTS & SERVICES DIRECTORY52-55

index

**VISIT THE PITA WEBSITE PRODUCTS AND SERVICES
DIRECTORY FOR AN ENLARGED LIST OF
COMPANIES SUPPLYING GOODS AND SERVICES
TO THE PAPER INDUSTRY www.pita.co.uk**



PRODUCTION CO-ORDINATOR

James Cropper Speciality Papers Ltd, based in the North West of England, produces just over 40,000 tonnes per year of a wide variety of high quality coloured and specialist papers and boards on four papermachines.

The Company is looking to appoint a Production Co-ordinator to work a combination of shifts and daywork. This role, reporting directly to the Operations Manager, requires the management of a shift in both the papermaking and finishing departments. The successful candidate will require excellent leadership skills and a good appreciation of production management: specifically, a track record of frontline shift leadership in a fast moving and demanding environment. Obviously, excellent communication skills and a passion for working safely are prerequisites for a job such as this.

This is an exciting and varied role for someone who is enthusiastic and energetic, and provides an exceptional opportunity to join the production management team of one of Europe's most capable specialist papermakers.

For more information contact our Human Resources Department. If you are interested please send us your CV or alternatively contact us for an application form at

James Cropper PLC, Burnside Mills, Kendal,
Cumbria, LA9 6PZ (Telephone 01539 722002)

Closing date for applications: 17 May 2005

Coming Events

PTS Coating Symposium

The 22nd PTS Coating Symposium will be held at the Kongresshaus in Baden-Baden from 20 to 22 September 2005. It will focus on the following topics:

- Development of coated paper markets with a look to the future.
- Enhancing product quality and improving printability from the viewpoint of printers and papermakers.
- The use of new and improved technologies, adapted raw materials and optimised processes.
- Improved efficiency of production processes and cost savings possibilities.

Up-to-date information on the symposium and technical exhibition can be found on the following website: www.streichereisymposium.de
PTS Germany,
Tel: +49 89 1214623;
pta@ptspaper.de

CALL FOR PAPERS

The Finnish Paper Engineers' Association has issued a Call for Papers for The 5th Biennial Johan Gullichsen Colloquium, which will take place at the Hilton Helsinki Kalastajatorppa on 17 November 2005.

The theme is Raw Materials and Processes, for the product viewpoint. Papers are requested on the following areas:

Raw material analysis
Process analysis
Product analysis

One-page abstracts should be sent by e-mail to irmeli.hannula@papereng.fi;
Tel: +358 9 132 6688,
Fax: +358 9 630 365
www.papereng.fi

Technical developments in paper recovery and recycling

An international symposium on *New Developments in Paper Recycling Technology* will be held in Barcelona later this month – from 19 to 20 May, at the Condes de Barcelona Hotel.

It is organised by the Spanish Paper Institute in collaboration with Centre Technique du Papier of France and Papiertechnische Stiftung of Germany. There will be simultaneous translation in Spanish and English.

The use of recovered paper is becoming more and more important to the paper industry for economical and environmental reasons. The programme will therefore focus on the latest advances which contribute to

- paper recovery,
- the quality and uniformity of recovered paper
- the efficiency and yield of the stock prep and paper making processes
- the quality of the end product
- the sustainable development of the industry
- reducing energy consumption

The technical programme will be covered in three sessions.

Session 1 is entitled *From used paper to recovered paper*. There will be three presentations which will cover:

- i) The effect of recovered paper inventories on mill purchasing. The speaker is Bill Moore of Moore & Associates.
- ii) Containers, locations and collection routes from small shops. The speaker is J.V. López of The Forestry School, Polytechnic University, Madrid
- iii) The development of recovered paper grades for the production of packaging papers, by M. Strunz and D. Borschke of PTS of Munich

Session 2 is entitled: *From recovered paper to recycled fibres*. The presentations which will include papers on the latest deinking technologies - ultrasound, enzymatic treatment.

A team from ETSEA, University of Lleida

will speak on *The use of enzymes and ultrasound to improve conventional deinking processes for printed copy papers*. The speakers are C. Iglesias, A. Nausía, C. Torres, E. Ruiz and S. Rico. I. Loosvelt of Buckman Laboratories will cover Enzymatic stickies control for recycled fibre.

There will be several papers on the recycling of different paper grades such as printed copier and office waste and on the production of recycled fibre for specific grades.

- i) A.L. Torres of the Polytechnic University of Catalonia will present the results of a study of the deinking process for printed copier. Image analysis techniques were used for evaluation.
- ii) B. Nellessen of Nopco will describe the use of new types of additives for the dispersion of dirt from general office waste and other high quality grades.
- iii) Dr. E. Martínez and M.D. Ramirez of AIDIMA will present the findings of a study on the non-cellulosic particles in packaging papers produced from recycled fibres.
- iv) B. Rodríguez and H. Selder of Voith Paper Fibre Systems will speak on deinked pulp for the production of quality magazine papers.

There will be several presentations on stock prep, filtration deinking and measurement and control systems. They include:

- Cost savings in LC and HC pulping technology by A. Lasca of Kadant Lamort.
- On line measurement and control of critical variables in recycling plants by E. Ventura of Metso Automation.
- Advanced solutions for deinking by J. Heimonen and L. Sánchez of Metso Paper.
- Modelling of flotation deinking. Contribution of froth removal height and silicate to ink removal and yield by A. Pélach of the University of Girona.
- Automatic filtering solutions for paper industry by A. J. Grauer of Penta Technologies.

Southeast European countries

The 12th Meeting of the Pulp and Paper Industry of Southeast European countries will be held at the Aro-Palace Hotel in Brasov, Romania from 21 to 23 September 2005.

The Meetings attract the regional pulp and paper producers, the waste paper collectors and the equipment, chemical and service suppliers.

There will be reports from mills and presentations on the latest technologies and products in a programme which will cover production processes and environmental protection.

In addition, industry leaders will discuss the current status and the trends in the pulp and paper industry at Round table sessions. There will also be an exhibition of products and services.

The organiser is Balkan Pulp and Paper News. Contact Snezana Miljanovic on Tel: + 381 22 223 924; email: k.ing@eunet.yu; www.paperbalkan.com

From recycled fibres to paper: processes and problems

On the second day of the symposium, the theme is *From recycled fibres to paper*. Speakers will cover the production of newsprint and tissue and the role of chemicals and paper clothing in the papermaking process.

Recycled newsprint is the theme of A. Blanco of UCM. She will focus on the use of advanced data treatment for the improvement of quality in a newsprint mill.

U. Gisella of Omya International will discuss the use of calcium carbonate (GCC) in recycled fibres for newsprint.

Runnability issues in tissue production is the theme of R. D. Haynes and G. Jönsson of Akzo Nobel. They will discuss the role of colloidal microstickies.

An innovative pH control process which uses CO₂ will be presented by the Air Liquide Group. The speakers, V. Boisdon, M. Muguet and O. Araújo, will describe: The enhancement of the stability of the wet end by an innovative pH control process using CO₂ in paper recycling.

From Voith Fabrics, there will be a presentation on New developments on paper

machine clothing. The speaker is J. Muntaner.

The problems caused by deposits and stickies will be covered in two presentations:

- i) A paper from CTP will cover Drying section deposits - their origin, identification and influence on recycling processes. Experiences from deinking and packaging lines will be compared by T. Delagoutte and J. Brun.
- ii) The passivation of adhesive contaminants in recycled pulp will be covered by a team from The University of Guadalajara, Mexico, Department of Wood, Pulp and Paper. The authors are J. Turrado, A. R. Saucedo, L.A. López, J. Arellano and R. Sanjuán

G. Galland of CTP will round the conference off with a presentation on *Research trends and needs*.

A limited number of rooms have been reserved at two hotels in Barcelona, Condes de Barcelona and Hotel Balmes.

The Instituto Papelero Español is based in Madrid. Tel. +34 915763003; Fax +34 915774710; email: ipe@ipe.es; www.ipe.es

Wet End Chemistry Conference

Pira is holding the Wet End Chemistry Conference in Portugal this year - at the Holiday Inn, Lisbon from 31 May to 1 June.

The technical programme will cover the latest technological developments, including new methods for automating the wet end process - technologies which will help papermakers to control charge and pH fluctuations, and balance additives in the mix.

There will be case studies from paper mills and the papermaker's perspective will be described by speakers who will discuss the key challenges:

- Achieving balance between formation, retention and drainage
- Cost reduction in wet end chemistry

- Optimising paper properties at the wet end
- Problem solving through mechanical and chemical adjustments
- Fixation of detrimental substances
- Achieving wet end stability

The impact of a closed loop water system will be covered including, the implications for water quality and the stickies and deposits which affect on runnability and product quality.

The latest developments in papermaking chemicals will be presented along with nanoparticle control; multivariable control, quality control and the impact of sizing agents on wet end chemistry.

Tel: 01372 802000; Fax: 01372 802243; www.piranet.com

Paper Mechanics

A course on Paper Mechanics will be held at the Royal Institute of Technology (KTH) in Stockholm, Sweden from 30 May to 3 June. Organised by FRIRC, the course will be in English and will cover the following topics:

- Fundamentals of solid mechanics for paper applications
- Fracture mechanics of paper
- Creep and compression properties.
- Mechanical properties of paper and board in the out-of-plane direction .

- Network modelling and fibre models
- Delamination of paper and board
- Three-dimensional modelling and analysis of paper and board,
- Web mechanics and dynamics in printing systems
- Web mechanics and dynamics in printing systems

Delegates must register before 16 May.
Tel: +46 (0)8 790 90 46;
Fax: +46 (0)8 411 24 18;
www.fpirc.kth.se email: fpirc@kth.se

Food contact legislation around the globe

Pira International is launching a summer conference on food contact legislation around the globe - on the back of the established winter conference on food contact regulations. The new conference will be held at the Copthorne Tara Hotel in Kensington, London, from 11 to 12 July 2005.

The development of global markets makes it essential to extend coverage beyond EU and FDA requirements. Businesses need to understand the requirements in high growth developing sectors such as eastern Europe and China.

Experts from regulatory bodies and commercial companies will discuss the requirements for product launches in new markets. The speakers include:

- Dr Luigi Rossi on the crucial aspects of the Super-Regulation
- Chinese and Russian officials on future legislation,
- FDA Representatives on new principles with food contact
- Keller and Heckman and the Food Standards Agency on the practicalities of a global launch

There will be Real life case studies on:

- Ciba in China
- ICI in the Middle East
- General Mills on legislation and experience

Contact: www.piranet.com

Air quality monitoring

MCERTS 2005, A conference, workshop and exhibition, will focus on air quality monitoring and the issues relating to air quality in stack emissions, the ambient environment and the workplace.

It will be held at the Bretby Conference Centre near Burton upon Trent in the East Midlands from 12 to 13 October 2005. The organisers are: The Environment Agency, The Source Testing Association, and Environmental Technology Publications.

The event will provide industry with guidance on the regulations which have resulted

Paper and board packaging in CEE

The 2nd International Forum on Paper & Board Packaging in Central/Eastern Europe will be held at the Marriott Hotel, Warsaw, Poland on 8 and 9 June 2005. The organiser is Pyrabelisk.

Central and Eastern Europe is one of the fastest growing markets in the world, and the 1st CEE forum, which was held in Budapest in 2004, attracted representatives from lead-

ing packaging companies. The BS EN 14181 Standard, for example, has far reaching consequences for mills, equipment manufacturers and test houses. It relates to stationary source emissions. ABD is one of the most demanding standards to be developed by CEN.

The Conference and Workshops will deal with topical subjects such as Dioxin Monitoring, Discontinuous Monitoring, Particulate Monitor calibration, Manual Stack Monitoring, and the certification of monitoring staff. www.mcerts.uk.com
Tel: 01727 858840.

ing packaging companies.

The 2005 conference will cover folding cartons, corrugated cases, sacks, labels and flexible packaging and the papers and boards used in their production.

Full details can be found at www.pyrabelisk-conferences.com.

Tel: 01547 529416; Fax: 0870 460 1744; pyrabelisk@btinternet.com

New event on Water and Wastewater Monitoring

WWEM 2005 is a new event dedicated to the issues and technologies relating to the monitoring of water and wastewater. It will take place at the Bretby Conference Centre near Burton-on-Trent on 29 and 30 June 2005.

WWEM comprises a Conference, Workshops and an Exhibition. The Conference presentations are being organised by the Environment Agency (EA) and the Sensors for Water Industry Group (SWIG)

WWEM is highly topical because the Environment Agency's self-monitoring certification scheme - MCERTS - has been extended to water, following its resounding success in air emission monitoring. There are two water related applications:

- i) the inspection of effluent flow monitoring arrangements - under the Self-Monitoring of Effluent Flow, which was introduced in January 2004,
- ii) the certification of continuous emission monitors for parameters such as pH, ammonia, DO etc. - under Continuous

Water Monitoring Equipment Product Certification.

"WWEM provides an ideal opportunity to discover how the schemes are progressing and what the plans are for MCERTS in the future," says Paul Wiggins of the Environment Agency.

Catherine Wright, Head of Monitoring and Assessment for the Environment Agency, will speak at the WWEM Gala Dinner, and will present awards to organisations which have achieved certification under MCERTS.

The exhibition is fully booked by manufacturers and suppliers of monitoring equipment and bookings for Conference and Workshop places indicate that reservations will close significantly in advance of the event. The price for delegates is £50 plus VAT per day, and places are being allocated on a first come, first served basis.

For information on the Conference contact: www.wwem.uk.com; Julie Izzard
Tel: 01727 858840
Email info@wwem.uk.com

European Paper Recycling conference

A new conference on European Paper Recycling will be launched this year - at the Brussels Hilton from 3 - 5 October by The Recycling Today Media Group of the USA.

The conference will be modelled on the successful North American conference, which will celebrate its sixth year in 2005. It will cover the current state of the European and global recycled paper markets and will offer networking opportu-

nities to papermakers, paper stock dealers and brokers, and equipment and service providers involved in the paper recycling industry.

The Conference will also feature a display area of equipment and service providers.

Contact Jeff Fenner on
Tel: +01 216 961 4130, ext. 215
E-mail: jfenner@giemedia.com
www.paperrecyclingconference.com



Calendar of World Events

Date	Event	Venue	Organiser
MAY 2005			
7-10	The International Pulp Week	Fairmont Hotel, Vancouver, Canada	PPPC, Montréal Tel: +1 514 861 8828; Fax: +1 514 866 4863; general@pppc.org
8-11	The International Pulp Week	Hotel Omni Mont-Royal Montreal, Canada	PPPC, Montréal Tel: +1 514 861 8828; Fax: +1 514 866 4863; pconde@pppc.org www.pppc.org
10-13	PRIMA 36th Annual Conference Marketing the Value of Paper	Intercontinental Hotel Hamburg, Germany	PRIMA; Tel: +43 316 5737 2088; Fax: +43 316 5737 206 email: office@prima-papernetwork.org www.prima-papernetwork.org
16-19	59th Appita Annual Conference and Exhibition	Sky City Auckland Convention Centre, Auckland, New Zealand	Appita; Tel: +61 3 9347 2377 Fax: +61 3 9348 1206 email: info@appita.com.au www.appita.com.au
16-19	International Symposium on Wood, Fibre and Pulping Chemistry	Sky City Auckland Convention Centre, Auckland, New Zealand	Appita; Tel: +61 3 9347 2377 Fax: +61 3 9348 1206 email: info@appita.com.au www.appita.com.au/Conferences.htm
17-20	Newspapers in Education (NIE) Conference	The Francis Marion Charleston, South Carolina USA	Newspaper Association of America Tel: +1 703 902 1730 abboj@naa.org; www.naa.org
19-20	International Symposium: New Developments in Paper Recycling Technology	Condes de Barcelona Hotel Spain	IPE, CTP and PTS. IPE, Madrid Tel: +34 91 576 3003; Fax: +34 91 577 4710; ipe@ipe.es; www.ipe.es
24-27	Forestry, Timber & Wood China 2005	Shanghai New International Expo Centre, China	Worldwide Exhibitions Service info@wes-expo.com.cn; www.wes-expo.com.cn
31-1 June	Scientific Advances in Wet End Chemistry Pira: 4th International Conference	Lisbon, Portugal	Pira Tel: 01372 802041; Fax: 01372 802243; www.piranet.com
JUNE 2005			
1	18th Annual Global Forest and Paper Industry Conference	Westin Bayshore Resort & Marina, Vancouver, Canada	PricewaterhouseCoopers Tel: +1 604 806 7086 email: angie.dosanjh@ca.pwc.com www.pwc.com
1-3	Global Forest and Paper Summit	Westin Bayshore Resort & Marina, Vancouver, Canada	Forest Products Association of Canada Tel: +1 613 563 1441; Fax: +1 613 563 4720; email: info@globalforestpapersummit.com www.globalforestpapersummit.com
2-3	Latest Developments in Fillers and Pigments Pira International: 5th International Conference	Barcelona, Spain	Pira Tel: 01372 802041; Fax: 01372 802243; www.piranet.com
5-8	IWEB 8th International Conference on Web Handling	Advanced Technology Research Centre, Oklahoma State University, USA	Web Handling Research Centre Tel: +1 74078 5016; Fax: +1 405 744 7545
7-8	PTS Symposium on Interface Chemistry	PTS Munich Germany	German Pulp & Paper Research Centre Tel: +49 89 121 460 Fax: +49 89 121 4636 info@ptspaper.de; www.ptspaper.de
8-9	Paper & Board Packaging in Central/Eastern Europe 2nd International Forum	Marriott Hotel, Warsaw Poland	PyraTel Tel: 01547 529416 Fax: 0870 460 1744; pyraTel@btinternet.com
14-16	International Pulp Bleaching Conference	Stockholm International Fairs Sweden	STFI/SPCI/TAPPI/PI/APPPITA/PAPTAC Tel: +1 514 630 4100; Fax: +1 514 630 4134 email: rberry@paprican.ca www.paptac.ca
14-16	SPCI World Pulp & Paper Week 2005	Stockholm International Fairs	SPCI/Adforum; Tel: +46 8 783 80 00 Fax: +46 8 667 75 09 email: info@adforum.se www.spci2005.com
22-23	Innovative Packaging	PTS Munich Germany	German Pulp & Paper Research Centre Tel: +49 89 121 4623 Fax: +49 89 121 4636 info@ptspaper.de; www.ptspaper.de
27-30	Zellcheming Annual General Meeting & Expo	Rhein-Main Hallen Wiesbaden, Germany	Zellcheming Tel: +49 6151 33264; Fax: +49 6151 311076 zellcheming@zellcheming.de; www.zellcheming.com

Date	Event	Venue	Organiser
JULY 2005			
11-12	Food contact legislation around the globe	Copthorne Tara Hotel Kensington, London	Pira International Tel: 01372 802041; www.piranet.com
SEPT 2005			
11-16	The 13th Fundamental Research Symposium	Robinson College, Cambridge UK	email: frc@arjowiggins.com www.pffrs.org.uk
20-22	China Paper 2005	China International Exhibition	E.J. Krause & Associates Tel: +49 301 493 5500; Fax: +49 301 493 5705 email: deutch@ejkrause.com www.chinapaperexpo.com
20-22	22nd PTS Coating Symposium	Kongresshaus, Baden-Baden, Germany	PTS, Germany Tel: +49 89 1214 623; Fax: +49 89 1214 636; pta@ptspaper.de www.streichereisymposium.de
21-23	Pulp and Paper Industry of Southeast Europe	ARO-Palace Hotel, Brasov Romania	BPP: Contact Snezana Miljanovic Tel: +381 22 223 924; email: k.ing@eunet.yu www.paperbalkan.com
26-28	PPI Transport Symposium 16	Bouwcentrum Antwerp, Belgium	PPI/Paperloop, Brussels Tel: +32 2 536 0752; Fax: +32 2 537 5626; agehot@paperloop.com
28-30	XV International Papermaking Conference Efficiency of Papermaking and Converting Processes	Wroclaw, Poland	Association of Polish Papermakers Tel: +4842 630 01 17; Fax: +4842 632 43 65 email: info@spp.pl
OCT 2005			
3-5	European Paper Recycling Conference	Brussels Hilton Belgium	The Recycling Today Media Group Jeff Fenner Tel: +1 216 961 4130 ext 215; email: jfenner@giemedia.com
NOV 2005			
17	The 5th Biennial Johan Gullichsen Colloquium – <i>Raw materials and processes</i>	Hilton Helsinki Kalastajatorppa Helsinki	Finnish Paper Engineers Association: Tel: +358 9 132 6688; Fax: +358 9 630 365; email: irmeli.hannula@papereng.fi www.papereng.fi
22-24	International Converting Exhibition	MOC Exhibition Centre Munich, Germany	Nimble Shows & Media Tel: +49 8033 91231; Fax: +49 8033 91288 email: info@ice-x.com www.ice-x.com
MARCH 2006			
5-8	Paper Arabia 2006 (Paper, Tissue & Corrugated Industry)	Dubai Intl. Exhibition Centre Dubai, United Arab Emirates	Al Fajer Information & Services Tel: +97 1 4337 7727; Fax: +97 1 4337 8788 email: alfajer@emirates.net.ae www.alfajer.net/paperarabia
13-15	PITA Papermaking Conference 2006	The Cedar Court Hotel, Bradford	PITA, John Clewley Tel: 0161 764 5858; Fax: 0161 764 5353

Calendar of PITA Events



Date	Event	Venue	Organiser
MAY 2005			
10	Dandy Roll Manufacture Visit to Woollard and Henry	Woollard and Henry	North East Scotland Discussion Group John Allan, Tel: 01224 319043 Scottish District – Andy Rodger Tel: 07977 277571. Fax: 01383 820729
20	Annual Dinner	Windlestrae Hotel, Kinross	North East Scotland Discussion Group John Allan, Tel: 01224 319043 Scottish District – Andy Rodger Tel: 07977 277571. Fax: 01383 820729
JUNE 2005			
	Social Kate Cathie/John Brazier	Denby's Vineyard	Southern District Mark Taylor Tel: 01372 802147. Fax: 01372 802245



World Pulp & Paper Week



**June 14 - 16 • 2005
Stockholm • Sweden**

13th International Exhibition for Suppliers to the Pulp and Paper Industry.

Figures & Facts about the most recent SPCI events

Year	1990	1993	1996	1999	2002
Visitors	21 748	8 910	17 804	18 242	13 737
Countries represented	77	49	62	57	60
Exhibitors	1 203	645	1 067	1 121	964
Countries represented	21	21	23	29	27
Exhibition stands	382	199	367	389	309
Exhibition halls	3	1	3	3	2
Exhibition net area m ²	24 962	9 288	19 355	19 582	15 921
Exhibition net area sq. f.	>250 000	>92 000	>200 000	>200 000	>160 000

www.spci2005.com

Arranged by The Swedish Association of Pulp and Paper Engineers (SPCI)
in co-operation with Adforum and Stockholm International Fairs



ADFORUM AB

Box 5540 • SE-114 85 Stockholm • Sweden • Int Phone +46 8 783 8000 • Int Fax +46 8 667 7509
Info@adforum.se • www.adforum.se • www.spci2005.com