

*DON HAINES  
REPORTS ON A NEW  
DEVELOPMENT  
FROM UK-BASED  
JKSP SERVICES*

# Double Backer heat transfer system

**R**elentless increases in energy costs and concern for the environment results in pressure to improve efficiencies in board manufacture. Every now and then comes the unveiling of a new development that represents a major step forward — such as the advent in the early 1990s of the Short Press and Interfic double backers. The latest innovation in double backer technology, the 'AirBond' Heat Transfer System, developed by Warrington, UK based JKSP Services, is said to improve the transfer of heat and removal of moisture. The company claims that the design offers one of the shortest returns on investment of any system currently on the market.

As with many important advances in technology, the principle behind the idea is relatively simple. The heat transfer and removal of moisture between glue machine and slitter is optimised by the patented introduction of cut-outs in the centre of each AirBond shoe, allowing the board to 'breathe' during its progress through the double-backer. Moreover, whereas most systems cover only 400 mm of a 600 mm wide hotplate, the AirBond shoe covers more than 90 per cent of the width of a 600mm hot plate — and the precision laser slot feature in the shoes allows moisture to escape. Tests



on both open-weave and conventional non open-weave belts have shown significant increases in heat and moisture removal, resulting in lower operating costs through reductions in both energy and starch usage, as well as improved quality and less waste.

### Innovation

The AirBond heat transfer system was first prototyped on the 1100 mm corrugator that was custom built for Wigan, England based Belmont Packaging some years ago. This Langston corrugator was

designed to produce short chop, narrow slit work, and has recently been given a complete overhaul after having been mothballed for three years. The addition of AirBond technology to this 'pocket-sized' corrugator is said to have eliminated the problem of bond disturbance at the slitter. "Our 1100 corrugator should have been capable of running at over 60 metres per minute, but when it was re-commissioned, we found we could only achieve 20mpm," explains Darren Christy, Belmont's Production Manager. At the recommendation of a third party, we brought in JKSP, and after installing their AirBond and its associated controls, from day one, we were running excellent board at 61mpm."

After successfully installing AirBond at a number of locations worldwide, during the Christmas 2009 holiday period JKSP completed its first major UK installation. Patrick O'Donnell of JKSP tells us that, "The corrugator in question was a 2.5 metre machine. We bought a used Simon 2.5 metre double backer and completely overhauled it in-house, replacing the hydraulics and the existing double backer with our Airbond. We also designed and fitted a roller-deck traction section and installed the whole thing over the six-day

holiday period. At the wet-end, we installed pre-heaters and pre-conditioners and we also added a lead-in table. At the dry-end, the terminal drum and the rotary shear were moved back four metres, and we incorporated a new touch-screen system, giving complete control over the AirBond pressures and double backer temperature zones. The system can also save the running parameters of hot plate temperature and applied pressure for subsequent set-ups of the same job, but real time feedback of pressure is also available. This can also be integrated into the order schedule process so that it automatically changes when a job change over is initialised."

The power demand of the corrugator in question is now said to be 100 to 200 amps, compared to 350 to 520 amps prior to the fitting of the AirBond system. The production of heavier grades is now a possibility, as is an improved linear speed of around 350mpm. Mr O'Donnell explains why. "Less pressure is now needed to make the bond and the benefits for board quality are obvious – better quality pre-printed board for instance."



### Growth by recommendation

JKSP Services was established in 2003 by its four directors, following the winding-up of SHS/SCM. Jim Whitaker, Kelvin Brown, Steve Condell and Patrick O'Donnell are all experienced Simon Container engineers and are equal partners in an engineering business that now boasts among its clients a number of international blue-chip companies. Formed initially to provide continuity of servicing facilities to Simon/SCM/SHS customers, JKSP has established itself as a reliable and versatile provider of a host of products and services for the corrugated industry — both in the UK and throughout the rest of the world.

Over the last seven years, the reputation of JKSP has grown quickly — with much of its work emanating from recommendations of satisfied clients or OEMs.

### And there's more

JKSP is the first port of call for many customers requiring ongoing support for Simon machinery — whether it is mechanical, electrical or software related. However, the Directors are keen to emphasise the fact that, with such an abundance of experience at their fingertips, they really are capable of undertaking almost any corrugated or materials handling project. "We can lift and shift practically anything, and we are more than capable of carrying out servicing and upgrades on any corrugated machinery, whether it be Simon or any other make, and we can supply and fit original spares too," says Mr Condell. "In addition to that, we are also very experienced in the installation of a wide range of retrofits, including UV and infrared dryers, as well as our AirBond system, together with materials handling projects — whether it be modifications to an existing system or supplying complete systems

### Wireless solution

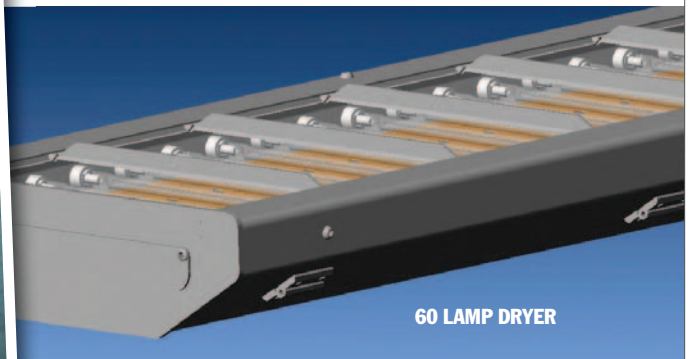
A number of OEM's have been sufficiently impressed by the performance of JKSP's engineers to request their assistance with installations unconnected with the corrugated industry. A prime example of this was a project for Airbus, entered into at the request of Siemens Automation. Historically, the Broughton, North Wales Airbus plant was the location for the manufacture of such aviation classics as De Havilland's Comet and Mosquito. The works is now responsible for assembling the wings for all Airbus civil aircraft, and JKSP were called in to help design and install a lifting system in the A320 wing assembly room. The problem of keeping the spars dead level while lifting them into position when assembling the 110 ft wings was solved with the Siemens Profinet industrial wireless protocol system. Ten remote input/output racks and twenty motor controllers operated via four access points, use Profinet wireless technology to control six cranes and four hoists — all working independently.



**Jim Whitaker, Kelvin Brown, Steve Condell and Patrick O'Donnell**

**JKSP is keen to emphasise that they are capable of undertaking any corrugated or materials handling project.**

with transfer cars. We are well respected throughout the trade. Our engineers are all experienced in corrugating work, so our clients know that we are competent at what we do, to the extent that some of them occasionally rely on us to provide shift cover, as well as for routine weekend maintenance work. Where we need to call on the services of contract engineers, all of our regular partners are also experienced in working with corrugating machinery. We often pick up work as a result of one of our suppliers telling another of their clients 'we can't do it but we know someone who can!'



**60 LAMP DRYER**

### Household name?

The company was the only British exhibitor at Sino-Corrugated 2009, the Shanghai trade fair, but as a result of making that effort, contracts have been won in the Middle East and elsewhere. The Directors have already decided to exhibit at the 2010 show in April (Guangdong Modern International Exhibition Center) in China's Guangdong Province. "We want to turn the JKSP AirBond into a household name," says Mr Condell, "but alongside that we want to make it clear just how experienced and versatile we are — and currently we can certainly point to a multitude of satisfied clients."



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