



# 'The fastest sand line in the West' !



*Report written by Mr Jon Boulton, Quarry Manager and Director, Mansfield Sand Ltd.*

## How we were – 6men/shift

Bagging operations at Mansfield Sand have moved forward rapidly with demands from both sales success and legislation over the past 10 years. 6 men manually placing 40kg bags on pallets were replaced some years ago with an automatic bag placer feeding a heat sealer, a Webster Griffin supplied bag turner, bag flattener and A1500 Robot.



## Older – but not wiser, 3men/shift

An in house designed pallet conveyor was made to bring an empty pallet forward whilst moving the completed pallet to the 'shrink wrap' station. The continuous conveyor stretching outside the building buffers ten full pallets ready for the forklift to remove to the stocking yard. The new production output of 500-600 bags per hour with three operators at the time, seemed unbeatable and impressive.



## Relentless demand for 25g bags instead of 40kg.

With the ability to dry and store 1000 tonnes of silica sand in silos next to the bagging plant, product availability to the bagging operation was never an issue. 3 grades of Quality Controlled dried sand covers markets to Foundry, Industrial and Pavior outlets. The gradual but continual reduction in bag size from 40kg to 25 kg however did put strains on production. 40 bags per pallet reduced the daily production tonnage. Increasing sales

and new product lines eventually resulted in 24 hour working with very little margin for downtime.

## Form-Fill-Seal from flat film, a winner – 1 man shift!

Webster Griffin were approached who promoted the installation of a Flat Form Fill & Seal line which offered the benefits of a higher production output using flat film costing less than conventional sacks. With ever increasing Oil and Polymer prices, sack and drying costs were rising monthly. The Webster proposition seemed to fit all of our requirements but, I was advised by a sack supplier that the dust from our dried products would affect seals and therefore Flat Form Seal would not be suitable. These doubts were swiftly answered by Webster who quickly whisked me off to Spain and Mallorca to see several operations using B&C FFS machines. Within the space of two days I witnessed all types of





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dry and moist products being bagged, the overwhelming impression I remember, was how far behind the times we were!

## Flat film – better than tubular film

My final doubts disappeared completely at one operation, white dust everywhere, yet the FFS machine pumped out bags continuously. Far worse than any dust we produced!



## Continuous production – guaranteed

The order with Webster was placed, specification, 1000 bags per hour, volumetric weigh system to cope with both moist and dry products, 12.5kg, 25kg and 40kg bagging capability. The challenge to Webster also was to fit the new system along side the old line in very limited space. I wanted the capability of running either lines, principally to allow a nil production downtime during commissioning but also to be able to use up any old stock of sacks. The objective was achieved with cunning use of angled powered conveyors and a new pick up table for the Robot.

## Save on packaging material costs

New dust extraction equipment was bought and film trials carried out. A point of note here, film recipe is critical. From the two major suppliers used during the trials, one got it completely wrong and caused considerable production problems. Good film will run endlessly, in fact we are now enjoying further savings on reduced gauge as well as a 1200mm saving on the length of every bag filled.

## Double the throughput – half the costs

Bagged production for Mansfield Sand has now entered a new era since the purchase of the FFS machine. The old line at 500-600 bags per hour (on a good day) is now painful to watch, the Robot leisurely moving between the pick up station and the pallet. The new line however is a joy to watch.



The B&C machine continuously throws out bags at 1000 bags per hour all day long. Film reel changes are now down to 10 minutes, two to three changes a day needed. Even a slightly slower output for the 40kg bags keeps the shrink-wrap operator in a sweat. Mechanical downtime has been drastically reduced. The simplicity of the FFS bagging machine is a joy for all production managers.

*'The simplicity of the FFS bagging machine is a joy for all production managers'. (Jon Bolton)*

## Onwards and upwards to increase sales volumes

With the companies growth in bagged products, Mansfield Sand is now set to reach its production requirements comfortably whilst enjoying cost savings per bag as well. Webster Griffin have once again, helped us to achieve 'The fastest sand line in the West' !