



21129 Taking the strain out of manual handling

FM Conway



DESCRIPTION

FM Conway had identified the manual handling of slabs as one of the key activities to focus on when applying its Big Risk principles. Many slabs weigh between 70kg and 90kg and some larger York stone slabs in London weigh 120kg, these require a minimum of a 2man lift. There are 80 people in FM Conway that regularly lay slabs over the course of the year, a very physical task that exposes operatives to the possibility of manual handling injuries.

A team was formed to come up with a solution that would engineer out the occupational health risk of manual handling when lifting and laying precast and dimension stone natural slabs. A review was carried out of all the activities involved in laying slabs with the operatives who had been involved in previous projects. The objective was to find a mechanised solution that would eliminate the need to manual handle a variety of weights and physical size slabs. The team searched through previous best practice on this topic but could not find anything specific that would alleviate the problem.

They wondered if vacuum lifters that were used for lifting bags of cement and other mineral products could be used to lift slabs. The team contacted a specialist who had a long history of solving manual handling problems in the industry. They wanted a machine that could be used in a variety of applications, large open areas, pathways on bridges or small walk-throughs approximately 1 to 2m in width. Two items of equipment were identified that could be used to mechanise the slab laying process.

For large areas that could be closed off, a machine which had previously been used for laying kerb stones was selected. This machine, the Transmobil, would need a change of attachment with a vacuum lifter capable of lifting a slab with uneven/riven natural stone and engineered precast stone of various weights. Some modifications were made to the seals and the vacuum pressures to accommodate these requirements.

The second solution was another kerb lifting device that could be used in tight spaces. This also required modifications which included changes to its pivot points, handle lengths, and modifications to the bracket that would hold the slab. This provided a device that prevented the need for handling the slab off the ground.

Both these modified devices were trialled on a major project, the relaying of the slabs on London Bridge.

This project required all its paving to be lifted and replaced or re-laid after some construction modifications or general repairs. This was a monumental task involving over 2,200m² of paving, it tested the manual handling equipment to its fullest extent, The trial was a major success with the teams lifting and laying over 450m² over a 21-day period, with a reduction of over 2000 manual handling operations many of them 2 person lifts.

BENEFITS

- FM Conway calculated over 80% reduction in manual handling risk for the project
- No manual handling injuries on the project
- Significantly improved efficiency of process
- Project completed 10 days ahead of schedule
- Excellent example of Big 10 principle being applied
- In future laying paving will be less physically demanding
- Significant reduction in exposure to manual handling risk
- Employees motivated to find other solutions to H&S issues.

TRANSFERABILITY AND DEVELOPMENT

- The development of the transmobil is only limited by the variation in the accessory that attaches itself to the product, it is readily transferable to lift many other precast or natural stone products into positions
- FM Conway have already purchased 161 donkey lifters, the transmobil is hired in with the special attachment for the larger projects, it is planning to purchase its own set up
- FM Conway is also working with MPA members who pack and deliver products, to see if manual handling can be further reduced and the risk of loads moving is minimised.



Before



After



After