

BEST PRACTICE

LOCATION:	Concrete products plant	ARTICLE YEAR	2018
ACTIVITY:	Manual handling and storage	COMPANY:	Brett Landscaping & Building Products Ltd
SUB ACTIVITY:	Concrete products	COMPANY LOCATION:	Barrow
BEST PRACTICE No:	BP2033	COMPANY TEL:	0000
COUNTRY OF ORIGIN:			

TITLE	
Trief and Kassel factory program reduces manual handling and concrete cutting	
ARTICLE	
DESCRIPTION <p>Brett's factory at Barrow produces 11,000 tonnes per annum (tpa) of containment and bus-stop kerbs which can weigh up to 300 kilograms. Most of the products are processed on a Coote manufacturing system, this uses six steel moulds held within a carrier. The moulds are mechanically inverted and release the kerbs before they are lifted by powered chain hoist for finishing.</p> <p>The remaining 1,000 tpa of production had to be cast in floor moulds as the steel carrier moulds could only have curves in two dimensions. These kerbs are curved in three dimensions, needing rubber formed moulds that the standard carriers could not release.</p> <p>On average, these special kerbs weigh over 100kg and can be as much as 170 kg. After curing, two operatives manually strip them, turning them out onto a moveable stand before transferring them onto pallets. Though the moulds were never lifted clear of the stand, it needed significant manual effort and coordination to release the kerbs, with one operative standing on the movable stand.</p> <p>In addition, around 600 tpa of Coote line kerbs had to be cut to specific dimensions to meet customers' radius requirements. A grab truck was used to transfer these 230kg kerbs on and off the saw table. However, they still required to be manually aligned on the 1m diameter saw bed using crowbars. The concrete sawing also releases RCS dust into the factory despite water suppression being fitted.</p> <p>A full review of the floor moulds and sawing was undertaken to develop a program to reduce the occupational health exposures.</p> <p>The team conducting their review identified the commonly sawn sizes and purchased moulds with these dimensions. Now they can be cast directly on the mechanically controlled Coote line.</p> <p>This change enables the transfer of 500 tpa of production onto the machine, an 80-90% reduction, and eliminated the need to manually align these kerbs on the saw table.</p> <p>By working with local mould suppliers, Olympic Moulds and Dixon Engineering, the team produced a new carrier design. This opens on the side and has a crossover design of steel, moulded rubber and wood frames. This enables 3-dimensional, curved kerbs to</p> <p>be mechanically cast. This has allowed 33 of the original 45 floor moulds to be moved onto the Coote line.</p> <p>A 500kg overhead gantry crane was installed which, together with a specialist handling aid, enables the remaining floor moulds to be turned mechanically to release the kerb from the mould.</p> <p>The total investment in the new carriers, moulds, crane and handling aids was circa £90,000 over two years.</p> BENEFITS <ul style="list-style-type: none">• Elimination of the majority of manual handling of floor moulds• Elimination of the majority of manipulation of sawn kerbing• Reduced requirement for sawing• Reduced levels of RCS dust generation in the factory• More efficient and mechanised operation• Team effort in finding solution enhances safety culture• Safer and healthier environment for all.	
ARTICLE IMAGES	

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