

THE BEST QUALITY CRANE MATS



WELEX RENTAL

Lower Drayton Farm
Penkridge, Staffordshire, ST19 5RE
T 01785 713675, F 05603 422006
Welex@Welexrental.co.uk, Welexrental.co.uk



Ground control to major safety

Each year since 2005 we have devoted space and time in at least one issue of *Cranes & Access* to focus on outrigger mats, cribbing and other forms of ground preparation or protection to prevent cranes and aerial lifts - not to mention telehandlers - from sinking into soft ground and overturning. While the annual feature was originally intended as a look at trends and developments in outrigger mats/spreader plates it soon became clear that many crane operators, owners and site managers do not treat this area seriously enough, or are even downright ignorant of the measures that need to be taken when using heavy lifting equipment on suspect terrain.

This year is no different. Looking back over the number of overturning incidents reported on www.vertikal.net it is clear that this remains a major issue. As we have said many times before, if everyone in a position of responsibility took a few simple precautions and made sure that decent mats - spreader plates if you prefer - or timbers were always under the cranes, aerial lifts and larger telehandlers outriggers or wheels/tracks, we would almost certainly see a massive reduction in the number of overturning accidents. Not all overturning incidents are down to the failure to spread outrigger pad loadings of course, some are caused through incorrect outrigger set up for the lift, the wrong counterweight used and/or the wrong settings programmed into the overload indicator.

Multiple outrigger positions, capacities and load charts add superb versatility to a crane or work platform, allowing set up and operation in tight spaces. However this extra capability, when added

to the wide range of counterweight choices and other stability related limits on the working envelope, does create a complex web of permutations. And as you might expect a wider range of set up configurations leads to a much greater chance of making a mistake that results in an overload situation which can so easily prove fatal, and is always costly.

Technology is helping

Technology however is catching up fast, as are regulations and



Asymmetrical 'proportional' outrigger positioning is ideal for cranes and lifts designed to work in tight areas



No matter how good the planning, incorrect programming of the crane's set up can be disastrous

standards. On the technology front an increasing number of products are now equipped with fully automatic outrigger sensors which are linked into the machine's load management system. With an aerial lift it limits the lift's platform capacity and working envelope to that which is possible with the actual outrigger set up, while crane systems are now available that in addition to the outrigger base also sense the counterweight installed and add this information to the usual boom length and angle to display and limit the machine to the relevant load chart for the

actual machine set up. This ability is gradually becoming a feature on European, Australian and North American market mobile cranes, with other regions sure to follow. In some markets regulations enforcing this technology are already on the horizon. In Europe it already applies to new loader cranes, while telehandlers are now fitted with more detailed load management systems, which incorporate outrigger/stabiliser monitoring. So with machines increasingly able to sense if the outriggers have been extended and to what degree, another possible operator error possibility is plugged, pushing even more focus on to consideration of the ground conditions under the outrigger foot/pad. This is not something which cannot easily be handed over to electronics. It is an area that will by its very nature always remain firmly in the operator's hands - at least for routine day to day lifts. The operator's knowledge and experience will increasingly count for most of the difference between a successful job or an overturning incident and all the ramifications that this can bring.

Larger or more specialised jobs already tend to be planned and ground bearing loads carefully calculated and managed at least in most of the developed world.

However even here mistakes can be made as human error creeps in. If a safe lift relies on assumptions of engineering work being carried out by the main or other contractor, it is always wise to double check and absolutely make sure that those measures have been taken care of before every lift, rather than assuming that it has been done. A few years ago a brand new 250 tonne crane broke through the concrete decking of a multi-storey building in Australia, all because someone either removed or failed to put a prop/support under one of



This 250 tonne crane found the one missing deck support prop among hundreds.



Most European loader cranes now include automatic stability monitoring many with totally flexible outrigger positioning

In this case the operator set up on hard frozen ground, but as the sun came out the ground softened and without a decent mat the outrigger jack sunk into the grass



Another one bites the dust!



dozens of clearly marked spots for each outrigger jack positions. And this in spite of the crane carrying out hundreds of identical lifts on other parts of the deck, all of which went perfectly to plan. Trust is good, but when its life and reputation at stake it always pays to be sceptical and to double check for yourself. Another quite different example involved a 100 tonne All Terrain crane that had to drive into a new marina and set up in a specific position in order to lift a large boat. The dock loadings had all been provided, the loadings calculated

and the job meticulously planned, but as the operator drove down the marina, something caused him to swing the crane wider as he approached the lift location, and run much closer to the edge of the dock than was planned or anticipated. The ground substructure should still have supported the crane, but it proved to be not quite as solid as reported, and when combined with the crane travelling closer to the edge than planned, extra pressure was exerted on the steel piles that formed the dock edge. The bolts holding the piles together popped,

ECO LIFT outrigger pads

- Manufactured in Germany to the highest standards from regenerated polyethylene
- Safe and easy to handle will not splinter
- No water absorption
- High resistance to impact and vertical pressures
- Under normal working conditions unbreakable
- Inbuilt memory, adapting to working surface
- Custom sizes available
- Supporting - mobile cranes, self erecting tower cranes, loader cranes, aerial work platforms, concrete pumps, tele handlers
- Load bearing capacities from 5 to 300 tonnes
- 3 year warranty against breakage

The UK's Leading Supplier



t: +44 (0)1952 671403
m: +44 (0) 7885 020 582
f: +44 (0)1952 671471
e: sales@outriggerpads.co.uk

OUTRIGGER PADS
outriggerpads.co.uk



TPA
Portable Roadways



TPA, your reliable partner for the Crane, Lifting & Access Sectors. Whatever the location, whatever the load, TPA have a fleet of solutions to solve even the most challenging of site access problems.

t: 0870 240 2381 w: tpa-ltd.co.uk

Power Pads *The Next Generation*



The fully certified, fully traceable, fully guaranteed, top quality Outrigger support mats

Power Pads are designed, manufactured and certified to the highest standards possible with attention to detail in every aspect in order to ensure the very best value and complete peace of mind.

- All mats carry an indelible unique serial number, a reference code, a batch number and the maximum capacity of the pad.
- Mats up to 600mm are supplied with high quality Certified Rope handles.
- For Mats over 600mm, as standard we use Grade 10 lifting chain.
- All mats carry a clear identity plate with contact details.
- All mats can be branded with the customers corporate identity.

A good set of pads or mats will last a lifetime and provide you with peace of mind that is simply not available with cheaper pads.

For further information on Power Pads contact :
Tel: 01733 211339
www.tmc-lifting.com

Power-Pad®

the only fully certified fully traceable mats on the market

causing the entire dock edge to collapse, sending the crane into the water.

Last minute deviation

Deviations from a well thought through plan is another classic cause of overturning incidents, or for that matter any incident. The dockside example is a perfect illustration, if the crane had kept to its planned route all would have been well. The cause of such a deviation is typically caused by an unpredicted change of circumstances, for example a



Timbers and poly mats ensure the loads are well spread

vehicle parked in the middle of the planned route. The crane operator and his team all so often make a split second decision, instinctively deviating around the vehicle without thinking that this might take the crane or lift onto less stable ground, or at least remove planned margins for error by taking the loading closer to uncertain ground conditions. A number of similar incidents have occurred with All Terrain cranes relocating with counterweight and extensions installed, where the minor detour has taken the crane onto ground that has a slightly higher side gradient than the planned route, and over the crane goes. In at least one overturning case that we are aware of the crane operator, trying to squeeze past the obstacle, pulled in extended outrigger beams that had been serving as a back-up precaution in the way that training stabiliser do on a child's bicycle! It is better to stop and wait for the obstacle to be removed. Just remember if the crane goes over those who may have encouraged the detour and



The ground in this marina was not as compacted as reported. This coupled with a deviation to the route caused the retaining wall piles to give way and the crane to end up in the water



Setting up on the edge of an excavation requires a great deal of accurate information and planning. If possible it should be avoided

Timbermat Ltd

FSC & SFI Certified Sustainable Timber Bog Mats.

Timbermat Ltd is the exclusive UK supplier of Emtek access and ground protection mats, the only system on the market with tested and certified load calculations. New laminating technology means this unique access solution provides load certified mats that are twice the strength of standard mats and will outperform any other mat system on the market and can significantly reduce transportation costs.

(Freephone)

08000 12 12 31
+44 161 442 3157
www.timbermat.co.uk

- All sizes of bog mats stocked in Ekki, Oak and Beech
- Exclusive UK suppliers of Emtek: the only system with tested and certified load calculations
- All sizes available at excellent rates for hire or purchase
- UK and European delivery network
- New steel bumper mat protection system adaptable to all sizes
- Distribution centres in Manchester, Oxford and Forth Scotland



chivvied the operator - will be well away from the scene and strangely absent minded.

Wheels and tracks – check the route

While we have largely focused on outriggers, the same rules apply to self-propelled lifts and crawler

cranes. Ground conditions must be taken into consideration. Operators familiar with smaller crawler cranes are often of the opinion that a set of tracks replaces any need for mats or ground covers, unless the surface needs to be protected. However when it comes to larger cranes, even seemingly solid ground will



A large set of tracks may not be enough to spread the load, decent timber mats are best for larger crawler cranes



MEET THE **APS** ACCESS SUPERHEROES...

I NEED TO REACH HEIGHTS OF 27 M TO HANG THE CHRISTMAS DISPLAY MATERIAL

IT NEEDS TO WORK ON THE SLOPE OUTSIDE

...AND PASS THROUGH THE SIDE ENTRANCE

...AND IT CAN'T MARK THE TILED FLOOR

HMM...WHAT WILL DO THE JOB?

I KNOW...AN **OMMELIFT 2750!**

WINTER SALE

IT CAN ALSO BE USED INDOOR FOR CLEANING THE ATRIUM, AND UPPER-LEVEL MAINTENANCE

BETTER CONTACT MY OMME DEALER... 01480 891251



SALES.SERVICE.PARTS.

Exclusively in the UK from iapsgroup.com



be vulnerable to the point loadings that can be created at the front or rear of a set of tracks, especially when the machine's weight is not evenly distributed. The operators manual of any self-propelled lift will clearly state that the ground where the lift will work and drive should be checked before crossing it. An 80ft boom lift for example will be carrying around four tonnes, and that's if the machine is perfectly balanced. Add to that the fact that

poly-filled tyres can concentrate the load due to a lack of flex and point loadings can soar. If the boom is raised weight can shift to a point where one wheel might be applying a force of over eight tonnes on a piece of ground smaller than your hand. Sidewalks, ground close to old buildings, grass and disturbed ground are almost certain to contain weak areas that will not support such weights.



A decent quality mat for aerial lifts



Ground that self-propelled lifts travel on needs to be checked, and driving on the sidewalk should always be avoided



This is really the way not to do it and next to a manhole too

Timber mats make tracks

A yard in Belfast, Northern Ireland is being used as the feeder port to store and load out heavy components for the 108 turbine West of Duddon Sands wind farm off the coast of Britain. In particular mono piles and transition elements weighing up to 500 tonnes are shipped to the feeder port from a fabrication yard in Aalborg, Denmark. They are then stored on site before being loaded as needed onto the two jack-up ships, the Pacific Orca and the Sea Installer for installation.

The wind farm is a being built for the Dong Energy/Scottish Power Renewables joint venture by WindForce a joint venture between Boskalis Offshore and Volker Stevin Offshore. The elements are stored on a concrete berm cast for the purpose, while a 1,350 tonne Liebherr LR11350 crawler crane - rented from Weldex - is used to unload move and load the heavy components. The massive crane runs on a track-like platform to spread to loads and allows safe movement. The tracks are made from 300 navy mats each measuring 200mm thick, one metre wide by five metre long supplied by German company Ko-Mats. The mats have been laid out with gaps in between which are then were filled with ballast stone left over from the construction of the berms. The wind farm is due to be completed shortly and go online next year. It will have a total installed capacity of 389MW, enough to supply more than 300,000 households.



The 1,350 tonne crane is used to lift mono piles weighing up to 500 tonnes



The timbers created two five metre wide tracks for the large crawler crane

MAT & TIMBER SERVICES



**CRANE MATS • OUTRIGGER MATS
TEMPORARY ACCESS ROADS
RAMPS**

**For all types of cranes under
any application -
Nationwide and Overseas**

TEL: +44 (0) 1264 811005

FAX: +44 (0) 1264 810600

e-mail: info@sarumhardwood.co.uk

web site: www.sarumhardwood.co.uk

Mats for fancy floors

UK-based Outriggerpads (previously PLC/Eco pads) has introduced a new outrigger mat with an integrated non-marking rubber base with highly durable ultra-high molecular weight polyethylene (UHMWPE) hard wearing top surface for use on high-value floors. The new mats are aimed at machines such as spider cranes and lifts working in areas such as hotels, shopping centres and stately homes etc.

Bill Green of Outriggerpads said: "A lot of internal work in sensitive areas is carried out by spider lifts which require outrigger pads. Our poly-rubber pads provide complete protection for expensive flooring such as marble or oak, without compromising the durability and stability benefits of a standard pad."



The new Poly Rubber mats feature a rubberised bottom for special surfaces and a normal hard wearing polythene top

And Hi-Viz mats

Outriggerpads has also introduced a high visibility mat range. Made from the same ultra-high molecular weight polyethylene as its regular mats, they are coloured a fluorescent yellow and are designed to alert contractors or pedestrians to the potential trip hazard of an outrigger pads. Available with loading capacities from five to 350 tonnes the pads will not splinter, rot or rust and can adapt to the contours of uneven terrain - but still return to its original shape after use.



New fluorescent yellow mats help warn against trips



A large steel mat was made from beams and plates to bridge underground canals in Singapore

Steel mats bridge canals

When Koh Brothers Building & Civil Engineering was commissioned to enlarge Singapore's existing underground canals, it selected a Sennebogen 683 HD telescopic crawler crane for the lifting and piling work. The crane was chosen for its compact working dimensions, but it still needed to work over the top of the existing canals. The company therefore developed a rigid steel platform to spread the loadings over the canals, using a combination of beams and steel plates.

SYRINX No.1 for Cranes & Powered Access

950+ companies worldwide successfully use Syrinx®

SPARROW CRANE LIMITED

"Syrinx has certainly brought all of this information together into one database and improved the efficiency of our business from start to finish." **Phil Mitchell**

KIMBERLY GROUP

"When we were undertaking due diligence on the acquisition of another powered access company, who were already using the Syrinx system, we noted that Syrinx gave them a number of operational and financial functions that we didn't have with our existing system. Kimberly Access are a focused operational business and so this excited us. Syrinx is now set up as our group rental system and Higher Concept Software have exceeded all our expectations in terms of the product and their customer service." **Ray Ledger**

Rapid PLATFORMS

"Our previous system was fraught with difficulties and not backed up with good service. It was a big decision to contemplate getting a new hire management system but we were so frustrated we had no other option. We were pleasantly surprised at how smooth the implementation of Syrinx was. We have been impressed with the excellent project management and exemplary training backed up by excellent support." **Alistair Jordan**

SAS
Sole Access Solutions

"We opted for Syrinx on the recommendation of colleagues and have received a first-class service and, equally as important, a more-than-expected back-up engagement between the Higher Concept staff and the SAS team. We are grateful to Higher Concept for making rental software implementation so trouble-free throughout our launch period and would highly recommend both Higher Concept and Syrinx to anyone considering their software options." **John Corrie**

1UP
Access

"After a disastrous 3 months with our initial supplier we switched to Syrinx and within 1 day we were up and running with all our plant information on the system. I would recommend Syrinx again and again, it's easy to use and the reporting is excellent. I can't thank Higher Concept Software enough, they pulled out all the stops when we really needed them." **Ben James**



www.higherconcept.co.uk Tel: +44 (0) 118 956 9577

SYRINX

Lifting mats safely

A new hook, specifically designed to lift on its tip in order to help lift large mats, has been introduced by TPA Portable Roadways, which claims to be Europe's largest portable roadway supplier.

The hook was specifically designed to install and recover TPA's metal ground panels, used to create access tracks over soft ground, allowing cranes and truck mounted platforms to reach remote sites, such as utility pylons. The hooks are inserted into ends of the panels and are designed to work in this manner, while regular hooks are not.

TPA operations director Steve Humberstone said: "The TPA hook has been developed in the UK

through a close working relationship between TPA and Lifting Gear Products which has more than 50 years' experience in the design, manufacture and supply of lifting and mechanical handling equipment. We at TPA are proud to be industry pioneers with the introduction of this key operational and critical safe system of work. When lifting and laying panels, we are sure that our processes and equipment are the safest available."



The new Blue Hook is designed to lift its full load on the hook tip.

Paul Elliott of Lifting Gear Products said: "The TPA hook has obvious safety advantages when performing panel lifts and provides both

c&a outriggers



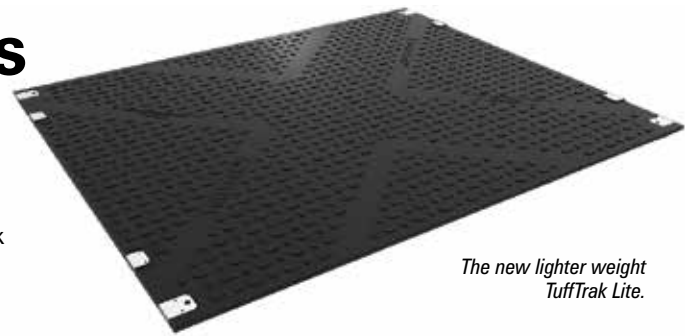
The Blue hook in action.

TPA and its clients with a LOLER approved safe method of lifting and working - something other hooks used in the industry do not have".

New 'Lite' ground plates

Zigma Ground Solutions has added to its TuffTrak range of temporary road mats with the launch of TuffTrak Lite, which utilises a new fabrication design to substantially reduce the weight of each mat while maintaining key performance and durability criteria.

The three metre by 2.5 metre mats weight just 180kg, compared to the regular TuffTrak mat which weighs 295kg for the same dimensions. An XL, extra large 4.1 by 2.1 metre version of the regular mat weighs 360kg.



The new lighter weight TuffTrak Lite.



8th - 11th MAY 2014 - VERONA, Italy

co-located with
asphaltica

1944-2014
SAMOTER'S
50TH
ANNIVERSARY

 the power of
sustain.ability

⚙️ EARTH-MOVING
🏗️ LIFTING
🚛 CONCRETE
🏗️ DRILLING
🚛 VEHICLES
🏗️ SUPPORTS
🏗️ RENT
🏗️ RENTAL
🏗️ DEMO

29th International Triennial Earth-Moving and Building Machinery Exhibition

www.samoter.com | www.asphaltica.it



© 2013 SAMOTER