

Do you receive a hard copy?

Would you prefer to receive your own personal copy of the printed version of **Cranes & Access**? Then register on-line now for your personal subscription. Cranes & Access: The Lifting Professional's magazine. www.Vertikal.net/en/journal_subscription.php

Download complete issues

Laptop users: Download complete issues of Cranes & Access or **Kran & Bühne** to read when you have the time. Using the latest version of Adobe Acrobat you can search for specific words or names in the issue or even have your PC read the articles out loud to you while winging your way across the Atlantic (or wiling away the hours on the Motorway!). Cranes & Access: www.Vertikal.net/en/journal.php
Kran & Bühne: www.Vertikal.net/en/journal.php



Do you read German?

Do you need to keep up to date with what's happening in the German, Austrian and Swiss lifting industries? Then our sister magazine, Kran & Bühne, is the magazine for you. Subscribe now to Germany's leading publication for the crane and access industries and keep up to date with the latest news (published in German). www.Vertikal.net/de/journal_subscription.php



Have you registered for email alerts?

When major news breaks in the lifting world, be the first to hear about it ..Free! News bulletins by e-mail straight to your mailbox. Register for **News Alerts** to get major head line news as it happens. www.Vertikal.net/en/newsletter.php

Use our on line access and lifting directory

Have you tried our on line Access and lifting directory? Direct links take you to supplier's web sites with one click of the mouse, with 29 product categories and hundreds of the best suppliers, this is a very convenient source guide as well as an easy way to find a lifting company's web site.

English guide: <http://www.vertikal.net/en/links.php>

German guide: <http://www.vertikal.net/de/links.php>



Central European rental companies

The world's largest on-line listing of mainland European crane and access rental companies is available to you now. Just click the link below to go to Vertikal.net/Vermieter where the bi-lingual site will guide you to hire companies throughout Europe. www.Vertikal.net/Vermieter

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

WELEX: SPECIALIST IN EKKI MATS

Wellex is one of the oldest European companies concerned with the import and export of hardwoods and manufacturing ekki mats.

For many years we have been providing companies throughout the world with ekki mats for construction work, crane gantries, pipeline installations and bridge building.



FOR SALE
FOR HIRE

By manufacturing the mats ourselves we are able to work in an extremely cost efficient manner. We can carry out the transport, laying out and picking up of the mats for your project.

As you can see from the above, we can be of service to you in many ways. We are also pleased to assist you by providing advice and management consultancy.



Welex, Heicopperweg 38A, 4128 LP Lexmond, Holland
Phone +31(0) 347-341 215, fax +31(0) 347 342 363
E-mail: welex@welex.nl, website: www.welex.nl

Spreading the load

C&a outrigger mats

The incorrect set-up of outriggers is one of the most frequent causes of accidents with cranes and aerial lifts. This ranges from forgetting to employ them at all, to setting them up on soft or uncertain ground conditions.

The first case, that of not using outriggers at all, is becoming increasingly difficult, as more machines are equipped with interlocks that require outriggers to be extended and loaded before a machine can be operated. The reliability of such interlocks is such, that unless there is good reason, you should not buy or rent a machine (at least for self drive) with outriggers unless it is fitted with such equipment. This applies also to those units where the outriggers are designed for levelling purposes only, (usually big scissor lifts) and whose use is optional. Most machines of this type are designed so that once a levelling jack is partially extended, all of the jacks must be set and carrying weight before the platform can be raised. This prevents an operator going up in the platform after unintentionally setting only three of the four legs, an extremely dangerous situation.

With modern interlock systems obliging the operator to set the outriggers before starting work, most accidents are now caused by one of the outriggers either punching through a fragile surface or sinking into soft ground. This is usually caused by an ignorance of the ground conditions. Whether on grass, concrete, tarmac or blocks, it is difficult to know for certain what lies underneath.

The approach taken with ground conditions inevitably varies dependant on the size of the equipment. The operators of most mobile cranes and large truck mounted lifts need to be fully aware of the ground conditions, is the ground undisturbed or has it been backfilled? Are there any old voids, such as old cellars, underground storage tanks, gas, water mains or sewers? How close will the outrigger be to a verge or an edge? The larger the machine the more critical this information is of course.

Most accidents now occur with small to medium sized cranes and lifts, why is this? Larger cranes are used for particular lifts, usually organised well in advance and subject to detailed risk assessments and planning. Smaller cranes and lifts are set up and moved far more frequently and on a wider variety of

ground is not what it seems. Given that smaller lifts and mini cranes are rented out without operators, this needs to be addressed in the handover instructions. The most responsible rental companies will provide a set of appropriate sized outrigger mats to use under the jack pads. As a point of good practice they should always be used, even when the ground is heavy duty reinforced concrete. The best machines have a set of mats as standard equipment, complete with purpose built storage racks or pins.

If you are renting a lift that has outriggers, insist on it being supplied with a set of mats. Even if you have to pay a little extra to rent them, it is better to do this than to scratch around on location for scraps of wood or stone. And should an HSE or safety inspector spot you using makeshift cribbing, they are likely to stop you working, costing you a great deal more in lost time.

Larger cranes and lifts are, of course, generally rented with operator, and all but the worst hire companies equip their machines with a full set of mats and timbers to cope with most conditions.



Totally unacceptable!

terrain by operators who are generally less experienced than those on larger cranes or platforms. On the other hand the very smallest cranes and lifts impose relatively low ground bearing pressures, with their standard fixed pads. They also tend to be a little more forgiving than larger equipment.

The best machines have a set of mats as standard

Good common sense and some basic knowledge can avoid problems occurring with small machines. Having said that it is frightening how many users still have no feel at all for the effect of outriggers on soft ground conditions or any fear of what might happen if the



Large steel pads are still preferred for larger cranes



Recycled polyethylene mats are ideal



Good storage for large mats includes a ramp to help with loading/unloading

LOOKING FOR OUTRIGGER PADS? TAKE A LOOK AT ECO POWER PADS!



*Recycled high quality
Polyethylene materials*

No splintering

No water absorption

High resistance to impact

*Safe and durable,
returns to original shape*

Unbreakable & lightweight

Options include: Custom sizes,
Engraving, Recessed centres, Chain handles



Mobile Cranes, Mobile Tower Cranes,
Loader Cranes, Aerial Work Platforms,
Concrete Pumps **LOAD BEARING**
5 to 300 tonnes

Contact Bill Green at PLC Sales

tel: +44 (0)1449 674154 mobile: +44 (0)7885 020582

fax: +44 (0)1449 674173 e-mail: sales@outriggerpads.co.uk

www.outriggerpads.co.uk

UK Generators Limited

UKG Hydraulic Generator

The UKG Hydraulic Generator is a 3.5 kVa hydraulically driven, single phase onboard AC power supply designed for installation onto most access platforms.



- Simple Connection three hoses pressure in, tank return and flow to hydraulic motor
- Integral Flow Control Valve
- Integral On/Off Solenoid Valve.
- MCB/RCD protected IP44 Socket Outlet
- 220/110v, 110v CTE 50 or 60hz units available
- 2.5kVa and 6kVa units available
- Can be fitted to most plant with a Hydraulic feed
- Most units available ex-stock

Tel: 01536 747500
sales@ukgenerators.co.uk

New from Hitachi Sumitomo

The New SCX400T, 40 Tonne Telescopic Crawler Crane

- 4 Stage 32 metre boom
- Wylie 3000 series total moment limiter
- Retractable undercarriage
- Joystick controls
- Air conditioned cab
- Isuzu engine



The New ZX160, 8 Tonne Telescopic Crawler Crane

- 4 Stage 13 metre boom
- Wylie 2245 series total moment limiter
- Joystick controls
- Air conditioned cab
- Isuzu engine



SEE US AT
SED
Stand 337

Official UK
Distributor for

HITACHI SUMITOMO

For further
information

Hitachi Construction Machinery Tel: +31 (0) 162 484 484 Fax: +31 (0) 162 484 601 web: www.hcme.com

NRC Plant Ltd Tel: +44 (0) 1375 361616 Fax: +44 (0) 1375 361818 e-mail: sales@nrcplant.co.uk web: www.nrcplant.co.uk

This includes reducing the ground bearing pressure by spreading the outrigger pad load over a wider area with a suitable mat. As well as using cribbing to provide a level base for the mat on sloping or stepped ground. It is at this stage that a good deal of skill comes in to the equation. The operator however should have been trained on how to do this properly and be equipped with the materials to handle most ordinary ground conditions.

If you have rented in the crane, even on a contract lift, you as the customer are still responsible for determining the ground conditions on site and to inform the crane company if there are any underground voids. If any doubt exists the operator must be told.

Test the ground

On most everyday lifts the operator can test the ground, by raising the load a few mm off the ground with the boom directly over each outrigger. The operator of a big truck mounted lift can do the same with a couple of people or a load in the basket. This is usually a very simple thing to do and well worth it, if only for piece of mind.

Some operators still forget to set their outriggers first.



With the largest cranes, and lifts, this quick and dirty method is not the way to go, some form of ground survey needs to have been done so the contractor and crane company know exactly what to expect. The other rule of course is - if in doubt use bigger mats.

When working on slopes with a self drive machine, it is best to use a machine that has been designed for

such work such as a spider lift. They usually feature larger built-in pads that have sufficient articulation to adjust to the contour of the slope, avoiding the need to level the slope with cribbing. Care needs to be taken though that the machine cannot slip down the slope once in the air.

What Mats?

It was not so long ago that second hand railway sleepers and timber off cuts were the order of the day when it came to outrigger mats, with little consideration to their



A good quality wood mat used with a self erecting tower crane

suitability. The problem with such material is that some timber will split easily when under load. While the use of a number of lengths of wood, requires a level of expertise to set up safely, so that it does not move or kick out from under the outrigger jack. Differing timber thicknesses complicates the task still further.

Modern nylon, or better still, polyethylene mats are clean and easy to use and handle with built in grips or lifting points. The best are almost indestructible and will flex slightly to profile the ground, and then return to their original shape, time after time. Standard mats are ideal for most aerial lifts, telehandlers, loader cranes and mobile cranes up to around 125 tonnes. Thus covering most routine applications.



A large volume of Eve trakway was used at the Don Valley Rolling Stones concert to protect the grass and provide access for cranes

C&A outrigger mats



Good quality wood mats are ideal as a base for crawler cranes

Don't pinch the pennies

When sourcing this type of mat it is well worth spending a little more for a good quality product. Given that they appear to be made of the same material, there is a tendency to buy on price alone. The best producers provide long guarantees with a no quibble 'break it and we'll replace it' policy. Cheap mats will bend crack and delaminate. When deciding on material, in general terms, polythene is too flexible, nylon is more likely to crack but polyethylene is just right, as Goldilocks said.

Customised & branding

An increasing number of suppliers now offer a wide range of square, rectangular or round mats off the shelf and available for immediate delivery. They can also be made to order, to suit a particular job, machine or customer. Some suppliers will customise them to your precise specification, in terms of colour, company name or logo and surface finish. A number of company's offer a textured surface on the mat to help prevent slippage, while this is not a bad idea, don't pay a premium for it, as after only a few uses even the smoothest pad will have become textured from use.

For larger cranes large steel mats, often made from I-beams welded together, are still very popular, and of course very rigid and predictable. Polyethylene mats are now available in larger sizes with thicknesses of 160mm making them practical for cranes as large as 400 tonnes or more. The benefit of course is that they are lighter to transport and are usually less expensive. For big applications though, properly selected and engineered wood mats are still highly popular and offer a high degree of versatility. And if from managed forests are also environmentally friendly.

Tracks and ground protection

When ground conditions are very soft, large mats or track way may be needed, to get the equipment in to the lift area and then to provide a foundation for the crane. This is as true for crawler cranes as it is for mobiles and big truck mounted lifts. For pure site access needs, the best choice is usually aluminium track way, pioneered by Eve and rented out on an installed basis. An alternative that is growing in popularity is polythene/polyethylene modular track pads. These are large rectangular mats that can be linked together to produce a temporary roadway. Not only can they be used to take a wheeled machine across very soft ground, but also used to protect delicate surfaces such as lawns, or decorative paving. In a recent example, two by four metre polyethylene mats were used to allow an 80 tonne crawler crane to walk across a marble floor, with ground bearing pressures of less than 2.5 tonnes/sq metre.

In North America many rental companies stock such track pads for rent along with the machine.

Well planned storage for shoring timbers on a Liebherr AT crane

