

eureka

Issue 21

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THE MAGAZINE FOR THE MATERIALS HANDLING PROFESSIONAL

Mission Antarctica

As deadlines approach it's decision time for the epic South Pole expedition.



Securing cargo safely

Guidelines and regulations for safely containing and restraining freight loads.



Good safety managers

We see how safety is supervised at Schiphol Airport's busy cargo handling area.



eureka issue 21

The magazine for the materials
handling professional

Welcome to the Spring 2014 edition of **eureka**!

Over the past three years, **eureka** has been following the preparations for ground breaking mission, to travel overland to the South Pole using nothing more than a solar powered vehicle. Mission Antarctica is truly an epic journey, and will be an inspirational example of just what the human race can achieve using renewable energy.

Once under way, the team and the vehicle will be subject to the hardship and danger of this harsh and unforgiving frozen landscape. Any venture here therefore requires long months of intensive preparation. In Mission Antarctica's case the preparation has been much longer, largely because of the revolutionary nature of the vehicle which was specifically designed and built for the journey and has undergone extensive testing in Antarctic conditions at Cat Lift Truck's facilities in Järvenpää.

In this issue, **Gian Schiava** chats with the team's Wilco van Rooijen for an update on progress, and finds out that managing business risk is very similar to managing a major expedition. Wilco has distilled many lessons from extreme adventures where good teamwork becomes a matter of survival, and he is sharing those with the business world. Read the update from **page 4** to find out more.

Further into the magazine we provide a guide to the many highly complex regulations and reports on containing and restraining road freight loads. It is an enormous topic and this article is your foundation for further research. See **page 8**.

Returning to the subject of safety, from **page 11** we examine one of the most critical jobs in the warehouse – the supervisor. How do you identify, train and support supervisors to create a safe warehouse environment? This and many other questions are answered as we look at Schiphol Airport's cargo handling facility, and speak to leaders in the field.

We complete the magazine by taking a look at the options available for pallets, and debunk many of the misconceptions surrounding the materials that can be used. Are your pallets fit for purpose? See what the experts think - **page 13**.

Tell us what you think of **eureka** - drop us a line via our website at www.eurekapub.eu or e-mail us at comment@eurekapub.eu.



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Commissioning Editor

Issue 21 - Spring 2014

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eureka's commissioning editor is **Monica Escutia**, a Bachelor of Communications – Journalism. She is a Spanish national and fluent also in Dutch, English and Italian. Having previously edited a variety of international media she has spent the last ten years in the materials handling industry – the first four as a parts sales representative for several European countries, before becoming the EAME Senior Marketing Communications Coordinator for Cat Lift Trucks, based in the Netherlands.



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Personal profile
**Lessons from
an Adventurer**

Dutch adventurer Wilco van Rooijen gives **eureka** an update on Mission Antarctica and talks about the similarities between managing business risk and managing major expeditions such as this. Drawing on his rich adventuring experience, he distils lessons learned from the wild and how they can be applied to business practice.



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Load security
**Safe containment
and restraint**

With poor load security causing a quarter of all road freight accidents, operators and managers need to understand the principles behind safely securing cargo. Here, we review some of the highly complex regulations and reports on this enormous and topic, and provide a solid foundation for further research.



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Health and safety
**Lifting safety
performance**

Maintaining a safety in the lift truck operating environment not only requires training and good safety procedures, but continuous skilled supervision. The skill and ability of the supervisor is critical. We go behind the scenes at Schiphol Airport's busy cargo handling area and find out how good supervisors are made.



13-15

Pallet choice and quality
**Are your pallets
fit for purpose?**

Even the most sophisticated warehouse can be brought to a halt if a pallet collapses or distorts beyond allowed tolerances. So how do you identify the best pallet for you? We demystify the debate between wooden and plastic pallets, debunk some popular misconceptions and examine a few alternative options.

Events Calendar

Date, Event, Location, Website	Overview
19 - 23 May 2014 CeMAT 2014 Hannover, Germany www.cemat.de	In order to meet the needs of the market even more effectively, CeMAT 2014 will boast a new look. Five clearly defined Technology Zones, together with new user focus topics and special events, will give visitors a concentrated overview – and an opportunity for you to showcase your products and services under prioritised headings. CeMAT will be building on its role as a key driver of the intralogistics industry in 2014.
3 - 5 June 2014 SIL 2014 Montjuic-Plaza España Exhibition Center at Fira de Barcelona, Spain www.silbcn.com	<i>The International Logistics and Material Handling Exhibition</i> will celebrate its 16th edition from 3rd to 5th June 2014 in Montjuic-Plaza España Exhibition Center at Fira de Barcelona. <i>SIL 2014</i> , which is the leading exhibition in Spain and Southern Europe, offers solutions that are tailored to the needs of all companies in logistics and materials handling.
24 - 26 June 2014 TOC CONTAINER SUPPLY CHAIN: EUROPE ExCel, London, UK. www.tocevents-europe.com	The <i>TOC Europe</i> is the global meeting place for ports, terminals, shipping lines, 3PLs & shippers. The exhibition is a showcase for port and terminal technology and operations. The conference focuses on collaboration within the container supply chain. Featuring over 160 companies from around the world, the <i>TOC Europe Exhibition</i> is the undisputed global showcase for the latest in port operations, equipment and technology solutions.

Lessons from an adventurer

1. The aim of the project is to inspire young people - the decision makers of tomorrow - and to demonstrate to the world that we can survive by using alternative energy sources.



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In **eureka** 14 and 17 we described the Team Antarctica's mission to build a solar powered vehicle for their epic Antarctic journey, and how Cat® Lift Trucks supported the project by helping them to do some serious testing under winter conditions in Finland. Unfortunately the team was not ready in time.

Gian Schiava talks to adventurer Wilco van Rooijen and discovers many survival lessons for the manager.

Mission Antarctica is designed to make a strong statement about alternative energy, and demonstrate to the world that we can survive using alternative energy sources by making smarter choices. In particular the aim of the project was to inspire young people, who will be the decision makers of tomorrow.

The Dutch adventurers Wilco van Rooijen and Fokke van Velzen developed a project to build a sustainable, solar powered vehicle to take them from Union glacier, a field camp on the Antarctic, to the South Pole and back. A trip of 2300 km. Twice did Cat Lift Trucks give a helping hand by putting their facilities in Järvenpää, where their electric forklift trucks are produced, at disposal and enabling the Mission to train in environments very similar to the Antarctic situation.

Many tests, including a beach trip to try out traction performance, enabled the team to make great progress. However there was one major

challenge: there was only a small window of opportunity, between December and early February, for making the journey. Only during that period would the sun shine 24/7 and keep temperatures from dropping too low. So when we called Wilco van Rooijen at the end of 2013 to learn about the project's progress and departure date, we were not entirely surprised that the journey had been postponed.

"The Dutch adventurers Wilco van Rooijen and Fokke van Velzen developed a project to build a sustainable, solar powered vehicle to take them from Union glacier, a field camp on the Antarctic, to the South Pole and back."

Risk management

"It was actually not a difficult decision to make," explained Wilco van Rooijen. "We still had several tests to undertake whilst the →



www.teamwilcovanrooijen.nl

Who is Wilco van Rooijen?

Wilco van Rooijen is a professional adventurer, mountaineer and polar traveller. He is one of the few professional adventurers in the Netherlands and one of the few surviving adventurers with three poles to his name. Wilco is the only Dutchman who conquered the Seven Summits (the seven highest peaks on each continent) without additional oxygen. He was the first Dutchman to reach the three poles: the geographic North and South Poles and the highest Pole, Mount Everest. Wilco reached the top of the famous K2 in 2008. Time after time, he has observed that mankind is disrespectful towards the earth. That is why he is committed towards so many environmental projects, and is trying to make a difference.



→ cut-off moment was coming closer and closer. Managing an expedition is very similar to managing risk in a business environment. You calculate the odds, and at a certain moment you must make a decision. We decided to postpone until 2014, but we also needed feedback. So we have appointed the Technical University of Delft to evaluate the project thus far, and make an impartial assessment."

"Managing an expedition is very similar to managing risk in a business environment. You calculate the odds, and at a certain moment you must make a decision."

The TU Delft will present its findings in spring this year. "If the project is still viable we will go ahead, plan our activities and make preparations for the next opportunity which will be at the end of the year," Wilco added. "Proper planning is vital for the success of an expedition." Wilco draws many comparisons with normal business practice, and this is no coincidence. Besides climbing mountains all over the world, he frequently stands in front a group of managers to share the lessons he has learned from the wild. He offers four types of management training, varying from 1 day classical lessons through to survival trips of several weeks in the mountains.

"Proper planning is vital for the success of an expedition." Wilco draws many comparisons with normal business practice, and this is no coincidence."

Business parallels

"In all the years I've travelled the world, I've learned that Mother Nature teaches many tough lessons," Wilco continued. "Teamwork is extremely important when climbing the K2 or Mount Everest. You either perform together or the expedition becomes a complete failure. And if things go wrong at an altitude of 7,000 metres you are in big trouble."

Bad teamwork can have an equally negative impact in the business environment if the right team and attitudes are lacking. "I can assure you that these lessons from the wild apply equally when managing a fleet of forklifts or a distribution centre," Wilco insisted. "The only difference is that Mother Nature makes you pay immediately for your faults, whereas in the business world... well, that happens at the end of the year when the accountants tell if the company made some money."

"Bad teamwork can have an equally negative impact in the business environment if the right team and attitudes are lacking. I can assure you that these lessons from the wild apply equally when managing a fleet of forklifts or a distribution centre."

Other projects

While the TU Delft works on Mission Antarctica's evaluation report, Wilco is by no means inactive. He will be attempting to reach the summit of Cho Oyo, the fifth highest peak



2. Whether exploring the world or managing a warehouse, good teamwork and team members working well together is crucial for success.

in the world (8.201m, Nepal) by the end of April. Then as a partner of KIKA, a Dutch fund raiser to fight children's cancer, he will be joining sponsors and climbing peaks in the Alpes. The project is aptly called: 'To the top with KIKA'. He will also be supporting a group of construction managers to climbs the Mont Blanc. "I enjoy these journeys enormously," Wilco enthused. "It gives great satisfaction to see how strangers overcome their fears and work together to achieve something they thought they were never capable of. And, those successes must be celebrated!"

Wilco strongly hopes the Team Antarctica Mission will indeed go ahead at the end of this year. "And this is not only because we worked so hard to come this far. The aim of this Mission is to make people aware of our wonderful planet and that we must act if we don't want to ruin this legacy for our children. I hope Cat Lift Trucks will ride with us again and we are very grateful for their support thus far." ■

Article feedback is welcome: editor@eurekapub.eu



Going to the top!! 10 great lessons from a true adventurer

1. First things first: you need a common goal and vision. Make those ambitious, so your joy will be bigger once you reach your goals.
2. Focus on your own job, but be at the same time aware of the team effort. Seek a balance. There is always an interdependency between tasks.
3. Set the route and stick to the plan.
4. It is not necessary to be friends to be great team players. You always need team members that are different or at least complimentary to each other's skillset. You will see that people who are different to you will bring unexpected insights and qualities, which will increase the chance of becoming successful.
5. Naturally all team members need to have the same strong mentality to be able to be successful. Trust each other.
6. Be honest. Always communicate. If you have a bad day, your team will get you through the day. Not communicating leads to failure.
7. Calculate risks and be proactive. Don't completely ignore your intuition. The best companies are those who dare to make a difference and do not repeat what everybody else is doing.
8. Embrace negative events and twist them into a positive learning moment. We will inevitably all face setbacks; seek for the lessons in them.
9. Make tough decisions if you have to. Otherwise the team results will suffer.
10. Celebrate success with the whole team. It will boost motivation for the next goals!



Safe containment and restraint



As many as a quarter of all accidents involving road freight vehicles result from poor load security. Keeping loads secure is a huge subject, on which a number of large regulatory and advisory documents have been written. To understand it all fully you must be prepared to do a lot of reading and seek expert advice.

As a starting point, **Mark Nicholson** introduces the key issues, reports on current concerns and advises on where to turn for further information.

Unsecured cargo can fall from a vehicle, or be thrown from it, at any time in the load's journey. It's a danger to those who load and unload the vehicle, to pedestrians, to other road users and to the driver as well. An additional danger comes from the effect of insecure cargo on the vehicle's steering and control.

It is a major topic of discussion for the Freight Transport Association (FTA), which has been looking closely at how the load security rules are being enforced in Britain and how businesses can be sure of complying with them.

The question of how to comply is not always an easy one to answer precisely, but the consequences of failing to comply can be very serious. Risks include heavy punishment by the law and, in the event of an accident, expensive damage to vehicles, loss of goods and, most tragically, injuries or fatalities.

Basic principles

Richard Owens, of commercial vehicle manufacturer Don-Bur, has been advising FTA members on the principles, regulations and methods involved in load security.

"One of the first things to understand", he says, "is that there are two different parts to load security: containment and constraint. If you compare loading a lorry to packing items into a box, containment is simply ensuring that

they don't fall out of it. Restraint is making sure they don't move around inside the box."

He continues: "If you place an object on the deck of a vehicle, its own weight will initially hold it in place. But once the vehicle starts to move, the load becomes subject to other forces. If the vehicle travels slowly and smoothly, friction between the object and the deck may initially prevent the load from moving. The problem comes when the vehicle brakes harshly or changes direction suddenly. That's when the load will want to continue moving in its original direction and will overcome the effect of friction."

"There are two different parts to load security: containment and constraint. If you compare loading a lorry to packing items into a box, containment is simply ensuring that they don't fall out of it. Restraint is making sure they don't move around inside the box."

"The heavier the object, the greater will be its kinetic energy and its tendency to shift. Bumps in the road will increase this tendency, as they cause the load to lift up slightly above the deck and reduce the friction. Once the heavy object starts to move, it becomes a 'battering ram' – and the larger the distance over which it is allowed to move, the more powerful that battering ram becomes."



The scale of the problem

As an indicator of the casualty rate, the website of the UK government's Health and Safety Executive (HSE) currently quotes three deaths and 160 major injuries occurring in one year in the freight-by-road industry due to objects falling onto people. In the same period a further 740 people received injuries serious enough to result in more than three days' absence from work.

Each year, the UK's Vehicle and Operator Services Agency (VOSA) reports more than 4,000 successful prosecutions for unsafe carriage of loads.

The figures above are, of course, for Britain alone. Multiply them by the number of other European countries and they become even more alarming.

Along with the human and legal cost, HSE research concludes that damage to goods resulting from lack of load security costs UK businesses millions of Euros annually. Then there is the cost of vehicle repair. When restraint and containment fail, and a load breaks out of the vehicle, it inevitably causes damage. A replacement curtain may cost over 1,000 Euro; repairing bodywork will cost much more; and in the case of a rollover there may be an even larger bill to repair the chassis.

Ratings

European standard EN 12642-XL gives ratings to commercial vehicles and trailers according to their ability to restrain and contain loads. The front wall must be able to withstand a force equivalent to 0.5 x the payload weight. The rear should withstand 0.3 x payload weight and the sides 0.4 x payload weight. (See figure 4)

This is a slight oversimplification, as EN 12642-XL also takes into account height and vehicle length. In some circumstances, such as road accidents, the force applied by the load may be larger than normal, so these figures should be used as a minimum requirement.

Interestingly, operators in the UK must comply with a stricter standard, set in a code of practice used by the Department for Transport (DfT), which insists on: front 1.0 x; rear 0.5 x; side 0.5 x payload weight. But while EN 12642-XL ratings are certified by testing, there is no such certification to prove compliance with the UK rules.

The EN 12642-XL rating must be clearly displayed on the vehicle. If the curtains of a curtain-sided vehicle have been designed as part of its system for restraining loads, and if they comply with EN 12642-XL, this should be clearly marked on the vehicle. In all other cases, side curtains should be seen as having only a weather protection function and should not be considered as being part of the restraint solution.

It should be noted that for EN 12642-XL rated security to be effective the vehicle must be loaded so that gaps between the cargo and the headboard, rear doors and sides are minimised.

Containment and restraint methods

There are many different solutions for restraining and containing goods safely, of which just a few examples will be mentioned

here. For containment, curtains can play a part if they are appropriately designed and fitted with straps or other security devices. Side nets, side webbing and rigid 'cabbage' boards are other options.

For restraint, standard curtains are not suitable and purpose-designed straps must be used in preference to ropes. Straps suspended from the roof will not be sufficient, at least on their own, as the vehicle or trailer body will not provide enough strength.

"There are many different solutions for restraining and containing goods safely."

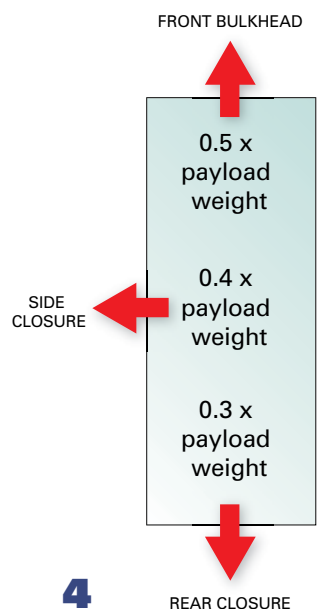
Straps extending over the cargo, from one side of the loading deck to the other, give much greater security as they make use of the much greater strength of the chassis. In the UK this is known as 'rave-to-rave' strapping and it is the method recommended by the government's Health and Safety Laboratory.

Other restraining methods include cross strapping; longitudinal and transverse strapping, transverse nets and load restraint tracks. On the Don-Bur website you will also find the 'Load-fix' solution, which is a versatile rave-to-rave system. A variety of lashing post designs can be found on vehicles and these are greatly preferable to rope hooks.

Enforcement

The FTA has also received advice from Mark Horton of the UK's Vehicle and Operator Services Agency (VOSA) on the reasoning behind this government agency's new approach to enforcement.

To reduce injuries and fatalities, VOSA is making a big effort to check that companies are complying with the rules on load security. Its strategy has been to divide the possible defects in load securing into categories of →



1. EN 12642-XL rating marked on vehicle. Image courtesy of Bibby Distribution.
2. EN 12642-XL testing.
3. Load-fix system with wide strap design. Image courtesy of Don-Bur.
4. EN 12642-XL rated bodywork.
5. Don-Bur Load-fix system applied to kegs. Image courtesy of Carlsberg.

→ seriousness: 1, 2 and 3. The danger posed in each case depends on the type of load, categorised as A, B or C. An Enforcement Matrix is then used to decide whether the combination of defect and load type requires a prohibition action or just an advisory note. (See tables.)

The assessment is not quite that simple but this is its basis. Examiners are being trained to apply the rules consistently and to deal effectively with any vehicle whose lack of load security or stability presents an immediate danger of causing harm.

“Examiners are being trained to apply the rules consistently and to deal effectively with any vehicle whose lack of load security or stability presents an immediate danger of causing harm.”

Load types

Type A	Type B	Type C
Metal pipes, sheet or bar	Timber	Clothing
Reinforced concrete	FIBCs / bulk powder	Wood chip
Bricks, stone or concrete	Roll cages	Waste paper
Vehicles (including scrap)	Bagged aggregate	Coal bags
Plant machinery	Empty skips stacked 3 high	Bulk material (in tipper)
Reels (steel, wire or paper)	Heavy palletised goods (pallet weight over 400 kg)	Packaging material
Kegs and barrels		Single loaded skips
Stacked loaded skips		Empty skips <3 high
Empty skips >3 high		Light palletised goods
Metal castings		(pallet weight 400 kg or less)
Glass		
Containers / work cabins		

Defect categories

Category 1	Category 2	Category 3
No load securing	>30 cm gap between load and headboard	Lashings on rope hooks
>1 m gap between front of load and vehicle headboard	Unsheeted load in bulk tipper or skip	Minor damage to headboard not affecting structural integrity
Unstable load affecting vehicle stability or likely to topple from vehicle	Inadequate load securing leading to likely risk of harm	Unsuitable load securing
Severe structural damage to headboard or gaps in headboard that would allow load penetration	Unsuitable stacking of load items likely to lead to risk of harm	Poor condition of securing equipment
Items loaded over height of headboard	Height of load likely to affect vehicle stability	Unsuitable vehicle for load

Further advice

The European Union’s Directorate-General for Energy and Transport has developed best practice guidelines on cargo securing, which give details for many different load types and situations. For the UK, the Department for Transport’s code of practice on safety of loads on vehicles is also very detailed. Specialists such as Don-Bur will be able to give additional advice and interpretation, but it is not always possible for the guidance documents or their interpreters to give a precise guarantee that a particular solution will comply with the rules in a particular situation. As in many cases, the safest approach is to try to do more than the law requires. ■

Article feedback is welcome: editor@eurekapub.eu

Links

EU best practice guidelines on cargo securing:



Department for Transport (UK) code of practice on safety of loads on vehicles:



Don-Bur website: www.donbur.co.uk (go to Features: Load Restraint)



Load Type	Defect category		
	1	2	3
A	P	P	A
B	P	P/A	A
C	P	A	A

P = Prohibition action
A = Advisory note



Lifting safety performance

Lift truck safety is a complex and multifaceted combination of training, established company procedures and continuous supervision, in which the skills and ability of the supervisor are critical. How much of this is innate capability, how much can be taught, and how can good companies improve their performance? **Gay Sutton**

Air France-KLM-Martinair Cargo’s handling area at Schiphol Airport Amsterdam is a sight to behold. Covering some 40,000m² it closely resembles a thriving ant’s nest. Some 850,000 tonnes of goods pass through each year, inbound, outbound or in transit. And these are moved by a fleet of some 150 forklifts and tractors as well as a few golf carts and aerial platforms, all of which are managed and maintained by Crepa, Cat® lift trucks dealer in Benelux. In addition to general cargo anything from fresh food, computers and medicines to flowers, paintings and even elephants and so on, are handled by dedicated teams of specialists.

Like any ant’s nest, this hub is highly organised and efficient. “Our main focus point is to deliver as promised and commit to our customers,” said Koen Wiegand, project engineer Air France-KLM-Martinair Cargo. “Our aim is to deliver goods on time and in pristine condition. And to do this, we never compromise on safety.”

“Covering some 40,000m² it closely resembles a thriving ant’s nest. Some 850,000 tonnes of goods pass through each year, inbound, outbound or in transit.”

Management aptitude

So are good management abilities born into a person or can they be engendered by training? It’s a discussion many companies are having. Steve Clark, chairman of the Retail and Distribution Group at the Institution of Occupational Safety & Health (IOSH) explained: “A good supervisor needs to be able to understand what drives people’s behaviour in the work place, and to be able to deal quickly with these challenges in a dynamic environment where the unexpected can happen.”

Back at Air France-KLM-Martinair Cargo, having supervisors and managers with the right approach and skill sets is perceived as crucial, so all applicants are carefully assessed for aptitude before appointment to the role. “We look for supervisors and managers with natural authority, and excellent safety and people management skills,” Wiegand said. “Part of these skills is being a good communicator, motivating employees by giving compliments when things go right, being proactive towards business & safety risks, and giving solid feedback when things go wrong.”

“A good supervisor needs to be able to understand what drives people’s behaviour in the work place, and to be able to deal quickly with these challenges in a dynamic environment where the unexpected can happen.”

Once the right people are established in supervisory roles, Roger Bibbings of the Royal Society for the Prevention of Accidents, believes there are three things companies need for safe lift truck operations: competent director leadership; workforce involvement through empowerment, training and company culture; and expert advice from specialists.

Safety awareness training

Everyone agrees supervisors and managers need a thorough grounding in how lift trucks operate, what constitutes safe conditions and behaviour, and how to recognise and correct that which is dangerous.

Mentor Training, which partners with UK Cat lift trucks dealer Impact Handling, not only trains around 38,000 lift truck operators a year but runs tailor made courses that provide supervisors and managers with theoretical and practical information about lift truck operations and practices, demonstrations of safe and unsafe behaviours and conditions, and a sharp →



1. Koen Wiegand, project engineer Air France-KLM-Martinair Cargo.
2. Mentor Training trains around 38,000 lift truck operators a year and runs tailor made courses for supervisors and managers.

→ reminder of the manager's legal responsibilities and regulations. This combination arms and motivates them to spot and correct unsafe behaviour. From this point, maintaining safety standards is down to continuous supervision, and good company policies and processes.

"Lift truck operators often complete their equipment training and testing successfully. However there is the risk that they return to their workplace and get into bad habits leading to unsafe operation," explained Mentor's Stuart Taylor. "The only way to reduce the likelihood of this happening is for managers and supervisors to address unsafe practice and behaviour as they see it. Carefully prepared safety procedures are only as good as the supervisors who enforce them."

"Lift truck operators often complete their equipment training and testing successfully. However there is the risk that they return to their workplace and get into bad habits leading to unsafe operation."

Improved site safety and a review of operational procedures does also have proven financial rewards for business. A company Mentor had been working with was incurring costs through damage to stock. "They invested time to review current practices and around £50,000 on job specific training relating to pallet placement. Through these two key elements, they have saved over £250,000 in stock damage reduction over a two year period." And that figure does not include additional savings gained through reduced disruption.

A solid organisational foundation

Safe organisations are usually those with well defined management processes. In the company where Steve Clark is employed, this begins with ensuring staff understand exactly what is required of them. "We have documented roles and responsibilities for every position in the business. These include all elements of safety, and we clearly define the standards that we expect from people."

Every job has key competence requirements, and applicants are assessed for those skills and experiences during the interview process. No assumptions are made on the basis of a previous job title. Induction training is supplemented by workshops that provide a thorough grounding in lift truck safety. Managers are then supported by a documented counselling and disciplinary procedure which explains each stage needed to manage poor adherence to safe standards.

Standards are maintained at the required level through defined supervisory procedures. "We have regular staff appraisals," Clark continued, "and run a continuously rolling observation regime called MHE Operator Observation, where the manager or supervisor observes 10% of the workforce every month, running through a checklist of behaviours, skills and processes. In this way we can continuously verify and maintain performance. Interestingly we tend to have fewer incidents when our

colleagues are busy. When they're not working near to capacity, their focus on the job at hand appears to diminish."

The finer points of culture

For Air France-KLM-Martinair Cargo, education and staff involvement are essential in building a predictive and proactive culture of safety. Staff need to identify potentially unsafe situations. These situations need to be investigated thoroughly and prevention measures need to be installed. On the other hand, if there has been an incident, or an operator has been behaving in a seriously dangerous way, the supervisor can investigate what happened and discuss it on a person-to-person basis to ensure the employees learn from it and improve performance.

Communications are of utmost importance in maintaining awareness of safety. Air France-KLM-Martinair Cargo manages this by a mix of communication tools; internal campaigns focused on safety, regular newsletters, quarterly session meetings for all staff, and daily team changeover meetings between every shift.

According to Bibbings of RoSPA, everyone in the organisation should have a responsibility for safety, within the scope of their role. And this works really well at Schiphol. Operators are constantly on the lookout for safety and not afraid to remind their directors that they should not appear on the work floor without the appropriate safety shoes and high visibility jackets.

Continuous improvement

Of course accidents happen, particularly in fast changing environments, and it is important to investigate every accident, and take action to address hazards. Air France-KLM-Martinair Cargo has taken this a step further, and has processes in place for staff to openly report any situation they believe is unsafe. By doing this the organisation continuously supports and facilitates a more pro-active behaviour towards safety improvement. "Safety is a shared responsibility," Wiegand said. "This open system contributes to creating more awareness and a safe working environment."

Pallets in the cargo handling area come in two sizes - 2m long or 1m 20 Euro pallets. The danger is that the forks could go straight through the smaller pallets and protrude the other side, not only endangering people behind them but also damaging pallets stacked close by. "We investigated this and the operators themselves came up with an effective solution - coloured marks on the forks showing where they must stop driving the forks into the smaller pallets."

Conclusion

When it comes to maintaining safety in a lift truck environment, supervisors and managers play a key role. Not only do they require theoretical and practical training in safety, they need the soft skills to manage people, to nurture a culture of responsibility and diligence, and ensure that the supporting company processes and procedures are adhered to. Training in management techniques is essential but it helps if there is an innate capability to build on. ■

Article feedback is welcome: editor@eurekapub.eu



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3. Examples of internal safety campaigns from Air France-KLM-Martinair Cargo.



Visit the Impact Handling website.



Mentor Training:
www.mentortraining.co.uk

Are your pallets fit for purpose?

While much attention is given to expensive and often highly sophisticated material handling, storage and transport equipment, a supply chain's efficiency and profitability can be jeopardised by something as simple as using the wrong pallets.

Mark Nicholson takes a look at the issues involved, including the question of whether plastic should replace wood.

A pallet's quality and state of repair will affect its ability to support loads. If a pallet collapses, because it is no longer able to take the strain, the results may be disastrous – particularly if it happens at a great height. Damage to goods, racking and machinery can be extremely costly, and then of course there is the potential for serious injury to people.

As with many investments, it makes good economic sense to buy good quality products that will last longer and maintain their strength. In the long term, more frequent replacement of inferior pallets will cost more.

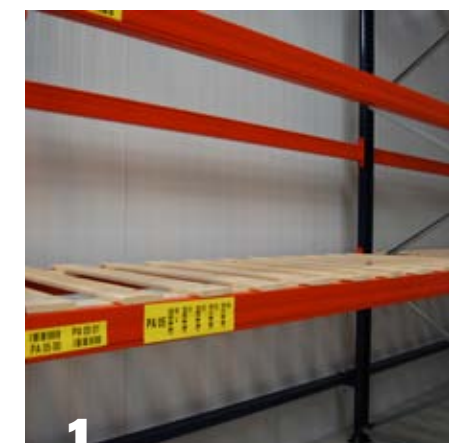
Pallets should be regularly inspected for damage and signs of weakness. The inspection should also identify loose or protruding pieces of wood which might become caught on the racking, creating further potential for load spillage.

In an automated warehousing system, even a

very small fault in the pallet can be sufficient to jam the machinery. This should be borne in mind when designing the system, as its tolerance levels should allow for a reasonable deviation from the perfection of a brand new pallet.

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Forklift and warehouse equipment specialist Crepa, which supplies products and advice for a variety of customers and operations in the Benelux countries, bases its racking capacity calculations on the assumption that all pallets will be of good quality. As a back-up, it can recommend a number of extra support solutions, including wooden boards and steel →



1. Reinforcement of racking with boards or metal bars can give extra support, but strong pallets are the safest option. Image courtesy of Crepa.

→ cross bars, which will reduce the impact of a weak pallet.

A good way of ensuring consistent quality in your pallets is to rent them from a pallet pool operator rather than buying your own. Inspection, repair and replacement of pallets then becomes that company’s responsibility. If you choose a ‘one-way-trip’ service, the pool operator will also take over the time-consuming administrative task of tracking and collecting them.

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Wood versus plastic

Something you will still need to consider, even if you opt for pooling, is what kind of pallets to use. A recently introduced EU Timber Regulation, aimed at preventing the sale of illegally harvested wood, has made many companies think about switching to plastic pallets.

Users now need to know – and be able to prove – the sources of their wooden pallets and the timber from which they are made. Inevitably some people will see plastic as a way of totally avoiding the paperwork and the potential for penalties. There are many other arguments for and against plastic pallets, which are summarised below.

LPR – La Palette Rouge – is Europe’s second-largest pallet pool operator. Operating throughout Benelux, France, Germany, Italy, Portugal, Scandinavia, Spain and the UK, LPR can provide plastic solutions where necessary but believes that timber pallets are still the best choice in most cases.

LPR’s UK Managing Director Jane Gorick explains: “Timber continues to be the mainstay of the FMCG sector due to cost, ease of repair and sustainability – making up in excess of 90 per cent of the UK pallet market.”

Hygiene

It seems obvious that a plastic pallet will be easier to wash and disinfect, to guarantee absence of dust, dirt and living organisms. Jane Gorick responds: “While both timber and plastic pallets offer benefits in different situations, there are a number of misconceptions about hygiene and quality that are incorrectly being reported as fact and these need to be challenged. For instance, there have been claims that plastic pallets are more suitable for carrying food as the material is more hygienic. Not only is this false, but food is never placed on a pallet without some type of protective packaging. Regardless of material, a pallet will only ever be as clean as its environment.”

She adds: “In fact, LPR works exclusively in the food and FMCG sectors, which means that

our pallets cannot be contaminated by such products as compost or diesel oil. In reality all pallets need to be treated to prevent blue stain and, as a minimum entry level, we request that our wooden pallets are heat treated. Where this is not possible, manufacturers can use Sinesto B – a food-grade preservative so safe that you could literally eat your dinner off a treated pallet!”

Quality and strength

In terms of strength and quality, a major claim in favour of plastic pallets is that their dimensions and load capacity remain 100% consistent with age. They are also free from nails, sharp edges and splinters that might damage hands or goods.

LPR’s UK Managing Director argues that with the right quality control a wooden pallet can meet every demand: “An LPR pallet will complete, on average, 18,000 miles (28,800 km) in its lifetime. As such, the pallet must be of sufficient quality to cope with a variety of automated systems and processes, as well as a wide range of different racking schemes. Indeed, the sheer volume of both automated and manual storage and transport systems means that it is incredibly important for the pallets which are being used to meet strict quality requirements.”

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Jane Gorick also points to the fact that damaged plastic pallets present their own difficulties: “Regular maintenance and repair is much easier for timber rather than plastic products and the splinters and sharp edges which arise from damage on a plastic pallet can potentially cause more problems than their timber counterparts.”

Nevertheless, there are advantages to plastic pallets which may sway your choice in particular circumstances. The fact that they are impervious to moisture, weak acids and alkalis might be one.

The ‘plasticity’ of their design is another, as it means that an endless variety of shapes can be produced to meet specific needs. They include, for example, lightweight designs to minimise air freight costs and nesting designs which conserve space during transit and storage of empty pallets.

Environmental issues

In their favour, plastic pallets have been shown



2. Jane Gorick, UK Managing Director LPR. Image courtesy of LPR.

Find out more at
www.lpr-eu.

to last ten years or more before needing to be recycled – which is about ten times the life of a wooden pallet. They can be made from recycled plastic and when their useful life is over they can be reground and used to produce other plastic products.

For LPR’s Jane Gorick, however, wood is unquestionably the most environmentally friendly option: “Unlike the plastic pallet, which has to be manufactured using various petrochemical ingredients as part of an energy-intensive process, timber pallets are a natural resource. The processing required to turn raw timber into pallet form is minimal. Additionally,

timber pallets can be sourced from sustainable, managed forests.”

LPR also points out that recycling of plastic pallets also consumes large amounts of energy and money, while re-use and recycling of timber is easy and cheap. Long ago there was some concern that harsh chemicals used to treat timber would make the wood unsafe to recycle but today’s heat treatment and modern preservatives have overcome that barrier. ■

Article feedback is welcome: editor@eurekapub.eu



Wood, plastic and more

Wood and plastic are not the only pallet choices. Here, for comparison, are some key advantages and disadvantages of several different materials.

Wood	Plastic	Metal	Cardboard
General Proven to work well in most applications. Compatible with most systems and operations.	General Modern, versatile solution in many different shapes. Well suited to applications requiring steam cleaning or other harsh sanitation.	General Various options, including stainless steel and aluminium. Good for heavier products, outdoor use and hygienic applications.	General Corrugated cardboard structures capable of carrying up to 0.75 tonnes.
Advantages Inexpensive Strong and durable Easy to repair Easy to recycle Naturally high friction which aids stability	Advantages Long lifespan, with no changes in shape or size Resistant to weather, moisture and chemicals Easy to clean and disinfect No splinters or nails Lightweight Recyclable	Advantages Very strong and durable Weather resistant Non-decaying Easy to keep clean No splinters Non-inflammable Recyclable	Advantages Very light and inexpensive to transport Easy to handle Customisable to meet product and customer needs Recyclable
Disadvantages Relatively heavy Hard to clean Splinters and protruding nails Warping and shrinking	Disadvantages Relatively expensive to buy Difficult to repair Relatively expensive to recycle	Disadvantages Expensive to buy Heavy and expensive to transport	Disadvantages Limited capacity Short lifespan if exposed to damp or wet weather

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