

The New Zealand LIFT FAX

The New Zealand Lift Fax is produced bi-monthly for the NZ lift industry. Just send your email address to LEC to subscribe.

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05/2008

WHAT'S GOING UP or DOWN THIS MONTH:

FAREWELL TO ALAN HEMMINGS:

An unexpected call confirmed that the enthusiastic, affable character of Alan Hemmings will no longer resonate around Australia and New Zealand. Sadly Alan passed away in June to have a beer with the old lift boys already at the bar. I first met Alan in the early 1990's at VT Manufacturing and caught up with him when in Wellington and while keeping up to date with his lift parts and agencies whenever he dropped into Christchurch.

With every passing of acquaintances and friends such as Alan, a little bit of you steps closer to making an order at the bar for yourself. It was a pleasure knowing you Alan.

See you sooner than later! (see later article)

GEORGE STRAKOSCH REMEMBERED:

George R. Strakosch passed away on June 28 at the age of 89. Strakosch has been an Elevator World, Inc. author, consultant and member of its board of directors. He was an engineer who has been a private consultant and consultant for Jaros Baum & Bolles Consulting Engineers. Strakosch entered the elevator industry as a construction helper in 1946 at Otis, advancing to mechanic, then adjuster, then sales representative, then sales engineering assistant. Appointed chief application engineer in 1960, Strakosch worked on the World Trade Center project in New York City. In 1967, he was appointed manager of special installations and oversaw elevator installations at the Kennedy Space Center for the Apollo program, before serving Otis as a senior project manager in 1972.

George will be remembered and missed along with Bill as one of the elevator industry's knowledgeable communicators.

EDITORIAL: . (see complimentary article p4)

WHEN DOES A LIFT NEED TO BE FIRE-RATED?

Interestingly it is not the lift that has to be fire-rated, that is up to the preference of the purchaser and lift manufacturer as to the materials and processes employed in fabrication.

It is the lift shaft that is often used as a fire-cell, and that only needs to be fire-rated where the building design warrants it, and it is the design fire engineer who determines where fire cells are created within the building structure.

Once a lift shaft is required to attain the minimum 30/30/30 fire rating, you need to consider any penetration to the shaft, but most importantly the fire rating of door sets at each level.

Suppliers of door-sets conduct destruction fire testing to determine the integrity of the door-sets and achieve certification relative to how long it takes fire to compromise the integrity of a specific design and size of doorset. The minimum requirement is usually for a one hour rating.

Under the Building Act, these times are set to enable safe paths for evacuation of personnel from buildings and controlled access by firemen, not necessarily to save the building.

The biggest killer of people in fire is due to smoke inhalation, and some lift door-set and third party smoke seal systems are available to minimise smoke spread, but generally this is an area in local codes that is deficient, probably because manufacturers have put it in the too hard basket until Government legislation imposes it. Lift systems incorporate fire control features to release passengers and to enable some controlled use of lifts during fires for firemen, but once again manufacturers have not been proactive in utilising lifts for people evacuation, notably in highrise buildings, without community incentive, and so they only retain signage to deter lift use during fire. Ed

KONE'S INTRODUCES IT'S NEW DRIVE BELT:

Comprised of a carbon fibre core and a unique high friction coating, on June 10th Kone introduced the market to its UltraRope, an extremely light hoisting belt system that could enable up to 1000m of travel, and because of the light weight can significantly cut total operating loads that have been restrictive to machine size and building heights in past.

The Council of
**Tall Buildings
and Urban
Habitat**

(CTBUH) jury selected KONE as one of two winners for their innovation, forging a path to the next generation of tall buildings.

The award will be presented to KONE at the annual CTBUH awards ceremony to be held in Chicago in November 2013.



<http://download.kone.com/ultrarope/index.htm>

ELECTRICAL COMPLIANCE OF LIFTS IN NZ.

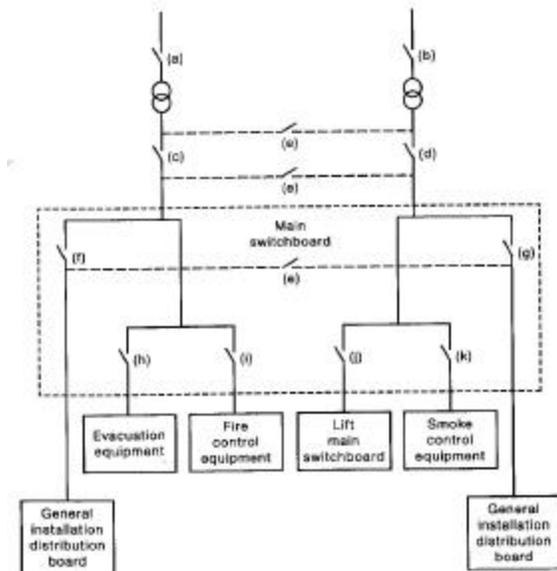
You could be forgiven for thinking that lifts have little to do with the electrical industry as there are no clauses in the regulations and no lift standards cited under Schedule 2 of the applicable codes of practice. And although they incorporate prescribed electrical work and are connected to the building power supply, there is also no mention of exemption of lifts under prescribed electrical work, as there is for electric cars and electric fences. It is not until we look into the AS/NZS 3000:2007 joint electrical standard that we find a mention of lifts in the index.

Pre Building Act we had electrical inspectors who mostly feigned no knowledge of lifts, checked the supply connection and earthing, and passed on their condolences to the lift inspector. But post BAct, electrical checks of the lift installation wafted into the ether with an occasional check of the electrical COC.

Clause 7.8.2.9 of AS/NZ 3000 under *Specific Electrical Installation Standards*, under a heading **Lifts**, states that **The electrical installation of lifts shall be installed in accordance with the appropriate requirements of this standard.** It goes on to **note**; that clause 7.2.3.4 in the section of safety services affects the control and arrangement of special lift installations, and that such electrical installations are within the scope of the Australian lift standard AS 1735; no mention of D2 AS1-3, and that compliance therefore may be required by the relevant local regulatory authorities. Hummmm!

Also in **7.2. Safety Services** of AS/NZ3000, clause 7.2.1.4 points out that lifts shall be deemed to include electrically controlled lifts that may convey passengers, but does not include escalators, etc; where passengers may safely alight if stopped, or in a single private residence.

Now the critical clauses in NZ come under **7.2.2 Supply Systems**, which under the heading *Separation of Supplies*, states:- Each part of an electrical installation supplying a safety service shall be controlled by a main switch or switches, separate from those used to control the remainder of the electrical installation.



This is not exclusive to lifts but applies because lifts may need to keep their supply alive, even if the other building services need to be disconnected.



And therefore clause **7.2.3.1** under **Main Switches** states:-

Each part of an electrical installation supplying a safety service shall be controlled by a main switch that is separate from the main switches controlling any other part of general electrical installation, as well as any other safety services.

7.2.3.4 under **Special Lifts**, also states that each lift, or each group of lifts that is specifically required to operate for fire-fighting or other emergency purposes, shall be controlled and protected independently of all other lifts.

A contradiction arises between the wiring rules and the local D2/1 accepted solution NZS4332, where clause **7.2.6.4** of the AS/NZ 3000 states:-

Main switches controlling lifts arranged as **special lifts (7.2.3.4)**, shall be clearly identified – **IN THE EVENT OF FIRE, DO NOT SWITCH OFF.**

Whereas local standard NZS4332 24.4 states:- **The main switch on ANY switchboard to which a lift is connected and all switches controlling lift supply, shall be clearly and legibly marked - THIS SWITCH SUPPLIES A LIFT.**

Also it states that this supply should not be interrupted automatically by a fire alarm system.

Confused, well most Territorial Authorities are ignorant of local lift rules and practices, and even Electrical Engineers have trouble defining what is or isn't applicable.

With the adoption into the Building Act under the Building Code D2 of EN-81; the European Standard for passenger lifts, as suitable for use in NZ, inconsistencies now exist between, the local passenger lift standard, NZS 4332, EN81, along with the suggested acceptance solution of the electrical standard of AS 1735, the Australian passenger lift standard. So don't be too concerned if you feel confused.

I REMEMBER ALAN HEMMINGS:

lan came to NZ to work for Tolley Industries installing Flyght pumps and one of his earliest projects was Manapouri where he lived on the Wanganella while she was moored in Doubtful Sound. Then he worked in New Plymouth during the building of the new cable manufacturing plant again a Tolley project. Shortly after that he moved across to the lift side installing the first of the Schindler lifts to be seen in NZ. Memorable amongst those being IBM house on The Terrace. When ECC bought out the lift side of Tolley's in 1970 Alan was the foreman. ECC also acquired H.Moult Ltd in 1971 and that was when I first met Alan when the people from Tolleys moved into the former Moults establishment in upper Willis Street. Alan and I established a friendship and had remained firm friends from that time. Not long after the three companies (ECC, Moults & Tolleys) came together a move was made to start manufacturing more of the lift equipment previously imported from England and Italy; the plant was initially based in the T L Jones building in Christchurch and was run by TLJ people - *you may remember this period Bob. Before my time in 86.*

When in short order the volume of materials being manufactured outgrew the Christchurch operation it was transferred to Wellington. ECC built a new premises in Lower Hutt and Alan took over the management of the manufacturing side. At about that time ECC started exporting to a number of independent lift companies in Australia; through Alan the business grew significantly over quite a short period. So much and quickly did the business grow that it outgrew the new building accordingly was forced into moving to a larger premise in Seaview. Through Alan's efforts the business continued to grow and develop until eventually the decision was made to again move premises. About this time ECC purchased ALFAB Metal Industries in Kilbirnie introducing a sheet metal fabrication and Tanker manufacturing arm to the lift manufacturing business. It wasn't long before the ECC/Alfab business outgrew it's premises and again were forced to move to a large purpose built factory alongside the airport. This was the last move. The market dropped away and the decision was made to sell the business. Alan went out on his own and started a very successful business just focusing on supplying lift entrance equipment to the industry here and in Australia. At the time of his death he had another small business again supplying entrances and a mix of other industry parts to companies in NZ, Australia and even as far away as Zimbabwe. From a personal perspective I'll miss the weekly chats Alan and I had shared together for as long as I can remember. Alan couldn't come into town without calling in for a coffee and a chat and I would frequently pick his brain for a solution to a vexing problem I had. He would find a solution. With Alan's passing the industry has lost one of it's most knowledgeable and true gentlemen and at a personal level I've lost a truly valued friend.

Regards
John Mardell

SOUTH ISLAND D2 IQP REGISTRATION:

I was given a copy of the **South Island IQP Registration Panel** minimum experience guidelines for registration recently, and noted that feature **SS8** had been updated to include more specific requirements for Lift annual WOF inspection.

It was surprisingly familiar but not updated to the new **<0.3m/sec** definition for low-speed/low rise lifts that changed the speed from 0.2m/sec with the issue of NZS4224 in 2012.

It is good to see the emphasis placed on demonstrating knowledge of the Building Act Compliance Schedule clauses and recognising the importance of the Barrier Free process to improve awareness of disabled access in NZ. Of concern is that the CBIP level 1 certification has still not been recognized by Government, and so the board has had to survive by increasing its inspector registration costs. Hopefully this does not further deter skilled inspectors from becoming certified, while our leaders focus on penalty and excessive insurance as their prime push to off-set risk.

8	Lifts, escalators, travelators or similar system	<p>1.1 Inspection of mechanical access equipment up to 0.2m of speed excluding escalators, only need to:</p> <ul style="list-style-type: none"> To be endorsed by the manufacturer, manufacturers agent or CBIP level2 Inspector. To have demonstrated understanding of the Building Act compliance schedule process and documenting requirements. Have completed a basic barrier free course. <p>APPLICABLE EQUIPMENT TYPES:-</p> <ul style="list-style-type: none"> Stair lifts. Platform lifts vertical and inclined lift/travelators <p>Inspection of mechanical access equipment >0.2m/sec also need to:-</p> <ul style="list-style-type: none"> Have been endorsed by a lift manufacturer or agent. Have demonstrated understanding of the Building Act compliance schedule and documenting requirements. Working knowledge of NZS4121 and of D1 + D2. Have completed a level 1 CBIP examination and been certified. <p>Applicable equipment types:-</p> <ul style="list-style-type: none"> Goods & freight lifts Passenger lifts Electric and Hydraulic Inclined roadway lifts Escalators and Auto walks <p>2. Prerequisites:</p> <ul style="list-style-type: none"> These qualifications only relate to those skills necessary to competently carry out compliance schedule inspection and it is separate to consent commissioning of new equipment inspections. On equipment > 0.2m/sec, all inspections require the attendance of the buildings contracted lift serviceman to provide safe access, and to conduct any tests detailed on the compliance schedule for the IQP to witness. 	✓	✓
9	Mechanical ventilation or air conditioning	<ul style="list-style-type: none"> Registered mechanical engineer (heating and ventilating), or evidence of 3 years experience as installation technician. 	✓	✓

Speaking of the trend toward practitioner insurance for everyone, which has also become an added requirement for IQP certification, surely the Christchurch earthquake demonstrates how trying to fix the problem after the horse has bolted through reliance on the ever-increasing penalty and no-risk insurance schemes, are very inefficient solutions in the pace of today's quick-fix world. Much better, is to build artisan skills, qualification and pride in ones work at the front end of the solution, rather than relying on big brother and his money centered insurance schemes to chase the horse. Bob.

SOUTH ISLAND IQP REGISTRATION PANEL

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WOULD YOU USE A LIFT TO ESCAPE FIRE?

ARTICLE TAKEN FROM LIFTINSTITUUT PUBLICATION.

An ageing population combined with increasingly higher buildings creates a situation that requires a targeted fire fighting and evacuation plan. The use of reliable firefighter Lifts and evacuation Lifts (Lifeboat Lifts) that have been specially designed for this purpose, is becoming inevitable.

These were the main conclusions at a Liftinstituut conference on fire safety measures at buildings and the role of lifts that was held on 6 November 2007. But in practice, clients, building owners and building managers have a hard time making the right choices when it comes to fire safety. Rights and obligations play a role, as do the technical possibilities (and impossibilities). There is also the question of how people react in emergencies like fires. Once again, the conference showed that legislation is not yet sufficiently geared to addressing these circumstances.

National Legislation needed besides European standardisation

For fire safety combined with lift safety, three important European standards have been laid down in recent years. They are EN 81-58 (landing doors fire resistance test), EN 81-72 (fire fighter lifts) and EN 81-73 (behaviour of lifts during fire). But unless member states implement these European standards in their national laws and support them through building regulations, usability of lifts based on these standards in the event of fire will be limited. The Netherlands is no exception in this regard. Dutch building regulations currently state that there must be a hall that is smoke-proof for at least 30 minutes (and fire-proof for 20 minutes) in front of lift entrances. After this had been explained by Peter van Veen of the Dutch Ministry of Housing, Spatial Planning and Environment, Jan Brekelmans (a fire brigade safety consultant specialised in prevention) pointed out that these regulations were insufficient for the fire brigade. In his opinion, the current building regulations provide insufficient protection for fire fighters. 'In any case, there is a period of twenty minutes between the time a fire is reported and the time fire fighters can actually start fighting the fire. This is assuming there is automatic fire detection. If that is not the case, we often can't start work until after 28 minutes. By that time, temperatures in the hall can have risen enormously and the fire fighter lift may have failed.'

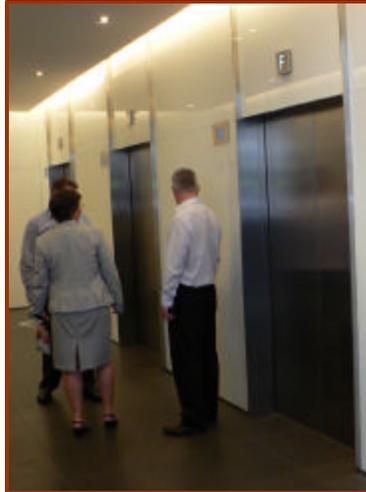
Builder makes what the market wants

Henk Bol (managing director of a large building company) responded that his company can certainly produce the halls the fire brigade considers necessary for fire fighter Lifts. "Safety is high on our agenda. If users want fire safety facilities that go beyond the national legal requirements, we are more than willing to provide them. They should let us know while initiating a new building, so we can keep the costs of extra facilities of this kind relatively low.'

Human behaviour underestimated

Paul van Soomeran (managing director of a consultancy firm) concluded, based on research into human behaviour that insufficient attention is paid to this matter when new legislation is drafted. 'That's strange because people often behave very differently to what you would expect,' he says.

"Many office workers adopt a wait-and-see attitude to fires, follow the wrong people when exiting the building or turn back halfway along the escape route."



He therefore advocates holding regular fire drills. If lifts are used during evacuation, he says leadership and orchestration from a central crisis room and on the separate floors of the building are imperative. He further believes it is important to hold evacuation exercises with

different types of groups, with special attention to disabled people. "They take up a lot of space in the lift with their wheelchair or rollator and they can't move very quickly. Between 15 and 20% of the population has a disability and the figure is increasing all the time because of the ageing population.' He also wonders if people used to seeing signs stating 'don't use the lift in the event of fire' would be willing to step into an evacuation lift. 'Time will tell,' he says.

Prevention is better

Michael Spraakman (a risk expert at a large indemnity insurance company) stressed that human action plays a major role in the possible causes of fires. 'I'm referring to things like smoking cigarettes and working at places with high fire risks'. Overloading electrical systems and their insufficient maintenance can also have dire consequences. 'To prevent fires, you need a good building design, a safety policy, clear working procedures, regular inspections, maintenance, and training and education'. He emphasised that everything hinges on proper compliance. Finally, he urged compartmentalisation and adequate fire safety by means of sprinklers and an evacuation system. He questioned whether a fire fighter lift would then still be necessary, except in the case of very high buildings, of course.



Sprinklers or evacuation Lifts?

Peter Saaman (safety expert at Liftinstituut) addressed this question further, explaining that the choice of fire fighter and evacuation lifts should be based on the fire brigade's plan of action. 'For buildings higher than 40 metres, the fire brigade will prefer to have reliable fire fighter lifts at their disposal.



For buildings higher than 70 metres, you should be able to evacuate via the stairs, at least in part, but in that case you must fit sprinklers to control the fire. If complete evacuation is necessary, the need for evacuation lifts is very likely.' He emphasised that the evacuation lifts must meet stringent requirements. "They will be used in

dangerous situations where the development of smoke in the lift and failure of the lift must be prevented.' But there are also other ways of meeting the fire brigade's requirements, according to Saaman. "For instance, you can divide floors into two compartments, with one or more lifts at both sides of the compartments. On the fire-free side, the ordinary lifts and a fire fighter lift will continue to be available for supervised evacuation and for fire fighting."

Getting opinions of conference visitors.

Visitors were able to give their opinions on several matters by means of a poll. The main outcomes were:

- * 91% shared the fire brigade's wish to make a fire fighter lift usable for 60 minutes;
- * 72% considered evacuation lifts necessary in high buildings;
- * 88% thought fire safety regulations made insufficient allowance for human behaviour.

Lively finale

As customary at a Liftinstituut conference, the forum discussion provided a lively finale. One attendee wondered whether lifts should be available to the disabled as a matter of course in the event of a fire. The fire brigade was in favour of this idea only if sufficient safety could be assured.



"And that depends on engineering aspects as well as constructional aspects.' Another attendee urged devoting attention to hoistway ventilation in the event of fire, calling for the provisions contained in EN 81-1 and 81-2 to be incorporated into the EN 81-72 standard.

Impossible to meet all requirements

The forum discussion revealed that opinions were divided equally on the proposition of whether it was impossible to meet all fire safety requirements laid down by Law. A building owner mentioned as a complicating factor that requirements in the Netherlands are not imposed obligatorily, citing the maintenance of alarm systems as an example.

Forum member Harry Boschloo responded on behalf of the Dutch authorities that this was indeed the case and that a difference existed between legally required constructional measures and more general user requirements. However, he emphasised that the user's side was equally important. Another forum member, Paul van Soomeren, stressed that not everything should be viewed purely through from a technical angle. 'We must place a lot more emphasis on controlling emergencies,' he said.

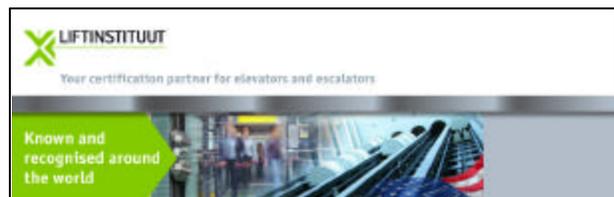
Informal survey

The Liftinstituut also conducted a more informal survey by asking visitors for their opinions. Asked for their reason for attending the conference, a majority stated they wanted to be informed of new fire regulations and how these affected them personally. Many said they were particularly keen to learn more about the use of fire fighter lifts and evacuation lifts.

Most people recognised the outlined picture of human behaviour in the event of emergencies only too well: 'This is exactly what happens in our evacuation exercises'. The internal and external emergency services have an important controlling role to play.

The use of evacuation lifts during a fire was an eye-opener for several visitors. One of those present commented poignantly: 'If they'd been there in the WTC on 11 September 2001, there would probably have been far fewer fatalities. Instead, people jumped out of windows in blind panic. Evacuation lifts can be vitally important in such situations.'

<http://liftinstituut.com/about-liftinstituut>



As an active worldwide Notified Body in lift safety, Liftinstituut strives to increase the mindset toward safety and especially lift safety by using their high quality specialized knowledge on lifts, standards, legal procedures, legislation procedures, health and safety standards, environmental standards and energy standards all over the world.