

Experiences with Unintended Car Movement Protection of the lift car in certification and final inspection

By Willem Kasteleijn, product manager lifts; Liftinstituut BV.

Meanwhile it will be more or less familiar to the lift engineer: New lifts must be provided with a system which protects the lift user against the effects of an unintended movement of the lift car. This requirement is laid down in the standard EN 81-1+A3: 2009 and EN 81-2+A3: 2009 “safety rules for the construction and installation of lifts.” This standard is applied from 1-1-2012 for newly installed lifts.

In technical terms the system is called UCMP, which stands for Unintended Car Movement Protection. In fact the UCMP is for the lift user not noticeable or visible. But the system continuously monitors whether any unintended movement occurs after the lift has reached a standstill position and the doors are opened. After occurrence of an unintended movement, the UCMP shall stop this movement before the distance travelled is out of the allowed values. According to the standard not all conceivable causes for an unintended movement however, which could be considered, need to be taken into account by the lift designer. As an example for this, the loss of traction resulting from a heavy overloading of the car may be excluded. Rather strange, considering that this scenario appears often in a situation where the goods are loaded in, and unloaded from the lift car using a heavy fork lift. Can we then always blame the driver to ride his forklift into the car and cause a dangerous overloading, instead of staying outside the lift as intended by the lift designer?

The standardisation committee, which is responsible for the NEN-EN 81-1 and -2+A3: 2009 made a conscious choice however for the exclusion of the loss of traction as a cause for unintended car movements. Preventing of overloading the car resulting in the loss of traction is a subject to notices, warning signs, training and instruction. Technical requirements to safeguard traction loss were already adequately written in the standard before the A3-version. Another cause for loss of traction, resulting from wear of the traction sheave or the suspension ropes develops so gradually, that it is largely identified on time during the regular inspections by the inspection body.

In our presentation we will focus upon our experiences with type certification of the UCMP systems and final inspections in the first 6 months after coming into force of the new A3 standard. Are the manufacturers ready for it? Do the installers know how to install and how to test? What kind of systems are applied to satisfy the UCMP requirement? And, at last, is the A3 standard appropriate and suitable for all lift types?

Speaker information



Ing. Willem G. Kasteleijn

Willem Kasteleijn studied mechanical engineering at the Technical University of Applied Sciences Rijswijk, where he graduated in 1983. Since then he had a job at TNO in Delft in the Plastics and Rubber Institute as a research trainee, and was e.g. active in an energy efficiency research project for the plastics moulding process. From 1985 - 1987 he worked at Peutz and Associés, a consultant in acoustics and building and construction physics where he was specialised in consultancy in industrial noise projects (inventory of noise sources in industrial plants, noise reduction strategies, etc.) During this job he graduated for the Higher Course Acoustics of KVIV in Antwerp, which is nowadays still a leading training in the field of Acoustics. From 1987 – 1993 he was employed at Liftinstituut Amsterdam, where he started as an inspector of lifts, escalators, playground equipment, building maintenance equipment and various other lifting equipment. In 1993 he took a job for a short period at Skyworks Rotterdam, a supplier and rental company of elevating work platforms, scaffolding and other access means used in the construction sector. Later on in 1994 he continued his work at Liftinstituut and became specialised in Machinery directive and Lift directive and carried out the first EC-type examinations in both working fields. Nowadays Willem Kasteleijn is in charge as product manager lifts at the Business Development department of the company. He is the representative of Liftinstituut in the European forum of Notified Bodies for lifts (NB-L) in Brussels.