



Hänel

Protocol for safety inspections



Lean-Lift model year 1995 and later

A complete safety inspection must be carried out by a trained technician at least once a year.

During the inspection, the points listed on Pages 2 - 7 must be checked for compliance and confirmed. This also applies before a new installation is put into service and after safety-related structural components are modified.

In doing so, applicable national regulations of the country of use, for example the Machinery Directive in Europe, must be followed, as must the operating, monitoring, control and safety instructions of the owner/operator.

Customer address Country / owner/operator _____

Commission No. Lean-Lift (equipment under test) _____ Location _____

Multi-unit network installation Yes No Total number of units in multi-unit network _____

Comm. No. of lift to the left of
equipment under test

Comm. No. of lift to the right of
equipment under test

Type of inspection First inspection Annual inspection Special inspection

Summary

a) The unit conforms to requirements Yes No [continue with b)]

b)  The following points do not conform to the requirements and must be rectified immediately by the owner/operator for safety/technical reasons:

Last inspection was on	Date of inspection
Name of trained technician (in block letters)	Name of responsible person designated by customer (in block letters)
Signature of trained technician 	Signature of customer



"Inspect" always means (as also explained in the text where applicable) both:

"Visual inspection": Check that everything is in place, correctly positioned (where applicable) and in compliance with intended use, and that the overall appearance is (technically) sound.

And, where feasible:

"Function check": Verify firsthand that function is as intended.

The following tasks, which are briefly outlined below, are for the purpose of an inspection or check carried out by a trained technician (qualified person). The authoritative text for all safety aspects is that of the current version of "EN 15095" and its published amendments, as well as any additional national requirements of the respective country of use.

No general work is permitted on the lift in conjunction with the annual safety inspection.

Please tick the relevant boxes and enter the requested information in the spaces provided. Then, indicate your evaluation by ticking "Yes" or "No" next to each subject.

	1. <u>Mechanical system and documentation</u> (partial list)	Evaluation Requirements fulfilled
1.1	<p>Condition → Inspect</p> <p>for general proper working condition, including the operating conditions (loaded - unloaded) and assessment of the ambient conditions (e.g. space requirements - temperature - humidity) and intended use according to the operating manual.</p>	<p>Yes No</p> <p><input type="checkbox"/> <input type="checkbox"/></p>
1.2	<p>Deflection → Inspect (if the lift is loaded)</p> <p>for greater than permitted material load of structural components (e.g. deflection of shelves).</p> <p>The lift is loaded <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>The shelf surfaces are sufficiently evenly loaded <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Yes No</p> <p><input type="checkbox"/> <input type="checkbox"/></p>
1.3	<p>Stability → Inspect</p> <p>for plumb installation, with structural reinforcement where necessary (see Chapter 4 of the operating manual, "Structural anchorage of the lift")</p> <p>Height of the lift: m</p> <p>Structural anchoring for the lift required <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Structural anchoring for the lift present <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Yes No</p> <p><input type="checkbox"/> <input type="checkbox"/></p>



1. <u>Mechanical system and documentation</u> (partial list)	Evaluation Requirements fulfilled
<p>1.4 Installation and operating manual → Inspect</p> <p>that it is present in local language. The information must be complete and guarantee safe operation according to the intended use.</p>	<p>Yes No</p> <p><input type="checkbox"/> <input type="checkbox"/></p>
<p>1.5 Securing against falling out or falling down → Inspect</p> <p>for loose or inadequately secured inner equipment of the carriers. All protruding articles (such as storage boxes) are detected by light barriers.</p>	<p>Yes No</p> <p><input type="checkbox"/> <input type="checkbox"/></p>
<p>1.6 Safety signs → Inspect</p> <p>for compliance with the document "SiSchi.DE".</p>	<p>Yes No</p> <p><input type="checkbox"/> <input type="checkbox"/></p>
<p>1.7 Labelling → Inspect</p> <p>whether the information from the operating manual that is essential for safe operation is attached to the outside of the lift in a clearly legible and permanent manner.</p>	<p>Yes No</p> <p><input type="checkbox"/> <input type="checkbox"/></p>
<p>1.8 Securing of hazard areas → Inspect</p> <p>whether equipment such as sliding doors, service openings, panelling or structural extensions can only be removed using a tool and/or are electrically locked. When there are multiple access points, only one may be open or active.</p> <p>Only for multi-unit installations: Are shaft panelling and intermediate panels present for all lifts? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Yes No</p> <p><input type="checkbox"/> <input type="checkbox"/></p>
<p>1.9 Protection from hazardous movement → Inspect</p> <p>for prevention of hazard areas such as crush or cut points. It must not be possible to reach above or below safety devices.</p>	<p>Yes No</p> <p><input type="checkbox"/> <input type="checkbox"/></p>
<p>1.10 Inner equipment → Inspect</p> <p>for prevention of hazardous conditions caused by loose inner equipment.</p>	<p>Yes No</p> <p><input type="checkbox"/> <input type="checkbox"/></p>
<p>1.11 Carrying chains / drive and connecting shafts → Inspect</p> <p>for damaging abrasion and scratch marks, cracks or missing parts and adequate lubrication.</p>	<p>Yes No</p> <p><input type="checkbox"/> <input type="checkbox"/></p>
<p>1.12 Type plate → Inspect</p> <p>for minimum required information such as manufacturer name, model year, commission number, load carrying capacity (permitted compartment or total carrier loads) and electrical specifications.</p>	<p>Yes No</p> <p><input type="checkbox"/> <input type="checkbox"/></p>



2. <u>Electrical system</u>	(extract)	Evaluation Requirements fulfilled
2.1 General → Inspect for proper installation and equipment of the system. Safety-related parts must be suited to the application or bear a corresponding certification mark. Visually inspect the wiring and measure the <ul style="list-style-type: none"> a) Earth wire resistance and b) Insulation resistance according to "DIN VDE 0701-1" and "EN 50110-1". Document the values on pages 6 and 7. When working on the electrical system, follow the safety instructions on Page 5.		Yes No <input type="checkbox"/> <input type="checkbox"/>
2.2 Main switches (incl. main service switch) → Inspect for good visibility, good accessibility and ability to be locked. All service access doors that are not visible from the access point are secured by the main service switch or service door switch.		Yes No <input type="checkbox"/> <input type="checkbox"/>
2.3 Safety devices → Inspect the safety light barriers or safety light barrier curtain with integrated start-up testing (ESPE type 4 in accordance with EN 61496-1). <div style="text-align: right; color: blue;">Carried out inspection with test bar <input checked="" type="checkbox"/></div> <div style="text-align: center; color: blue;">[according to operating manual and technical description of the manufacturer]</div>		Yes No <input type="checkbox"/> <input type="checkbox"/>
2.4 Command and monitoring devices → Inspect for good accessibility and clear and permanent labelling.		Yes No <input type="checkbox"/> <input type="checkbox"/>
2.5 Operating PC as control position → Inspect <div style="text-align: right; color: blue;">directly at the access opening <input checked="" type="checkbox"/></div> <div style="text-align: center; color: blue;">[e.g. with a pivoting arm]</div> <div style="text-align: right; color: blue;">or at another location in conjunction with a light curtain barrier <input checked="" type="checkbox"/></div> <div style="text-align: right; color: blue;">or at another location in conjunction with electrically locking sliding door <input checked="" type="checkbox"/></div>		Yes No <input type="checkbox"/> <input type="checkbox"/> Without PC <input type="checkbox"/>
2.6 Lighting → Inspect for adequate illumination and protection from possible mechanical damage.		Yes No <input type="checkbox"/> <input type="checkbox"/>
2.7 Emergency control devices → Inspect for proper function at all access points (EMERGENCY STOP or red / yellow main switch).		Yes No <input type="checkbox"/> <input type="checkbox"/>
2.8 Coupling of panels → Inspect For example, near the service door switches. For "multi-unit networks", this must switch off the main switch of each lift so that it cannot be switched on again.		Yes No <input type="checkbox"/> <input type="checkbox"/>

3. For work on electrical systems

the following safety measures, among others, must be followed:

- a) Work must be carried out by a qualified person
(as described in the German "TRBS 1203 Part 3 :12-2006"
or "NFPA 70 :2005" - Qualified person -).
- b) Suitable measuring instruments (according to EN 61557), measurement conditions and circuits must be used. Regular function checks of the devices are required.
-  c) **The systems must be de-energised** (for example, by switching off the main switch).
Caution: For lifts with the "Main switch with undervoltage trip" feature,
voltage is still present at the corresponding terminals (see circuit diagram)!
- d) **The de-energised state must be secured** (for example, by locking the main switch).
- e) The system must be earthed and short-circuited (where necessary).
- f) Cover or block off neighbouring live parts.

For the sequence of the required tests of the primary circuits, refer to

DIN VDE 0701-0702 :2008-06	Repair – Modification – Testing and
EN 50110-1 :2004-07	Operation of electrical installations (Here, for repetitive tests with fixed connection)

Visual inspection (For suitability for intended use)
Assess the condition of the mains supply line and cabling of the entire electrical system.
Damaged cables or wires must be replaced immediately.

Measuring device inspection Intermediate check for function before the measurements begin.

Earth wire resistance ($\leq 0.1\Omega$ Company requirement for fixed connections)
If extensions are present, carry out a measuring line compensation if necessary.

Insulation resistance ($\geq 1\text{ M}\Omega$ at 500 V)
The measurement of the system can also be carried out partially.

Amend the specified measuring points and areas to be measured according to the electrical equipment.



**If the measured values do not fall within the requirements,
the cause must be determined and eliminated immediately!**



Where applicable, enter other required test points into the blank fields.

Area — Location		Earth wire resistance [Ω]
Access side, panelling	Left	
	Right	
	Area of main switch	
Drive motor, PE contact	Vertical	
	Horizontal	
Worktop		
Power socket, PE contact of peripheral device. . . .	Barcode reader	
	Printer	
Lighting, PE contact	Lamp 1	
	Lamp 2	
	Lamp 3	
	Lamp 4	



Important points when measuring the insulation resistance (after de-energising the system):

The following parts can be disconnected from the de-energised circuit:
input and output filter and frequency converter.

The following parts should be disconnected from the de-energised circuit (and bypassed if necessary):

Unit control systems, lighting fixtures (using power contactors) and all connected peripheral devices (pull the plugs).

Load circuits must be connected through, for example by actuating all load contactors and protective motor switches.

Contacts of fuses and circuit breakers must be closed. Alternatively, a partial test can be carried out. Before the test, be sure to check the contact assignment of the electrical system by comparing it with the respective circuit diagram.

Where applicable, enter other required test points into the blank fields.

Location — Area of the circuit				Insulation resistance	
from	to			[MΩ]	
Q2	Main switch	→	Q1	Protective motor switch	
Q1	Protective motor switch	→	Transformer	
			Motor load contactor(s)	
.....	Motor load contactor(s)	→	Left drive motor	
		→	Right drive motor	
		→			
		→			
		→			
		→			
		→			
		→			
		→			
		→			