



**Schedule of Builders' Work
and Electrical Requirements
for Access Midlift –DL**



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Introduction

This schedule is provided in order to give an indication of the scope of builders work associated with the installation of the Midilift DL. It is not intended to be exhaustive or fully explicit. All relevant information pertinent to a particular application will be described on the site specific builders work drawing. The site specific builders work drawing will be produced after receipt of order & will document, in addition to standard requirements, special provisions determined by site conditions or requested by the client.

Although this document will describe most of the work required by the builder, it should not be relied upon for construction or for the estimation of costs; the site specific builders work drawing should be used for such purposes.

It is anticipated that due to the intended purpose of this document, additional reference material should not be needed. However, to assist with the understanding of specific details, a variety of supporting documentation is available. A list of documents referred to in subsequent sections is given following. The latest versions of any of these documents will be provided upon request.

| reference no. | description | document no. |
|---------------|--|--------------|
| 1 | Typical builders work drawing, Structure supported | L222000 |
| 2 | Typical builders work drawing, Wall mounted | L222000-1 |
| 3 | Typical builders work drawing, outdoors | L222000-2 |
| 4 | Typical loadings arrangement, structure supported, indoors | AVL750 |
| 5 | Wall mounted loadings | AVL763 |
| 6 | Typical loadings arrangement, structure supported, indoors | AVL780 |
| 7 | Scaffold detail, Midilift DL | 232000-1 |
| 8 | Dimensions, Midilift DL, 900x1200 platform | AVL710 |
| 9 | Dimensions, Midilift DL, 900x1400 platform | AVL715 |
| 10 | Dimensions, Midilift DL, 1100x1400 platform | AVL720 |

Section A: Electrical Work – Before installation of the lift

The following items shall be provided by the builder in advance of the lift installation:

A.1 Dedicated 240V AC 50Hz single phase supply (including earth)

The power supply for the lift is required to be a dedicated 240V AC 50Hz single phase supply rated at 13A. This supply shall additionally be protected by a residual current device (30mA trip / 30msec performance) & be terminated at a fused outlet with isolator. The isolator shall be lockable in the off position & be positioned in close proximity to the chosen position of the lift's control cabinet. Rating of fuse in outlet to be 13A

All wiring to comply with applicable regulations.

It should be noted that if a permanent power supply is not available at the time of the lift installation, then the installation can still take place with a temporary supply. However, in such instance, it will not be possible to hand over the lift until connection to the permanent supply can be made. An extra charge will be levied to cover the cost to make a return visit to handover once the permanent supply is commissioned.

A.2 Twin socket

A 240V 13A twin socket outlet in the vicinity of the lift is required for maintenance purposes – will be used for lead light and power tools during maintenance & installation operations.

A.3 Lighting

Adequate lighting at various points around the lift is required to be provided by the customer. The light level required is dependant on position & activity to be carried out. The minimum values in the following table shall be complied with to ensure safe & satisfactory use:

| position | minimum light level (Lux) |
|---|---------------------------|
| Each landing | 50 |
| Machine room | 200 |
| Lift pit | 100 |
| Shaft light above car (for shaft model lifts) | 100 |

Lighting shall also comply with the following requirements:

- electrical supply to lighting to be taken from a separate circuit to the lift main supply
- all applicable lighting to be permanently installed prior to handover
- the projection of any light fitting in the lift shaft ceiling shall not protrude into the headroom zone (see section B.4)
- switch for any shaft light to be concealed or installed in the plant room (in order to discourage use for any purpose other than installation & maintenance)

The purpose of the shaft light (where applicable) is to provide illumination in the lift shaft during installation & during subsequent maintenance operations & not for lighting of the lift car – the lift car has its own light fitting which operates automatically when the lift is in use.

A.4 Trunking

It will be necessary for the customer to provide trunking for routing of electrical cables and hydraulic hose between control cabinet and base of the guides. In the instance that the control cabinet is positioned in a room adjacent to the lift well, all that will be needed is an aperture through the wall. However, where the control cabinet is elsewhere, then trunking of size 75mm square or round will be required. If fire resistance of the lift well is required, then glanding of the trunking will also need to be carried out by the customer at an appropriate time. See also paragraph C.3.

Section B: Builders Work – Before installation of the lift

The following items are required to be provided by the customer before the lift is installed:

B.1 Lift pit (or plinth)

If applicable, the excavation of a suitably sized pit will be required; to be finished with a smooth and level surface. The size of the pit will depend on the lift model, but details will be stated on the site specific builders work drawing. Depth of pit nominally 100mm for lifts located indoors & 150mm for outdoor lifts.

It is important that the lift pit floor is fully and permanently oil resistant.

For outdoor applications, the construction of a plinth instead of a pit may be required. The specification, design, & construction of suitable drainage may also need to be provided for.

In all cases, the design of the pit or plinth shall be appropriate to support the applied loads. Typical loads for different types of lift installation are stated on Stannah Data sheets AVL750, AV763 & AVL780. However, actual values for a given lift will vary according to specification, so the site specific builders work drawing should again be referenced for definitive values.

B.2 Lift shaft

For lifts which are to be installed in a lift well (shaft), the construction of such a shaft shall be undertaken by the builder. Dimensional & strength requirements are described as follows:

a. Dimensions

The dimensions for the lift well are dependant on model & sizes. Details will be shown on the site specific builders work drawing. For structure supported applications, Stannah data sheets AVL710, AVL715 & AVL720 provide some information, but these should not be used for construction. Usually, a clearance of 50mm on each side of the lift structure is allowed to the lift shaft walls. Tolerances of linearity, squareness & plumbness apply to the stated dimensions.

For applications where the lift is to be mounted directly to the wall, different dimensions apply – again, measurements for the sizes of the lift well will be shown on the site specific builders work drawing. Generally, the achievement of correct sizes for the lift well for the wall mounted lift is more critical when compared with structure supported versions.

Where the lift shaft passes through floors, then the aperture sizes shall comply with the stated shaft dimensions & tolerances.

The Finished Floor Level (FFL) to FFL dimension(s) will be measured by our surveyor where practicable; however, where construction is incomplete at the time the order is placed, then it may be necessary for manufacture of the lift to proceed on dimensions given by the customer. It will then be the responsibility of the customer & his builder to achieve the agreed dimension(s). Tolerance on the dimension from lowest FFL to highest FFL may be taken as +/- 50mm.

b. Construction – Lifts installed inside a shaft

The construction of the lift shaft shall be compliant to National Building & Fire Regulations & shall additionally be capable of supporting the applied loads. Details of the applied loads are given on Stannah Data Sheets AVL750, AVL763 & AVL780. When assessing the suitability of lift shaft walls, the following points should be considered:

- a structural guides side wall is always required for the *wall mounted* lift
- in the case of a *structure supported* lift, it may be possible to avoid the need for a structural guides wall, but it is nevertheless recommended that such is provided (otherwise alternative provision for reacting the applied loads will be required)
- the magnitude of guide wall loads for the wall mounted lift are considerably higher than those for the structure supported lift
- pitch between wall fixings typically: 3600mm (max) for structure supported lift; 1500mm for wall mounted lift
- it is considered unlikely that walls comprising hollow concrete or lightweight ('Thermalite') blocks will be adequate to support the applied loads

A structural wall is considered to be a wall which will directly react the loads applied by the lift.

For the structure supported lift, the need for a structural wall (guides or other side) can be relaxed only if fixings can be made at vertical pitches of 3600mm or less throughout the height of the guides.

Where a structural wall is one other than the guides side wall, then additional steelwork to brace the lift structure will be required. This will be offered, where needed, at extra cost to the customer.

c. Construction - Lifts without shaft

In applications where a lift well (shaft) is **not** being provided, provision for fixing of the lift structure will still be required. The provision of a structural wall on the guides side is the easiest way to facilitate fixing of the lift. Alternatively, a structural wall on an alternative side will suffice, but this may involve the provision of additional steelwork to secure the lift, at extra cost to the customer. Fixing of the lift in the absence of any structural wall may be possible, providing FFL to FFL measurements between adjacent floors do not exceed 3600mm.

The application of the DL lift outdoors represents a special case: the loads applied to the wall in such applications are considerably higher than for inside units. Therefore the integrity of fixing walls must be carefully considered. In terms of positions & quantity, the fixing requirements however will be similar to those already described in the above section *Construction – Lifts installed inside a shaft*. Invariably, outdoor lifts will require bracing since the structural wall is usually the face of an existing building, & this face is also the entrance side to the lift. With such an arrangement then, the guides wall cannot be fixed to the structural wall.

d. Shaft ventilation

Where the lift is to be installed inside a lift well (shaft), then the lift well shall be provided with adequate ventilation. For a lift car of size 1100x1400mm, a vent of minimum size 125x125mm, ducting to clean air is considered adequate. For other car sizes, a recommended minimum vent size can be evaluated as 1% of the lift car plan area.

For an external structure mounted lift, ventilation is incorporated into the roof structure provided as part of the installation.

B.3 Landing entrances

Where entry to the lift is to be made through openings, then these openings shall be formed in advance of the lift installation, by the builder. The size & position of openings will be shown on the site specific builders work drawing.

In the case that a lift shaft is to be constructed, then either: door openings may be formed, or alternatively, the entire landing entrances may be left open. In the case of the former, finishing off around landing doors & threshold will still be required after the lift installation is complete. The preferred approach from the point of view of the lift installation, for a structure supported lift, is for the entire landing entrances to be left open. This will then allow all building work at landings entrances to be carried out as a single operation.

For an indication of the scope of work in this respect, the appropriate typical drawing from those listed in the Introduction section of this document may be referred to.

Any opening formed as part of builders work where there is the possibility to fall 2m or more shall not be left open. Appropriate means to prevent falling shall be provided by the builder. If openings are protected by means of a temporary door, then any lock fitted to such doors shall be capable of being opened from behind the hoarding without the use of a key.

B.4 Headroom requirements

The headroom dimension from uppermost FFL to underside of ceiling to be a minimum of 2600mm. Under certain circumstances, it may be possible to offer reduced headroom, but only by arrangement before placement of the order.

Lift structures with reduced headroom may restrict on-site adjustment of the overall FFL to FFL dimension – refer Section B.7.

B.5 Scaffolding

All necessary scaffolding is to be provided by the customer.

Scaffolding of the lift area or shaft is required in the following instances:

- outdoor lift
- lift installed without structure, where cladding panels are to be fitted or where there is a risk of installation personnel falling 2m or more
- wall mounted lifts

An outline of the requirements covering each of the above instances is provided following:

a. Outdoor lift

Where a lift is to be fitted outdoors, the erection of scaffolding in advance of the lift installation will be required to be undertaken by others. The scaffold is needed to allow access to each of the 3 sides of the lift structure *not* facing the wall as it is built up. The scaffold will be required to take the form of ‘C’ shape decks at 2m pitches throughout the height of the lift structure. The scaffold therefore will surround the lift structure as it is assembled. Full weatherproofing of the scaffold assembly will be needed & the scaffold will be required to be in place for the duration of the lift installation. Additionally, a lifting jib & tackle, rated to lift loads of 50kg will be required to allow the transportation of components to the top of the lift structure.

A detailed schedule of generic scaffolding requirements is given in reference 7 (‘Introduction’ section of this document).

b. Lifts without shaft

Lifts being installed without a pre-built or existing shaft will also require scaffolding to facilitate the assembly process. Such lifts will invariably be specified with either proprietary glass or steel ‘cladding’ panels.

Specification of scaffold requirements will vary from job to job, but generally, the requirements described in section B.5.a can be used as a guide. However, weatherproofing will not be needed & additionally, it is likely also that the lifting jib & tackle will not be required either.

c. Wall mounted lifts

For lifts to be installed inside a shaft without a lift structure (wall mounted), scaffolding will be required to be erected in advance of the lift installation by others. The scaffolding is required so as to affect working platforms inside the lift shaft at 2m vertical pitches. The position for corner scaffold uprights & further details will be shown on the site specific builders work drawing. However, typical drawing, reference 2 (‘Introduction’ section of this document) may be used as a guide.

Scaffolding will be taken down as the lift is built up; it will therefore not be required for the full duration of the lift installation.

B.6 Landing call stations

For lift applications where fire doors are specified, or under certain circumstances with standard steel doors, an aperture at each landing will be required to be formed for fitting of the landing call control. In addition for each landing control, a 25mm diameter conduit will be needed linking the aperture formed to the inside of the lift well. This work will be required to be carried out in advance of the lift installation, by others. Detail of the wall cut-out required depends on wall construction. References 1 to 3 ('Introduction' section of this document) provides details.

B.7 Building tolerances

All work undertaken by the customer where dimensions apply shall comply to the following tolerances:

- Inside walls of well to be plumb over height of well to +/- 15mm
- Perpendicular walls to be square to within 15mm over width of wall
- Linear dimensions +/- 15mm
- Overall travel [lowest finished floor level (FFL) to uppermost FFL] +/- 25mm, except where reduced headroom is required

Where reduced headroom is required, then tolerance on overall travel may be reduced to +0 / -25mm – the site specific Builders Work drawing will provide details.

B.8 Control Cabinet

For accommodation of the control cabinet, a suitable space either in a plant room, dedicated cupboard, or other enclosure is required to be provided by the customer in advance of the lift installation. Additionally, a ducting will be required to permit the routing of services between control cabinet & lift shaft or lift structure (whichever applies). Entry of duct to the lift well to be in position shown on the builders work drawing. A draw cord is to be fitted in the duct.

The chosen space for the control cabinet shall meet with the following criterion:

a. Environment

- minimum headroom of 2m
- minimum light level of 200 lux
- minimum clearance in front of control cabinet of 700mm
- floor to be non-slip e.g. troweled concrete & oil resistant
- weatherproof, damp free & adequately ventilated
- **not** subjected to excesses in temperatures (equipment will operate satisfactorily between 10 & 30C)
- construction works to conform to Building Regulations

b. Access to control cabinet

- to be easily accessible without the need to use ladders or to pass through zones where any physical or environmental hazards are present
- door to room to open outwards & be fitted with a lock which can be opened from inside without the use of a key e.g. Yale lock (if applicable)
- minimum headroom of 2m
- minimum light level of 50 lux

c. Location

The control cabinet shall **not** be positioned over or adjacent to the lift shaft such that access to it would be required through or over the lift shaft.

Note that reasonably easy access to the control cabinet is required because in addition to the undertaking of maintenance, access is needed to affect emergency release; it is expected such a process would be undertaken by a caretaker or non-technical person not familiar with industrial environments.

When the control cabinet is not located in a secure room, a key-lock for the control cabinet door will be provided, instead of the usual latch (latter opened with standard triangular lift release key).

Section C: Builders Work – After installation of the lift

The following list of tasks will be required to be undertaken by others after the lift is installed:

C.1 Infill gaps between landing thresholds and edge of the lift structure.

C.2 Complete building work around landing openings. Depending whether landing entrances were partially built or left open, the amount of work required will vary. Either simple infilling of gaps around openings, or more involved construction work may be needed.

If fire separation is required to be achieved, then the design of surrounds and selection of materials shall be adequately specified.

C.3 To maintain fire integrity of shaft, fit appropriate glanding to the duct between lift shaft and control cabinet.

C.4 Painting of landing doors

Landing doors are supplied in a primed condition for finish painting by others. This allows colour to be match to surrounding decoration. Final painting may be carried out at any convenient time – before or after test or handover. It is suggested the best time may be after handover, since at this stage, the lift will be fully operational, so allowing each door in turn to be opened after the car is called to the applicable level. The painting task can then be carried out in a safe manner. Painting at this time thus avoids having to take measures to mitigate the risk of persons falling through an open entrance which would be apparent if the lift was non operational. The painting of doors outside, or exposed to the elements should be painted at the earliest opportunity in order that full anti-corrosion protection is afforded without delay.

Section D – General & Safety Requirements

The following list of generalised & safety requirements shall be provided by the customer. Where sites are appropriate for the application of CDM regulations, then some items listed will also be pre-requisites of such regulations. Where this situation applies, the repetition of requirements here is not intended to substitute or conflict with the CDM controls, but are merely presented to act as a reminder to ensure safe & effective installation of the lift.

All listed items will not be applicable to every installation e.g. outdoor lift installations requiring protection of equipment & personnel from the weather will not be applicable indoors.

The list of requirements is not exhaustive. Full details of attendances for individual sites will be formulated following a site visit by our surveyor. The surveyor will make an assessment of the potential hazards likely to be encountered during the installation & will make recommendations on appropriate measures. Requirements will be documented on the site specific builders work drawing or Safe System of Work, as appropriate.

D.1 Space to be made available for the offloading of lift parts in the vicinity of lift installation. Deliveries will normally be made by 'Hiab' flatbed truck (34ft x 8ft). If offloading in the vicinity of the lift installation is not possible then provision will be required to move parts to the appropriate location. Physical help with offloading of lift parts may also be required.

The lift parts are usually delivered in 7 or 8 separate packages, some of which are bulky & heavy (maximum pack weight around 250kg). If offloading in the immediate vicinity of the lift installation is not possible, then at the very least, a pallet truck or similar device, in conjunction with the establishment of suitably smooth level passageways to the installation zone, will need to be provided by the customer.

Lift guides are 5m long, so consideration will need to be given to ensure that their transportation into the building & also into the lift shaft (if applicable) is feasible. If necessary & by arrangement at time of order, lift guides can be specified in 2.5m lengths.

D.2 Weatherproof, dry, dust free & secure area required for the storage of all lift parts, tools & plant. Implicit in this statement is the duty of the customer to ensure that all items delivered to site are protected from damage at all times.

D.3 Working area, say 5m x 5m required at the lower level of the lift for pre-assembly & site working. This area to be cordoned off by the customer in advance of the installation, & be kept clear of obstructions & materials arising from other site activities. Access to the designated area to be restricted to lift installers only. Immediate area in front of each lift landing entrance to be similarly cordoned off, kept clear & access restricted.

4. Task lighting required for illumination of working area described in D.3, each landing entrance & lift shaft.

5. A barrier to affect protection from falling to be provided by the customer at any location in vicinity of lift where a hazard of falling exists. This requirement will always apply at landing entrances, but additionally may be applicable where landings are incomplete such that edges are open, at the time of lift installation.

6. The customer shall ensure there is a means of access to the upper level(s) the lift is to serve, without use of the lift itself e.g. stairs.

7. Facility to be provided in the vicinity of the lift installation for the disposal of waste materials. A skip of volume 4 cubic metres will be adequate.

8. The customer will be required to provide welfare (toilet & washing) facilities for installers.