

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts

## 1.0 Basic characteristics

Location Grenfell Tower

Installer Apex Lifts Ltd  
 Apex House  
 LEFA Business Park  
 Edgington Way  
 Sidcup  
 Lift Serial No  
 C5471

Layout drawing C5471/001  
 Reference No

Installer type reference

C5471

Length Of Travel 9.835 m

Number of levels served:

Total 2-OFF

Front 2- OFF

Rear -

Side -

Power supply

Voltage 415

Phases 3

Frequency 50

Wire 3/4 or 5 5

Rated Load 630 kg 8 Persons

Rated Speed 0.63 m/s

Location of machine room

- ☐ Above well  
☐ Below well  
☒ At side  
☐ Within Shaft

Is the above in accordance with information on the  
 layout drawing/wiring diagram or the other  
 information sheets

☒ Yes

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 2.0 Machine and pulley room

C5471

## 2.1 Main switch

Does the installed main switch conform to the specification

Specified 63amp

A

☒ Yes

Is the main switch control mechanism easily identifiable and accessible from the machine room doorway? (See 13.4.2 of EN 81-2:1998?)

☐ Yes

Is the main switch lockable in the off position (See 13.4.2 of EN 81-2:1998?)

☒ Yes

## 2.2 Lighting

Does this conform to 6.3.6 of EN 81-2:1998?

☒ Yes

200 Lux

## 2.3 Dimensions

Are the dimensions the minimum specified in 6.3.2 of EN 81-2:1998?

☒ Yes

## 2.4 Access

Is there safe access as defined in 6.2 of EN 81-2:1998?

☒ Yes

## 2.5 Safety signs

Are notices and signs in place in accordance with 15.4 of EN 81-2:1998?

☒ Yes

## 2.6 Machine type

Is the correct machine supplied?

Specified

☐ Yes

## 2.7 Oil cooler

Is the correct oil cooler supplied?

Specified IL

☐ N/A ☒ Yes

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 2.0 Machine and pulley room

C5471

## 2.8 Controller type

Is the correct type of controller supplied?

Specified TVC ONIX

☒ Yes

## 2.9 Emergency release

Does the emergency operation system(s) function correctly as specified in 12.5 of EN 81-2:1998?

☒ Yes

Are the instructions specified in 15.4.3 of EN 81-1 displayed ?

☒ Yes

## 2.10 Machine room ventilation

Is the machine room ventilated as specified in 6.3.5 of EN 81-2:1998?

☒ Yes

## 2.11 Doors/trap doors

Are the machine room doors or trap doors fitted with a lock conforming to 6.3.3.3 of EN 81-2:1998?

☐ Yes

## 2.12 Communication

Is there a communication device in place and working as specified in 14.2.3.4 of EN 81-2:1998?

☐ N/A ☒ Yes

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 3.0 Well

## 3.1 Clearance and run bys

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NOTE In a) and f),  $h = 0.035vm^2$ . for indirect acting lifts. For direct acting lifts,  $h = 0$  [see 5.7.1.1f) of EN81-2:1998]

a) With the ram in its ultimate position, confirm, with reference to Figure 1, that:

i) the rail lengths can accomodate a further travel of at least  $(0.1 + h)$  m [see 5.7.1.1a) of EN 81-2:1998]

			Distance
Specified	0.114	m	Actual 0.114

ii) the dimension of the standing area on the car roof to the first striking point above is at least  $(1.0 + h)$  m [see 5.7.1.1b) of EN 81-2:1998]

Specified	1.114	m	Actual 0.955	m
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iii) the free vertical distance between the lowest part of the ceiling of the well and the highest item of equipment on the car roof[excluding iv)] is at least  $(0.3 + h)$  m [see 5.7.1.1c)1) of EN 81-2:1998]

Specified	0.313 m	Actual	314 m
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iv) the free vertical distance between the lowest part of the ceiling and the highest part of the guide shoes/rollers, rope attachments, header or parts of vertically sliding doors is at least  $(0.1 + h)$  m [see 5.7.1.1c)2) of EN 81-2:1998]

Specified	0.114	m	Actual 0.114	m
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Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 3.0 Well (continued)

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Is there sufficient space above the lift car to accommodate, resting on one face, a rectangular block 0.5m x 0.6m x 0.8m?  
[See 5.7.1.1d) of EN 81-2:1998]

☒ Yes

For indirect acting lifts, is there at least 0.1m above the ram to the first striking point? [See 5.7.1.1e) of EN 81-2:1998]

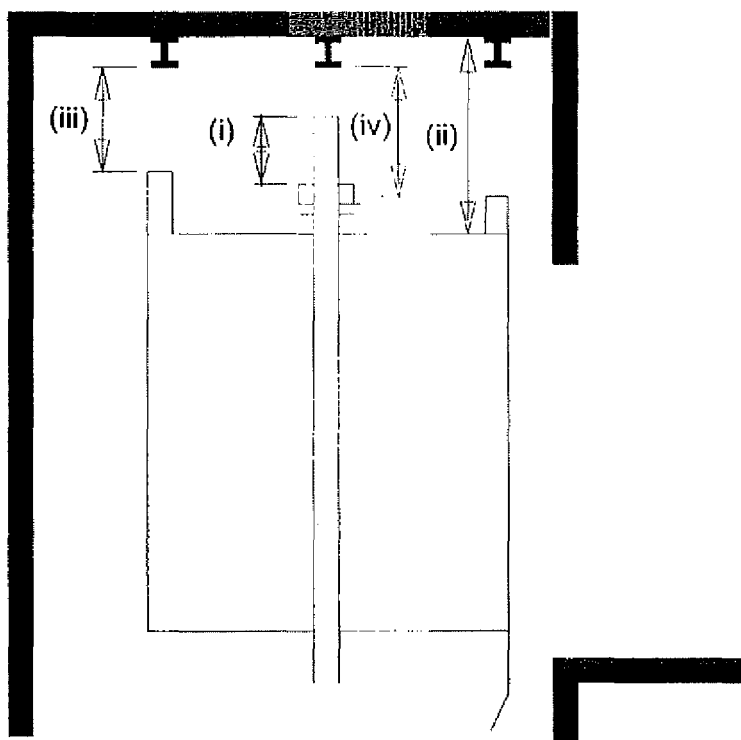
☒ Yes


Figure 1 - Overhead Clearances

b) With the car resting on its fully compressed buffers, is the further guided travel of the balancing weight at least  $(0.1 + 0.035vd^2)$  m [See 5.7.1.2) of EN 81-2:1998]

☒ N/A ☐ Yes (

Actual

Distance

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 3.0 Well (continued)

C5471

c) With the car resting on its fully compressed buffers, confirm, with reference to Figure 2, that:

Distance

i) there is sufficient space below the car to accommodate, resting on one face, a rectangular block 0.5m x 0.6m x 0.8m? [See 5.7.2.3) of EN 81-2:1998]

☒ Yes

ii) there is a free vertical space between the bottom of the pit and the lowest part of the car [excluding the area in iii)] of at least 0.5m [See 5.7.2.3b) of EN 81-2:1998]

☐ Yes

0.5 m

iii) there is a free vertical distance of not less than 0.1m within a horizontal distance of 0.15m between 1) clamping/pawl devices, the apron or parts of the vertical sliding door and adjacent walls, and 2) the lowest parts of the car and the guide rails [See 5.7.2.3b) of EN 81-2:1998]

☒ Yes

0.1 m

iv) except for the items in iii), there is a free vertical distance between the highest parts in the pit and the lowest part of the car of at least 0.3m [See 5.7.2.3c) of EN 81-2:1998]

☒ Yes

0.3 m

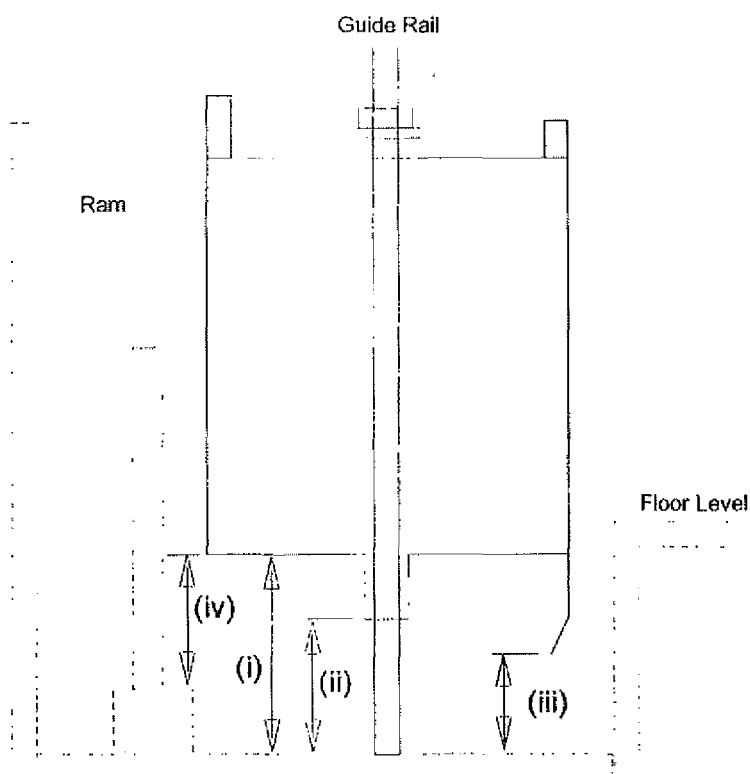


Figure 2 - Bottom Clearances

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 3.0 Well (continued)

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			Distance
d) If there is an inverted jack, is the distance between the ram head and the first striking point in the pit at least 0.5m (0.1m with a screen)? [See 5.7.2.3d) of EN 81-2:1998]	<input checked="" type="radio"/> N/A <input type="radio"/> Yes	Actual	
e) If there is a telescopic jack with a guiding yoke, is there 0.5m between the lowest yoke and the pit floor with the jack fully collapsed? [See 5.7.2.3e) of EN 81-2:1998]	<input checked="" type="radio"/> N/A <input type="radio"/> Yes	Actual	
f) With the jack fully extended, is there at least (0.1 + h)m further guided travel for the balancing weight? (See 5.7.2.4 of EN 81-2:1998)	<input checked="" type="radio"/> N/A <input type="radio"/> Yes	Actual	

## 3.2 Buffers

Do the buffers conform to those specified?	Specified	Type 300 401 No 2	<input checked="" type="radio"/> Yes
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## 3.2.1 Energy accumulation buffers (linear type)

☒ N/A

With the car and its rated load placed on the buffer(s), and the ropes slack, does the compression correspond to that given by the characteristic curve of the buffer (as provided by the buffer or lift supplier)? [see D.2n) of EN 81-2:1998]

☐ Yes

## 3.2.2 Energy accumulation buffers (non linear type)

☐ N/A

Is the buffer CE marked?

☒ Yes

## 3.2.3 Energy dissipation buffers (oil type)

☒ N/A

With the car and its rated load brought into contact with the buffer at the buffer design speed [see 10.4.3.2c) of EN 81-2:1998] confirm that there is no deterioration to the lift or buffer

☐ Yes

Is the buffer CE marked?

☐ Yes

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 3.0 Well (continued)

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## 3.3 Protection in the well

- a) Is there a rigid balancing weight screen fitted?  
(See 5.6.1 of EN 81-2:1998) ☒ N/A ☐ Yes
- b) For adjacent lifts, is there a screen in the pit extending 2.5m above the lowest landing?  
(See 5.6.2.1 of EN 81-2:1998) ☒ N/A ☐ Yes
- c) If the distance between the moving parts of adjacent lifts is less than 0.5m, is there a full height screen (See 5.6.2.2 of EN 81-2:1998) ☒ N/A ☐ Yes
- d) Does the ram head of the inverted jack screen conform to 5.7.2.3.d) of EN 81-2:1998 ☒ N/A ☐ Yes
- e) Do the inspection doors and inspection traps conform to 5.2.2 of EN 81-2:1998? ☒ N/A ☐ Yes
- f) Does the access to the pit conform to 5.7.2.2 of EN 81-2:1998? ☒ Yes
- g) For partially enclosed wells, is there screening conforming to 5.2.1.2 and Figure 1 of EN 81-2:1998? ☒ N/A ☐ Yes
- h) Does the well conform to 5.2.1.2 of EN 81-2:1998? ☒ Yes ☐ No



Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 3.0 Well (continued)

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## 3.4 Landing door assemblies

- a) Is the running clearance between door panels, and between panels and uprights, lintels and sills 6mm or less? (see 7.1 of EN 81-2:1998) ☒ Yes
- b) Confirm that no recess or projection on the face of sliding door panels exceeds 3mm (see 7.5.1 of EN 81-2:1998) ☒ Yes
- c) Is there a fire test certificate available and in order (if required)? ☐ N/A ☐ Yes
- d) Are the landing doors correctly fire rated for the installation? Specified Type Rating Min ☐ Yes
- e) Are glass panels (if any) correctly marked in accordance with 7.2.3.5 of EN 81-2:1998? Specified Actual
- f) Has one of the options for child protection in 7.2.3.6 of EN 81-1:1998 been adopted? ☒ N/A ☐ Yes

## 3.5 Landing door locks

- a) Are the correct door locks fitted? Specified MOH ☒ Yes
- b) Are all door locks CE marked? ☒ Yes

## 3.6 Lighting

Does the lighting level in the well conform to 5.9 of EN 81-2:1998? ☒ Yes Actual

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 3.0 Well (continued)

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## 3.7 Car and balancing weight guide rails

a) Does the designation of the guide rails conform to that specified?	Car	Specified	T125	Actual	T125
	Balancing weight	Specified	N/A	Actual	N/A

b) Does the pitch of the rail fixings conform to the layout drawing	Car	Specified	1400MM	Actual	2300
	Balancing weight	Specified	N/A	Actual	N/A



Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 4.0 Car, inspection operation and entrance clearances (continued)

C5471

## 4.2 Car top

a) Does the car top conform to 8.15 of EN 82-1:1998? ☒ Yesb) Does the car top station conform to 14.2.1.3 of EN 81-2:1998 in construction and operation and in neutralising of other controls? ☐ Yesc) Does the alarm device as specified in 5.10 of EN 81-2:1998 operate correctly? ☐ N/A ☒ Yes Specified WINDCRESTd) Does the balustrade on the car roof conform to 8.13.3 of EN 81-2:1998? ☒ N/A ☐ Yes

## 4.3 Car entrance clearances

a) Is the running clearance between door panels and uprights, lintels and sills 6mm or less? (see 8.6.3 of EN 81-2:1998) ☒ Yesb) Confirm that no recess or projection on the face of sliding door panels exceeds 3mm (see 8.7.1 of EN 81-2:1998) ☒ Yesc) Is the horizontal distance between the sill of the car and the sill of the landing doors 35mm or less? (see 11.2.2 of EN 81-2:1998) ☒ Yesd) Is the distance between the inner surface of the well and the sill or framework of the car entrance or door 0.15m or less, or 0.2m if over a height not exceeding 0.5m? (See 11.2.1 of EN 81-2:1998) ☒ Yes ☐ Noe) If the answer to d) is NO, does the car door mechanically lock when out of the unlocking zone, as specified in 11.2.1c) of EN 81-2:1998? ☒ N/A ☐ Yes



Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 5.0 Suspension, compensation, braking, and traction

C5471

5.1 Suspension		<input type="radio"/> N/A
a) Suspension ropes		<input type="radio"/> N/A
1) Number	Specified	3
2) Nominal diameter	Specified	11 mm
3) Lay and construction	Specified	R.H. Ordinary 8/19
4) Are the correct ropes supplied and is the test certificate available and in order? (A copy is sufficient as the original is held by the rope maker)		<input checked="" type="radio"/> Yes
Rope anchorages		<input type="radio"/> N/A
5) Type of termination		
Car WEDGE	Balancing weight N/A (if applicable)	Suspension Points WEDGE
6) Are the rope terminations correctly made and secure as specified in 9.2.3. and 9.2.4 of EN 81-2:1998?		<input type="radio"/> Yes
7) Do the rope terminations conform to 9.3 of EN 81-2:1998, ensuring distribution of load between the ropes?		<input checked="" type="radio"/> Yes
b Suspension chains		<input checked="" type="radio"/> N/A
1) Number		
2) Pitch		
3 Type and construction		

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 5.0 Suspension, compensation, braking, and traction (continued)

C5471

4) Are the correct chains supplied and is the test certificate available and in order? (A copy is sufficient as the original is held by the chain maker)

☐ Yes

5) Do the chain terminations conform to 9.3 of EN 81-2:1998, ensuring distribution of loads between chains?

☐ Yes

## 5.2 Slack suspension device

Does the slack suspension device operate correctly? (See 9.3.3 and 12.13 of EN 81-2:1998)

☐ N/A ☒ Yes

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 6.0 Safety contacts and circuits

C5471

- a) Are the final limit switches positioned and operating correctly? (See 10.5 of EN 81-2:1998) ☒ Yes
- b) Do the stopping devices on the car top, and (if required) in the car, [see 14.2.2.1e) of EN 81-2:1998] and in the pulley room, and pit, stop and prevent movement of the car when operated? [See 5.7.2.5, 6.4.5, 8.15b), and 14.2.2.1 of EN 81-2:1998] ☒ Yes
- c) Has the safety chain been tested to ensure that an earth fault at the most remote safety contact causes immediate disconnection? [See 14.1.1.1d) of EN 81-2:1998] ☒ Yes
- d) Does the phase reversal protection function correctly? [See 14.1.1.1j) of EN 81-2:1998] ☒ Yes
- e) Confirm the levelling and re levelling circuits operate (see 14.2.1.2 of EN 81-2:1998) ☐ N/A ☒ Yes
- f) Do all electrical safety devices on the landing door panels that are not directly mechanically linked operate correctly? (See 7.7.6.2 of EN 81-2:1998) ☒ N/A ☐ Yes
- g) For two rope suspension, does the slack rope safety device operate correctly? (See 9.3.3 of EN 81-2:1998) ☒ N/A ☐ Yes
- h) Does the slack rope detector device operate correctly? (See 12.13 of EN 81-2:1998) ☐ N/A ☐ Yes
- i) Does the stopping device in the car operate correctly? [See 14.2.1.4i) of EN 81-2:1998] ☒ N/A ☐ Yes
- j) Do all other switches/contacts in safety devices stop and prevent movement of the car when operated? (See annex A of EN 81-2:1998) ☐ Yes



Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 7.0 Car and balancing weight safety gear and over-speed protection

C5471

## 7.1 Car safety gear

a) Is the correct safety gear supplied?

Progressive - Specified

Actual

NOT MARKED

Instantaneous - Specified

Actual -

b) Is the safety gear CE marked?

☐ Yes

c) Does the safety gear stop the car, in the downward direction, when operated by the governor and engaging at the appropriate speed, with the load uniformly distributed, at:

- rated load at rated speed for instantaneous safety gear? [See D.2h)1)a) of EN 81-2:1998]

☒ N/A ☐ Yes

- 125% rated load at rated speed for instantaneous safety gear? [See D.2h)1)b) of EN 81-2:1998]

☒ N/A ☐ Yes

- 125% of rated load at rated speed or lower, for progressive safety gear? [See D.2h)2) of EN 81-2:1998]

☐ N/A ☒ Yes

d) Is the floor of the lift car sloping no more than 5% from the horizontal? (See 9.8.7 of EN 81-2:1998)

☒ Yes

e) After the test, confirm that no deterioration that could adversely affect normal use of the lift has occurred [see D.2h) of EN 81-2:1998]

☒ Yes

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 7.0 Car and balancing weight safety gear and over-speed protection (continued)

C5471

7.2 Car governor			<input type="radio"/> N/A
a) Is the correct governor installed?	Specified	Actual R5	
b) Is the governor CE marked?			<input checked="" type="radio"/> Yes
c) Does the electrical safety device stop the lift?			<input checked="" type="radio"/> Yes
d) Is the governor sealed (if adjustable)?			<input type="radio"/> N/A <input checked="" type="radio"/> Yes
e) Is the correct rope type supplied?	Specified	6MM	<input checked="" type="radio"/> Yes
7.3 Balancing weight safety gear			<input checked="" type="radio"/> N/A
a) Is the correct safety gear installed?	Specified	Actual	
b) Is the safety gear CE marked?			<input type="radio"/> Yes
c) Does the safety gear stop the balancing weight when operated and engaging at appropriate speed, with the car empty, at the following?			<input type="radio"/> Yes
- at rated speed, for instantaneous safety gear? [See D.2i)1) of EN 81-2:1998]			<input type="radio"/> N/A <input type="radio"/> Yes
- at rated speed or lower, for progressive safety gear? [See D.2i)2) of EN 81-2:1998]			<input type="radio"/> N/A <input type="radio"/> Yes
d) After the test, confirm that there is no deterioration that could adversely affect normal use of the lift [See D.2i) of EN 81-2:1998]			<input type="radio"/> Yes

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 7.0 Car and balancing weight safety gear and over-speed protection (continued)

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## 7.4 Balancing weight governor

☒ N/A

a) Is the correct governor installed?

Specified

Actual

b) Is the governor CE marked?

☐ Yes

c) If fitted, does the electrical safety device stop the lift?

☐ Yes

d) Is the governor sealed (if adjustable)?

☐ N/A ☐ Yes

e) Is the correct rope type supplied?

Specified

☐ Yes

## 7.5 Car clamping device

☒ N/A

a) Does the clamping device stop the car travelling at rated speed with 125% load uniformly distributed [see D.2j)1) and 2) of EN 81-2:1998]?

☐ Yes

b) Are the calculations available and in order as specified in 8.2.2.3 of EN 81-2:1998?

☐ Yes

c) after the test, confirm that no deterioration that could adversely affect normal use of the lift has occurred [see D.2j) of EN 81-2:1998]

☐ Yes

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 7.0 Car and balancing weight safety gear and over-speed protection (continued)

C5471

## 7.6 Pawl device

☒ N/A

a) Does the pawl device stop the car travelling down at rated speed with 125% load uniformly distributed? [See D.2m)1) of EN 81-2:1998]

☐ Yes

b) After the test, confirm that no deterioration that could adversely affect normal use of the lift has occurred? [See D.2m)1) of EN 81-2:1998]

☐ Yes

## 7.7 Pipe rupture valve and restrictor

☐ N/A

a)i) Is there a pipe rupture valve installed?

☐ N/A

Specified

Actual RGS.70

a)ii) Is there a restrictor installed?

☒ N/A

Specified

Actual

b) Is the device CE marked?

☒ Yes

c) Does the tripping speed conform to D.2r) and s) of EN 81-2:1998?

☒ Yes

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 7.0 Car and balancing weight safety gear and over-speed protection (continued)

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- 7.8 Mechanical anti creep device ☒ N/A
- a) Clamping device/safety gear (see 9.10.5.2 of EN 81-2:1998) ☐ N/A
- Does the lever actuate the device at each floor level and does it engage on its stops correctly? [See 9.10.5.2.a) of EN 81-2:1998] ☐ N/A ☐ Yes
- Does the rope actuate the device? (See 9.10.5.1 of EN 81-2:1998) ☐ N/A ☐ Yes
- With the car running, is the device fully retracted clear of its stops? [See 9.10.5.2b) of EN 81-2:1998] ☐ Yes
- b) Pawl device (see 9.11 of EN 81-2:1998) ☒ N/A
- Does the pawl device engage on its stops at each landing to support the car? [See D.2m)2) of EN 81-2:1998] ☐ Yes
- Does the pawl device properly clear its supports when the car travels through the lift shaft? [See D.2m)2) of EN 81-2:1998] ☐ Yes
- Is the buffer stroke correct for the pawl device? [See D.2m)3) of EN 81-2:1998] ☐ Yes
- 7.9 Electrical anti creep device
- a) Does the system operate correctly with rated load in the car? [See 14.2.1.5 and D.2y) of EN 81-2:1998] ☐ N/A ☒ Yes

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 8.0 Measurement system parameters

C5471

a) Check the mains current (running with full load up) to ensure that it is within the specified limit. [see D.2d) of EN 81-2:1998]

Specified

Actual 18.5

b) Measure and record the following speeds when the car is at mid point of travel [see D.2d) of EN 81-2:1998]

Car loading condition		Lift Speed m/s	Levelling Speed * m/s	Re-levelling/ anti-creep m/s	Inspection Speed m/s	Emergency Operation Speed m/s	Docking Operation Speed m/s
EN 81-2 Clause No		12.8	14.2.1.2	14.2.1.2	14.2.1.3	12.9.1.3	14.2.1.4
Empty	up	0.65					
	down	0.64					
Rated	up	0.66	0.05	0.5	0.2	0.2	-
	down	0.63	0.5	0.05	0.2	0.2	-

\* With advanced door opening.

c) Do the measured speeds (empty car up, rated load down) conform to the specification? (See 12.8.2 of EN 81-2:1998)

☒ Yes

d) Does the maximum levelling deviation conform to within the manufacturer's tolerances?

Specified

Actual + - 6MM

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 8.0 Measurement system parameters (continued)

C5471

e) Pressure test

33 Bar

State the full load static pressure with the car at the top floor [see D.2q) of EN 81-2:1998]

☒ Yes

Does the pressure relief valve operate at 140% full load pressure? [see D.2q) of EN 81-2:1998]

☒ Yes

With 200% full load static pressure applied to the system for 5 min confirm that there is no pressure drop due to leakage [see D.2t) of EN 81-2:1998]

☒ Yes

Is the integrity of the hydraulic system maintained after the 200% test?

☒ Yes

Confirm that the car does not creep down from the top floor more than 10mm in 10 min [see D.2u) of EN 81-2:1998]

☒ Yes

Does the manual lowering automatically stop before the ropes or chain can become slack? [see D.2v) of EN 81-2:1998]

☒ Yes

Confirm that the oil temperature overheating protection device functions correctly [see D.2x) of EN 81-2:1998]

☒ Yes

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 9 Overcurrent protective devices

C5471

## 9.1 Pump motor windings

Is motor protection provided?  
(See 13.3 of EN 81-2:1998)

☐ N/A ☒ Yes

## 9.2 Door motor winding

Is motor protection provided?  
(See 13.3 of EN 81-2:1998)

☐ N/A ☒ Yes

## 9.3 Main power convertor

Is protection provided? (See  
13.3 of EN 81-2:1998)

☐ N/A ☒ Yes

## 9.4 Motor run time limiter

Is the correct motor run time limiter supplied?  
(See 12.12 of EN 81-2:1998)

☒ Yes



Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 10 Electrical wiring examination

C5471

## 10.1 Insulation resistance to earth

Does the insulation resistance to earth for the electrical system conform to 13.1.3 of EN 81-2:1998?  
[See also D.2e)1) of EN 81-2:1998]

☐ Yes

## 10.2 Earthing

Is all metal work correctly earthed back to the main earthed isolator? [See D.2e)2) of EN 81-2:1998]

☒ Yes

## 10.3 Electrical wiring

a) Do the electrical conductors, including travelling cables, conform to 13.5 of EN 81-2:1998?

☒ Yes

b) Is the wiring installed (for EMC compliance) in accordance with the manufacturer's instructions?

☒ Yes

## 11 Documentation

Is there a register conforming to 16.2 of EN 81-2:1998 ?

☐ Yes

Is there an instruction manual conforming to 16.3 of EN 81-2:1998?

☐ Yes

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 12 Confirmation of conformity to EN 81-2

C5471

a) Are all the items associated with the installation, for which the lift manufacturer is not responsible, in a suitable state for the installation to be put into service

☐ Yes ☒ No

NOTE Some items requiring attention may not be part of the contract for the lift but part of the installation and the responsibility of others

If No, provide details:

SEE SNAGGING LIST

b) Does the lift conform to EN 81-1:2?

☐ Yes ☒ No

If No, state the reasons [which may include Notified Body approval having been obtained (Design Examination Certificate) for any deviations from the standard for which additional/alternative tests may be required, and of which the results should be attached to the present test results]

c) Have all the questions been answered?

☐ Yes ☒ No

If NO, state reasons:

SEE SNAGGING LIST

Table 1. Result of test and examination for hydraulic passenger and goods/passenger lifts (continued)

## 12 Confirmation of conformity to EN 81-2 (continued)

C5471

Signature



Name  
(In capitals)  
T. M PAMMENT

Position  
TEST ENGINEER

Company

APEX LIFTS LIMITED  
APEX HOUSE, LEFA BUSINESS PARK  
EDGINGTON WAY  
SIDCUP KENT DA14 5BH

Date

2/2/06

Place Of Signature

**APEX DATA**



**Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)****2. Static Examination (mechanical)****2.1 Suspension****a) Suspension ropes:**

	Specified	Actual
Number:		* 6
Nominal diameter:	mm*	13 mm
Lay & construction:		* R.H. Ordinary 8/19
Is test certificate in order & available?	<input type="radio"/> Yes <input type="radio"/> No *	
Is rope data plate fitted to crosshead?	<input type="radio"/> Yes <input type="radio"/> No	

**b) Rope anchorages :**

	Car	Counterweight
Type	SOCKET&WEDGE	SOCKET&WEDGE
Number Of Rope Grips (if any):	1	1
Confirm that rope grips (if any) are fitted correctly :	<input checked="" type="radio"/> Yes	<input checked="" type="radio"/> Yes
State BS number and type of socketed anchorages used (if any):		

Describe any other kind of anchorage used:

--	--

	Specified	Actual
Are anchorages in accordance with 9.2.3. of part 1 ?	<input type="radio"/> Yes <input type="radio"/> No *	<input checked="" type="radio"/> Yes <input type="radio"/> No
Are the anchorages prevented from rotating through 180° ?	<input type="radio"/> Yes <input type="radio"/> No *	<input type="radio"/> Yes <input type="radio"/> No
Do the ropes conform to 9.5 of part 1 ensuring distribution of load between the ropes?	<input type="radio"/> Yes <input type="radio"/> No *	<input checked="" type="radio"/> Yes <input type="radio"/> No

**c) Suspension chains:**

	<input checked="" type="radio"/> N/A	
	Specified	Actual
1) Number :		*
2) Pitch :		*
3) Type and construction:		*

**Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)**

- 4) Is the chain test certificate available and in order? ☐ Yes ☐ No \*
- 5) Are the anchorages in accordance with 9.2.5 of Part 1? ☐ Yes ☐ No \*
- 6) Do the chains conform to 9.5 of part 1, ensuring distribution of load between chains? Specified ☐ Yes ☐ No \* Actual ☐ Yes ☐ No
- d) Eyebolts: Specified ☐ Yes ☐ No \* Actual ☐ Yes ☐ No
- If eyebolts used do they conform to Part 8? ☐ Yes ☐ No \*

**2.2 Compensation**

- a) Is compensation provided? ☐ Yes ☒ No \*

- b) If yes what type?

	Specified	Actual
1) Rope:	*	
2) Chain:	*	
3) Anti Rebound:	*	
4) Number:	*	
5) Size:	*	

**2.3 Safety gear, overspeed governor, overspeed governor rope and tension pulley**

- a) Has the safety gear been tested in accordance with F.3 of part 1 and certified in accordance with F.3.5 of part 1? ☐ Yes ☐ No \*
- b) If YES, is the data plate fitted in accordance with 15.14 of Part 1? ☒ Yes ☐ No
- c) Is the safety gear sealed (see 9.8.6.4 of Part 1)? ☒ Yes ☐ No
- d) Confirm that the governor has been tested in accordance with F.4 of Part 1 and certified in accordance with F.4.3 of part 1: ☐ Yes ☐ No \*
- e) Specify overspeed governor type:
- f) State type of overspeed governor fitted: BODE TYPE 7
- g) Is the data plate fitted & in accordance with 15.6 of Part 1? ☒ Yes ☐ No
- h) Confirm that the governor is sealed: ☒ Yes
- i) State safety rope nominal diameter: Specified 8 mm\* Actual 8 mm
- j) Confirm that the safety gear, overspeed governor, overspeed governor rope and the tension pulley operate as a compatible system: ☐ Yes \* ☒ Yes

Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)

<b>2.4 Car</b>			
a) Confirm that the available floor area, related to rated load and maximum number of passengers, conforms to 8.2 of Part 1?			
<input type="radio"/> Yes *			
	Specified	Actual	
b) State the internal width, i.e. wall to wall (without finishes):	mm *		mm
c) State the internal depth, i.e. front return to rear wall or front return to rear return (without finishes):	mm *		mm
<b>2.5 Energy accumulation buffers (spring buffers)</b>			
<input checked="" type="radio"/> N/A *			
a) Confirm that the buffers conform to 10.4.1 of part 1			
<input type="radio"/> Yes *			
	Specified	Actual	
b) State number fitted		*	
c) Confirm that the buffers are correctly identified			
<input type="radio"/> Yes			
<b>2.6 Energy accumulation buffers (polyurethane buffers)</b>			
<input checked="" type="radio"/> N/A *			
a) Confirm that the buffers conform to 10.4.1 of part 1			
<input type="radio"/> Yes *			
	Specified	Actual	
b) State size selected:		*	
c) State number fitted:		*	
d) Confirm that the buffers are correctly identified:			
<input type="radio"/> Yes			
<b>2.7 Energy dissipation buffers (e.g. oil)</b>			
<input type="radio"/> N/A *			
a) Confirm that the buffers have been tested in accordance with F.5 of Part 1 and certified in accordance with F.5.4 of Part 1?			
<input type="radio"/> Yes *			
b) Is the data plate in accordance with 15.8 of part 1?			
<input checked="" type="radio"/> Yes <input type="radio"/> No			

Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)

c) If No are they suitable for submission to the test described in 11.3 of this table?

☐ N/A ☐ Yes ☐ No

d) Are they correctly filled and not leaking?

☒ Yes ☐ No

e) Is there reduced stroke buffering (see item 10 of this table)?

☐ Yes ☒ No \*

f) Is the stroke of each buffer in accordance with 10.4.3 of Part 1?

☒ Yes ☐ No

g) State number fitted

Specified

\*

Actual

1 CAR / 1 WEDGE

## 2.8 Brake

Confirm that the brake sustains the static car at the lowest level when loaded with 125% of rated load

☒ Yes

## 2.9 Landing door assemblies

a) Does the contract require the landing door assemblies to be fire-rated

☐ Yes ☐ No \*

If YES what is the fire-rating requirement

Hour\*

b) Is the test certificate available and in order

☐ N/A ☐ Yes ☐ No \*

c) If yes and the doors are manually operated is the means of fire prevention a fusible link

☐ N/A ☐ Yes ☐ No \*

d) If NO describe the method used

e) Confirm that the fire rated elements of the door assembly are correctly fitted :

☒ Yes

## 2.10 Door locks

a) Confirm that all the door locks have been tested in accordance with F1 of Part 1 and certified in accordance with F.1.4 of Part 1:

☐ Yes \*

b) Does the data plate conform to 15.13 of Part 1:

☐ Yes ☒ No



Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)

<b>3 Static examination (electrical)</b>	
<b>3.1 Electric safety devices</b>	
Confirm that the electric safety devices are in accordance with appendix A of Part 1	<input checked="" type="radio"/> Yes
<b>3.2 Insulation resistance to earth (see clause 5)</b>	
a) Lift motor	841 M Ohms
b) MG set (if fitted)	
1) Motor	N/A M Ohms
2) Generator	N/A M Ohms
c) Power system	704 M Ohms
d) Safety devices (state minimum reading)	>999 M Ohms
<b>3.3 Earthing</b>	
a) Is the maximum continuity resistance to the earth provided less than 0.5 Ohms ? (see clause 7b):	<input checked="" type="radio"/> Yes <input type="radio"/> No
b) Is the car connected to the controller earthing terminal by a separate conductor at least 0.75mm in cross section	<input checked="" type="radio"/> Yes <input type="radio"/> No
<b>3.3 Protection of conductors</b>	
a) Is the fixed wiring in conduits (or trunking, or fittings which ensure equivalent protection) throughout?	<input checked="" type="radio"/> Yes <input type="radio"/> No
b) If NO do the cables conform to 13.5.1.2 of Part 1?	<input checked="" type="radio"/> N/A <input type="radio"/> Yes <input type="radio"/> No
<b>3.3 Phase failure device</b>	
Confirm that the phase reversal and phase failure protection operates correctly:	<input checked="" type="radio"/> Yes
<b>3.3 Electrical wiring</b>	
Do the electrical conductors, including travelling cables conform to 13.5 of Part 1?	<input checked="" type="radio"/> Yes <input type="radio"/> No

Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)

**4 Dynamic tests****4.1 Safety contact/circuits**

a) Have the contacts at each landing entrance been proved so that when broken they stop and prevent movement of the car outside the unlocking zone?

☒ Yes ☐ No

b) Have the mechanical locks at each landing entrance been proved for positive locking?

☒ Yes ☐ No

c) Have the car door/gate contacts been proved so that when broken there is no car movement outside the unlocking zone?

☒ Yes ☐ No

d) If separate terminal stopping switches are fitted, do they operate satisfactorily?

☐ N/A ☒ Yes ☐ No

e) Do the final limit switches operate satisfactorily?

☒ Yes ☐ No

f) State the distance beyond terminal floor level at which the final limit switches are set to operate:

	Nominal	Actual
Top	mm *	100 mm
Bottom	mm *	100 mm

g) Have the stopping devices on the car top and in the pulley room and pit been proved so that when broken they stop and prevent movement of the car?

☒ Yes ☐ No

h) Have all the other switches/contacts in safety devices been proved so that when broken they stop and prevent movement of the car?

☒ Yes ☐ No

i) Does the earthing of the most remote contact (lock or push button) operate a fuse or trip a circuit breaker without delay?

☒ Yes ☐ No

j) Have the stopping devices on the car top and in the pulley room and pit, been proved so that when broken they stop and prevent movement of the car under emergency electrical operation?

☒ N/A ☐ Yes ☐ No

**4.2 Car top control station**

a) Confirm that the lift speed when under car top control does not exceed 0.63 m/sec:

☒ Yes

b) Speed up:

0.25 m/s

c) Speed down:

0.25 m/s

d) Confirm that the design of the car top station conforms to 14.2.1.3 of part 1:

☐ Yes \*

e) Confirm that the operation of the car top station conforms to 14.2.1.3 of Part 1:

☒ Yes

Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)

## 4.3 Clearance and run-bys

a) Will the car and counterweight clear all obstacles with the car and rated load compressing the car buffers?

☒ Yes ☐ No

b) When the counterweight rests on its fully compressed buffers, what is the minimum distance to the first striking point above the car, determined in accordance with 5.7.1.1c of Part 1?

0.44 m\*

c) By how much is the distance in b) exceeded?

0 m

d) When the counterweight rests on its fully compressed buffers, is there a sufficient space to accommodate a rectangular block 0.5 m x 0.6 m x 0.8 m above the car as specified in 5.7.1.1d of Part 1?

☒ Yes ☐ No

e) Confirm that the further guided travel of the counterweight, with the car on its fully compressed buffers, exceeds 300mm, as specified in 5.7.1.2 of part 1:

☒ Yes

f) When the car rests on its fully compressed buffers, is there a sufficient space to accommodate a rectangular block 0.5 m x 0.6 m x 1.0 m below the car as specified in 5.7.3.3 of Part 1, and at least 0.5 m between the bottom of the pit and the lowest point of the car

☒ Yes ☐ No

NOTE. Attention is drawn to the requirement given in 5.7.3.3.b2 of part 1 that the clear distance between the bottom of the pit and the lowest part of the guide shoes or rollers of safety gear block, toe guards or parts of vertical sliding doors be at least 0.1m

## 4.4 Entrance clearances

a) Is the horizontal distance between the sill of the car and sill of all the landing doors 35 mm or less?

☒ Yes ☐ No

b) Is the running clearance between door panels, and between panels and upright, lintels or sills 6 mm or less?

☒ Yes ☐ No

c) Confirm that no recess or projection on the face of the sliding door panels exceeds 3 mm:

☒ Yes

d) Is the distance between the inner surface of the well and the sill or framework of the car entrance or door 0.15 m or less, or 0.2 m if over a height not exceeding 0.5 m?

☒ Yes ☐ No

e) If the answer to d) is NO, is the car door mechanically locked when away from the unlocking zone, in accordance with 8.11.1 of Part 1?

☒ N/A ☐ Yes ☐ No

Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)

## 4.5 Door tests

NOTE. Where appropriate, the following tests should be carried out with the car and landing doors coupled

- a) How are the doors operated? ☐ Manually If so answer f, h, i, j, k, l, m, n.  
☒ Powered If so answer all except m.
- b) Is the measured maximum force to prevent closing, at the mid point of travel, 150 N or less? ☒ Yes ☐ No  
 State the figure recorded: 108 N
- c) Is the measured kinetic energy 10 J or less? ☒ Yes ☐ No  
 State the figure recorded: 1.9 J
- d) Do all the protective devices reverse the doors in accordance with 7.5.2.1.1.3 of Part 1? ☒ Yes ☐ No
- e) If the protective device is made inoperative (see 7.5.2.1.1.3c of Part 1)?
- 1) Do the doors remain open ☐ Yes ☒ No
- 2) If the answer to 1) is NO, do the doors close with a kinetic energy not exceeding 4 J? ☐ N/A ☒ Yes ☐ No
- f) Is the unlocking zone 0.2 m or less above and below landing levels (or 0.35 m in the case of simultaneously operated car and landing doors)? ☒ Yes ☐ No
- g) Do the landing doors have an automatic mechanical self-closing mechanism? ☐ N/A ☒ Yes ☐ No
- h) Is each set of landing doors capable of being unlocked from the outside with an emergency key? ☒ Yes ☐ No
- If not, why not?
- 
- i) Does the door motor/retiring ramp actuator protection system function correctly? ☐ N/A ☒ Yes ☐ No
- j) What form of electrical protection is provided for the door motor/retiring ramp actuator? AC CIRCUIT BREAKER  
☐ D.C. circuit breaker ☐ Three phase circuit breaker ☐ Overloads in each phase ☒ Timing relay ☐ Thermistors
- State the relevant characteristics: ☐ N/A Time to operate 25 s  
 Trip current (if applicable) A
- k) Can the doors be manually opened within the unlocking zone with a force of less than 300 N with the power off (see 8.11.2 of Part 1)? ☒ Yes ☐ No
- l) If the rated speed of the lift is greater than 1.0 m/s is the force required to open the car doors when outside the unlocking zone 50 N or greater? ☐ N/A ☒ Yes ☐ No
- m) Does the 'car here' indicator conform to 7.6.2 of Part 1 for manual doors? ☒ N/A ☐ Yes ☐ No
- n) If the entrance clearances are not in accordance with 4.4d of this table, has it been checked that the car doors are mechanically locked when outside the unlocking zone in normal operation? ☒ N/A ☐ Yes ☐ No

Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)

## 5 Measurements of the electrical system

a) State the power system (use terms as described in 4.2.3 of Part 6)

VVVF

\*

b) Provide the following details of the lift motor (as stated on the data plate)

	Specified		Actual
Maker		*	ZIEHL ABEGG
Serial number		*	04500773/1
Type		*	VFD200L-4
Voltage	v	*	360 v
Power Rating	kw	*	30 kw
Current Rating	A	*	66 A
Speed	r.p.m.	*	1470 r.p.m.
Class of insulation		*	F
Duty rating		*	54

c) Measure and record the following operational data when the car is at mid point of travel

## Rated-speed operation (with lift performing approximately to its power system)

Car loading condition		Lift motor speed 1) r.p.m.	Lift speed 1) m/s	Lift motor input			System input 2)		
				Running		Start A	Running		Start A
				V	A		V	A	
Empty	up		2.0	316	29.4	48.0	402	0.7	39.2
	down		2.0	323	37.1	84.0	399	28.0	68.2
Balanced	up		2.0	318	29.2	64.5	399	12.3	51.7
	down		2.0	318	28.9	63.8	398	12.1	52.5
Rated	up	1327	2.0	323	41.0	89.0	399	30.5	77.8
	down		2.0	316	30.0	47.5	403	0.7	37.0

- 1) Complete either of these columns in its entirety & make one entry only in the alternative column for the "rated up" condition  
 2) Energy converter or equivalent. Measure the system input to the controller from the main supply

## Low-speed operation (with two speed a.c. motor)

○ N/A \*

Car loading condition		Lift motor speed 1) r.p.m.	Lift speed 1) m/s	Lift motor input			System input 2)		
				Running		Start A	Running		Start A
				V	A		V	A	
Empty	up								
	down								
Balanced	up								
	down								
Rated	up								
	down								

- 1) Complete either of these columns in its entirety & make one entry only in the alternative column for the "rated up" condition  
 2) Energy converter or equivalent. Measure the system input to the controller from the main supply



**Table 1. Certificate of test and examination for electric passenger and goods lifts (cont.)****7 Overspeed governor tests****7.1 Car governor**

Complete the following:

Governor type: BODE TYPE 7,

Serial number: 104 10 1884

Device	Tripping speed			Does it operate effectively?
	m/s			
	Marked	Measured		
		Car up	Car down	
Electrical		2.6	2.6	<input checked="" type="radio"/> Yes <input type="radio"/> No
Mechanical	2.63		2.6	<input checked="" type="radio"/> Yes <input type="radio"/> No

State how the governor was tested on the installation

Allowing fully loaded car to overspeed in down direction

**7.1 Counterweight governor**Complete the following: ☒ N/A

Governor type:

Serial number:

Device	Tripping speed			Does it operate effectively?
	m/s			
	Marked	Measured		
		Car up	Car down	
Electrical				<input type="radio"/> Yes <input type="radio"/> No
Mechanical				<input type="radio"/> Yes <input type="radio"/> No

State how the governor was tested on the installation:

Table 1. Certificate of test and examination for electric passenger and goods lifts (cont.)

**8 Car safety gear test**

NOTE. The following tests are to be conducted with the car descending. The test load is to be uniformly distributed in the car, and the safety gear switch, overspeed governor switch, buffer switch or any other electrical devices that may cause the lift to stop are to be temporarily shorted out. During the tests the brake is to be kept open, with the machine continuing to run until the ropes slip or become slack

**8.1 Progressive safety gear**

Ⓐ N/A

a) Does the safety gear operate correctly when engaging at rated speed with 125 % of rated load uniformly distributed ? Ⓐ Yes Ⓐ No

b) State slide distance?

0.43 m

c) Does this value lie within the range given by the manufacturer? Ⓐ Yes Ⓐ No

d) Is the floor of the lift car horizontal or sloping less than 5 % from the horizontal? Ⓐ Yes Ⓐ No

e) Following the test of 8.1a, confirm that no deterioration which could adversely affect the normal use of the lift has occurred: Ⓐ Yes

**8.2 Instantaneous safety gear**

Ⓐ N/A

a) Does the safety gear operate correctly when engaging at rated speed with the rated load uniformly distributed ? Ⓐ Yes Ⓐ No

b) Is the floor of the lift car horizontal or sloping less than 5 % from the horizontal? Ⓐ Yes Ⓐ No

c) Following the test of 8.2a, confirm that no deterioration which could adversely affect the normal use of the lift has occurred: Ⓐ Yes

**9 Counterweight safety gear test**

NOTE. The following tests are to be conducted with the counterweight descending. There is to be no load in the car and the safety gear switch, overspeed governor switch, buffer switch or any other electrical devices that may cause the lift to stop are to be temporarily shorted out. During the tests the brake is to be kept open, with the machine continuing to run until the ropes slip or become slack.

**9.1 Progressive safety gear**

Ⓐ N/A

a) Does the safety gear operate correctly when engaging at rated speed with the car empty? Ⓐ Yes Ⓐ No

b) State slide distance?

m

c) Does this value lie within the range given by the manufacturer? Ⓐ Yes Ⓐ No

d) Following the test of 9.1a, confirm that no deterioration which could adversely affect the normal use of the lift has occurred: Ⓐ Yes

**9.2 Instantaneous safety gear**

Ⓐ N/A

a) Does the safety gear operate correctly when engaging at rated speed with the car empty? Ⓐ Yes Ⓐ No

b) Following this test, confirm that no deterioration which could adversely affect the normal use of the lift has occurred: Ⓐ Yes



Table 1. Certificate of test and examination for electric passenger and goods lifts (cont.)		
<b>10 Reduced stroke buffering</b>	<input checked="" type="radio"/> N/A	
Does the terminal speed reduction system ensure that the buffer impact speed is appropriate to the stroke of the buffer (see 10.4.3.2 of Part 1)?	<input type="radio"/> Yes <input type="radio"/> No	
<b>11 Buffers</b>		
<b>11.1 Energy accumulation buffers (spring type)</b>		
When the car with its rated load is placed on the buffer(s), the ropes being made slack, confirm that the compression corresponds to that given by the characteristic curve of the buffer (as supplied by the buffer supplier or the lift supplier):	<input checked="" type="radio"/> N/A <input type="radio"/> Yes	
<b>11.2 Energy accumulation buffers (polyurethane type)</b>		
When the car with its rated load is placed on the buffer(s), the ropes being made slack, confirm that the compression corresponds to that given by the characteristic curve of the buffer (as supplied by the buffer supplier or the lift supplier):	<input checked="" type="radio"/> N/A <input type="radio"/> Yes	
<b>11.3 Energy dissipation buffers (oil type)</b>		
a) Car buffers: When the car is brought into contact with the buffers at rated load, at rated speed or at a speed for which the stroke of the buffers has been calculated, is operation satisfactory?	<input type="radio"/> N/A <input type="radio"/> Yes <input type="radio"/> No	
b) Counterweight buffers: When the counterweight is brought into contact with the buffer with the car empty at rated speed, or at a speed for which the stroke of the buffer has been calculated, is operation satisfactory?	<input type="radio"/> Yes <input type="radio"/> No	
c) Do the buffers recover automatically after operation?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
<b>12 Traction checks</b>		
a) Does the car stop under emergency conditions:		
1) with car empty, when travelling upwards at rated speed?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
2) with 125 % rated load, when travelling downwards in the lower part of the well at rated speed?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
b) When the counterweight is resting on its compressed buffers is it impossible for the empty car to be raised under power?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
c) From the measurements recorded in item 5 of this table is the balance satisfactory?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
State the percentage of the balance:	Specified %	Actual 45 %
d) Confirm that the filler weights in the counterweight have been secured:	<input checked="" type="radio"/> Yes	

Table 1. Certificate of test and examination for electric passenger and goods lifts (cont.)

## 13 Duty cycle tests

a) Does the lift operate satisfactorily for a period of at least 0.5 h when running with rated load, full travel and intermediate stops at a rate of starts at least equal to the number of starts recommended in part 4.2 of Part 6?

☒ Yes ☐ No

b) State the machine room temperature at the end of this test:

17 °C

Is this temperature rise acceptable?

☒ Yes ☐ No

If NO, state reasons:

NOTE. It may be necessary to adjust or omit the operation of the doors to achieve the required number of starts per hour

## 14 General

a) Is the maximum load indicated in the car (e.g. number of persons, load in kilograms and identification number) and does it conform to 15.2.1 of Part 1?

☐ Yes ☐ No \*

b) If the lift is a firefighting lift, confirm that it has been designed in accordance with BS 5588 : Part 5:

☐ N/A ☐ Yes \*

c) If the lift is a firefighting lift, confirm that it has been tested in accordance with BS 5588 : Part 5:

☒ N/A ☐ Yes

d) If the lift has an evacuation system for disabled persons, confirm that it has been designed in accordance with BS 5588 : Part 8:

☐ N/A ☐ Yes \*

e) If the lift has an evacuation system for disabled persons, confirm that it has been Tested in accordance with BS 5588 : Part 8:

☒ N/A ☐ Yes

f) Confirm that the emergency instructions are displayed in the machine room in accordance with 15.4 of Part 1:

☒ Yes

g) Confirm that the emergency operation system(s) function correctly in accordance with 12.5 of Part 1:

☒ Yes

To whom has the emergency operation system been demonstrated?

Name:

NOT DEMONSTRATED

Organisation:

h) Confirm that the artificial lighting in the machine room conforms to 6.3.6 of Part 1:

☒ Yes

Table 1. Certificate of test and examination for electric passenger and goods lifts (cont.)

l) Confirm that the artificial lighting in the well conforms to 5.9 of Part 1:

☐ N/A ☒ Yes

j) Are the machine room conditions satisfactory?

☐ Yes ☒ No

If NO, state reasons:

TRAP DOOR TO BE RENEWED.

k) Are the provisions for heating and ventilating the machine room in working order?

☒ Yes ☐ No

l) Confirm that the machine room doors or trap doors are fitted with a suitable lock conforming to 6.3.3.3 of Part 1:

☒ Yes

m) What are the means of emergency communication for passengers in the lift car?

Audible signal  
Alarm Bell

Voice communication  
Autodialler

Confirm that at least one means of emergency communication works:

☒ Yes

n) Confirm that the emergency lighting of the car stays illuminated for at least 1h:

☒ Yes

o) Is there safe means of access to all items of lift equipment in accordance with Part 1?

☒ Yes ☐ No

If NO, state reasons:

p) Confirm that the safety notices/instructions specified in clause 15 of Part 1 and recommended in 3.6 of Part 6 are correctly displayed:

☒ Yes

q) Confirm that the toe guard conforms to 8.4 of Part 1:

☒ Yes

r) Has a counterweight screen been fitted?

☐ N/A ☒ Yes ☐ No

### 15 Conclusions

a) Following the foregoing tests, confirm that all items for which the lift contractor is responsible are complete and that no deterioration which could adversely affect the normal use of the lift has occurred

☒ Yes

**Table 1. Certificate of test and examination for electric passenger and goods lifts (cont.)**

b) Are all the items associated with the installation, for which the lift manufacturer is not responsible, in a suitable state for the installation to be put into service?

☐ Yes ☐ No

NOTE. Some items requiring attention may not be part of the contract for the lift but part of the installation and the responsibility of others. A list of typical inclusions and exclusions is given in BS 5655 : Part 6

If NO, provide details :

--

**16 Declaration of conformity of design and manufacture**

Does the design and manufacture of the lift conform to BS 5655 : Part 1?

☐ Yes ☐ No \*

If NO, state deviations:

--

Signatures(s):

--

GARY POYNTER

Company position:

CONSTRUCTION DIRECTOR

Table 1. Certificate of test and examination for electric passenger and goods lifts (concluded.)


## 17 Declaration of test

I/we certify that on 3/2/06 the equipment was thoroughly examined and found to be free from obvious defects, subject to any statement in 15c and that the foregoing is a correct report of the result.

Vendor/purchaser's identification number:

C5470 H090

Signatures(s):



T COOK

Name and address of public service, association, company firm or person making the examination:

APEX LIFTS  
APEX HOUSE  
LEFA BUSINESS PARK,  
EDGINGTON WAY, SIDCUP  
KENT DA14 5BH

Position in the above organization of the person who conducted the examination:

TESTER

or

Qualifications of examiner, if working on his/her own account:

Test certificate serial number:

C5470

Date:

14/2/06

**APEX DATA**

Table 1. Certificate of test and examination for electric passenger and goods lifts

## Notes for the completion of this certificate

- 1 The references quoted below in association with a part number refer to clauses, figures, tables or annexes of the stated part of BS 5655. Other clause numbers relate to this subsection of BS 5655.
- 2 Statements and replies to all relevant questions should be entered in the appropriate boxes. Where multiple choice questions are posed, only one of the alternative boxes should be ticked.
- 3 Boxes marked with an asterisk (\*) should be completed by the vendor's design office.
- 4 Italic type is used where reference is made to a requirement of BS 5655 Part 1: 1991.

## 1 Description of installation

Location

Grenfell Tower

Vendor

Apex Lifts

Length Of Travel

60 m Approx.

Vendors Identification No

Number of levels served:

Total 22 \*

Front 22 \*

Rear — \*

Side — \*

Purchasers identification No

H090

Power Supply

☒ Permanent

☐ Temporary

Rated Load

900 kg \* 12 Persons \*

Rated Speed

2.0 m/s \*

Specified

Actual at time of test

Voltage

402

Phase

3

Frequency

50

Wire(3or4)

3

Fuse Rating

100

Fuse Type

HRC

Machine room location

☒ Above well \*

☐ Below well \*

☐ At side \*

☐ Within Shaft \*

Are the above entries acceptable?

☒ Yes ☐ No

Machine room temperature at start of dynamic tests

17 °C

Specified \*

Actual

Main Switch Rating

A 100 A

Is the Switch Fused

☐ Yes ☐ No ☒ Yes ☐ No

Is it lockable off

☐ Yes ☐ No ☒ Yes ☐ No

Number of poles

3

NOTE. A four-pole switch is necessary if emergency lowering is fitted

Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)

## 2. Static Examination (mechanical)

## 2.1 Suspension

## a) Suspension ropes:

	Specified	Actual
Number:		* 6
Nominal diameter:	mm*	13 mm
Lay & construction:		* 8/19 RHOL
Is test certificate in order & available?	<input type="radio"/> Yes <input type="radio"/> No *	
Is rope data plate fitted to crosshead?	<input type="radio"/> Yes <input type="radio"/> No	

## b) Rope anchorages :

	Car	Counterweight
Type	Socket + wedge	Socket + wedge.
Number Of Rope Grips (if any):	1	1
Confirm that rope grips (if any) are fitted correctly :	<input checked="" type="radio"/> Yes	<input checked="" type="radio"/> Yes
State BS number and type of socketed anchorages used (if any):		

Describe any other kind of anchorage used:

	Specified	Actual
Are anchorages in accordance with 9.2.3. of part 1 ?	<input type="radio"/> Yes <input type="radio"/> No *	<input checked="" type="radio"/> Yes <input type="radio"/> No
Are the anchorages prevented from rotating through 180° ?	<input type="radio"/> Yes <input type="radio"/> No *	<input type="radio"/> Yes <input type="radio"/> No
Do the ropes conform to 9.5 of part 1 ensuring distribution of load between the ropes?	<input type="radio"/> Yes <input type="radio"/> No *	<input checked="" type="radio"/> Yes <input type="radio"/> No

## c) Suspension chains:

	Specified	Actual
1) Number :	<input checked="" type="radio"/> N/A	
2) Pitch :		
3) Type and construction:		





Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)

## 2.4 Car

a) Confirm that the available floor area, related to rated load and maximum number of passengers, conforms to 8.2 of Part 1?

☐ Yes \*

b) State the internal width, i.e. wall to wall (without finishes):

Specified

mm \*

Actual

mm

c) State the internal depth, i.e. front return to rear wall or front return to rear return (without finishes):

mm \*

mm

## 2.5 Energy accumulation buffers (spring buffers)

☒ N/A \*

a) Confirm that the buffers conform to 10.4.1 of part 1

☐ Yes \*

b) State number fitted

Specified

Actual

c) Confirm that the buffers are correctly identified

☐ Yes

## 2.6 Energy accumulation buffers (polyurethane buffers)

☒ N/A \*

a) Confirm that the buffers conform to 10.4.1 of part 1

☐ Yes \*

b) State size selected:

Specified

Actual

c) State number fitted:

d) Confirm that the buffers are correctly identified:

☐ Yes

## 2.7 Energy dissipation buffers (e.g. oil)

☐ N/A \*

a) Confirm that the buffers have been tested in accordance with F.5 of Part 1 and certified in accordance with F.5.4 of Part 1?

☐ Yes \*

b) Is the data plate in accordance with 15.8 of part 1?

☒ Yes ☐ No





Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)

## 4 Dynamic tests

## 4.1 Safety contact/circuits

a) Have the contacts at each landing entrance been proved so that when broken they stop and prevent movement of the car outside the unlocking zone? ☒ Yes ☐ No

b) Have the mechanical locks at each landing entrance been proved for positive locking? ☒ Yes ☐ No

c) Have the car door/gate contacts been proved so that when broken there is no car movement outside the unlocking zone? ☒ Yes ☐ No

d) If separate terminal stopping switches are fitted, do they operate satisfactorily? ☐ N/A ☒ Yes ☐ No

e) Do the final limit switches operate satisfactorily? ☒ Yes ☐ No

	Nominal		Actual	
f) State the distance beyond terminal floor level at which the final limit switches are set to operate:	Top	mm *	100	mm
	Bottom	mm *	100	mm

g) Have the stopping devices on the car top and in the pulley room and pit been proved so that when broken they stop and prevent movement of the car? ☒ Yes ☐ No

h) Have all the other switches/contacts in safety devices been proved so that when broken they stop and prevent movement of the car? ☒ Yes ☐ No

i) Does the earthing of the most remote contact (lock or push button) operate a fuse or trip a circuit breaker without delay? ☒ Yes ☐ No

j) Have the stopping devices on the car top and in the pulley room and pit, been proved so that when broken they stop and prevent movement of the car under emergency electrical operation? ☒ N/A ☐ Yes ☐ No

## 4.2 Car top control station

a) Confirm that the lift speed when under car top control does not exceed 0.63 m/sec: ☒ Yes

b) Speed up: 0.25 m/s

c) Speed down: 0.25 m/s

d) Confirm that the design of the car top station conforms to 14.2.1.3 of part 1: ☐ Yes \*

e) Confirm that the operation of the car top station conforms to 14.2.1.3 of Part 1: ☒ Yes

Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)

## 4.3 Clearance and run-bys

a) Will the car and counterweight clear all obstacles with the car and rated load compressing the car buffers?

☒ Yes ☐ No

b) When the counterweight rests on its fully compressed buffers, what is the minimum distance to the first striking point above the car, determined in accordance with 5.7.1.1c of Part 1?

~~0.44~~ 0.44 m

c) By how much is the distance in b) exceeded?

0 m

d) When the counterweight rests on its fully compressed buffers, is there a sufficient space to accommodate a rectangular block 0.5 m x 0.6 m x 0.8 m above the car as specified in 5.7.1.1d of Part 1?

☒ Yes ☐ No

e) Confirm that the further guided travel of the counterweight, with the car on its fully compressed buffers, exceeds 300mm, as specified in 5.7.1.2 of part 1:

☒ Yes

f) When the car rests on its fully compressed buffers, is there a sufficient space to accommodate a rectangular block 0.5 m x 0.6 m x 1.0 m below the car as specified in 5.7.3.3 of Part 1, and at least 0.5 m between the bottom of the pit and the lowest point of the car

☒ Yes ☐ No

NOTE: Attention is drawn to the requirement given in 5.7.3.3.b2 of part 1 that the clear distance between the bottom of the pit and the lowest part of the guide shoes or rollers of safety gear block, toe guards or parts of vertical sliding doors be at least 0.1m

## 4.4 Entrance clearances

a) Is the horizontal distance between the sill of the car and sill of all the landing doors 35 mm or less?

☒ Yes ☐ No

b) Is the running clearance between door panels, and between panels and upright, lintels or sills 6 mm or less?

☒ Yes ☐ No

c) Confirm that no recess or projection on the face of the sliding door panels exceeds 3 mm:

☒ Yes

d) Is the distance between the inner surface of the wall and the sill or framework of the car entrance or door 0.15 m or less, or 0.2 m if over a height not exceeding 0.5 m?

☒ Yes ☐ No

e) If the answer to d) is NO, is the car door mechanically locked when away from the unlocking zone, in accordance with 8.11.1 of Part 1?

☒ N/A ☐ Yes ☐ No

Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)

## 4.5 Door tests

NOTE. Where appropriate, the following tests should be carried out with the car and landing doors coupled

- a) How are the doors operated? ☐ Manually ☒ Powered If so answer f, h, i, j, k, t, m, n. If so answer all except m.
- b) Is the measured maximum force to prevent closing, at the mid point of travel, 150 N or less? ☒ Yes ☐ No  
State the figure recorded: 108 N
- c) Is the measured kinetic energy 10 J or less? ☒ Yes ☐ No  
State the figure recorded: 1.9 J
- d) Do all the protective devices reverse the doors in accordance with 7.5.2.1.1.3 of Part 1? ☒ Yes ☐ No
- e) If the protective device is made inoperative (see 7.5.2.1.1.3c of Part 1)?
- 1) Do the doors remain open ☒ Yes ☒ No
- 2) If the answer to 1) is NO, do the doors close with a kinetic energy not exceeding 4 J? ☐ N/A ☒ Yes ☐ No
- f) Is the unlocking zone 0.2 m or less above and below landing levels (or 0.35 m in the case of simultaneously operated car and landing doors)? ☒ Yes ☐ No
- g) Do the landing doors have an automatic mechanical self-closing mechanism? ☐ N/A ☒ Yes ☐ No
- h) Is each set of landing doors capable of being unlocked from the outside with an emergency key? ☒ Yes ☐ No  
If not, why not?
- i) Does the door motor/retiring ramp actuator protection system function correctly? ☐ N/A ☒ Yes ☐ No
- j) What form of electrical protection is provided for the door motor/retiring ramp actuator? ☐ D.C. circuit breaker ☐ Three phase circuit breaker ☐ Overloads in each phase ☒ Timing relay ☐ Thermistors  
State the relevant characteristics: ☐ N/A Time to operate 25 s  
Trip current (if applicable) A
- k) Can the doors be manually opened within the unlocking zone with a force of less than 300 N with the power off (see 8.11.2 of Part 1)? ☒ Yes ☐ No
- l) If the rated speed of the lift is greater than 1.0 m/s is the force required to open the car doors when outside the unlocking zone 50 N or greater? ☐ N/A ☒ Yes ☐ No
- m) Does the 'car here' indicator conform to 7.6.2 of Part 1 for manual doors? ☒ N/A ☐ Yes ☐ No
- n) If the entrance clearances are not in accordance with 4.4d of this table, has it been checked that the car doors are mechanically locked when outside the unlocking zone in normal operation? ☒ N/A ☐ Yes ☐ No







Table 1. Certificate of test and examination for electric passenger and goods lifts (cont.)

## 6.2 Slow speed windings

☒ N/A

a) Measure and record the following (tick box or enter value, as appropriate):

Type of device	Manual reset	Automatic reset	Time to operate s	Trip current A	Setting
Three phase circuit breaker					
Overloads in each phase					
Timing relay					
Thermistor					
Other (name type)					

b) Have you found these satisfactory?

☐ Yes ☐ No

## 6.3 Converter input

☒ N/A

a) Measure and record the following (tick box or enter value, as appropriate):

Type of device	Manual reset	Automatic reset	Time to operate s	Trip current A	Setting
Three phase circuit breaker					
Overloads in each phase					
Timing relay					
Thermistor					
Other (name type)					

b) Have you found these satisfactory?

☐ Yes ☐ No

## 6.4 MG set drive motor

☒ N/A

a) Measure and record the following (tick box or enter value, as appropriate):

Type of device	Manual reset	Automatic reset	Time to operate s	Trip current A	Setting
Three phase circuit breaker					
Overloads in each phase					
Timing relay					
Thermistor					
Other (name type)					

b) Have you found these satisfactory?

☐ Yes ☐ No

Table 1. Certificate of test and examination for electric passenger and goods lifts (cont.)

## 7 Overspeed governor tests

## 7.1 Car governor

Complete the following:

Governor type: *BODE TYPE 7*Serial number: *104 10 1884*

Device	Tripping speed			Does it operate effectively?
	m/s			
	Marked	Measured		
		Car up	Car down	
Electrical		2.6	2.6	<input checked="" type="radio"/> Yes <input type="radio"/> No
Mechanical	2.63	2.6	2.6	<input checked="" type="radio"/> Yes <input type="radio"/> No

State how the governor was tested on the installation

*Allowing fully loaded car to overspeed  
in down direction.*

## 7.1 Counterweight governor

Complete the following:

☒ N/A

Governor type:

Serial number:

Device	Tripping speed		Does it operate effectively?
	m/s		
	Marked	Measured	
		Car upCar down	
Electrical			<input type="radio"/> Yes <input type="radio"/> No
Mechanical			<input type="radio"/> Yes <input type="radio"/> No

State how the governor was tested on the installation:

Table 1. Certificate of test and examination for electric passenger and goods lifts (cont.)

**8 Car safety gear test**

NOTE. The following tests are to be conducted with the car descending. The test load is to be uniformly distributed in the car, and the safety gear switch, overspeed governor switch, buffer switch or any other electrical devices that may cause the lift to stop are to be temporarily shorted out. During the tests the brake is to be kept open, with the machine continuing to run until the ropes slip or become slack

**8.1 Progressive safety gear**☒ N/A

a) Does the safety gear operate correctly when engaging at rated speed with 125 % of rated load uniformly distributed? ☒ Yes ☐ No

b) State slide distance? 0.43 m

c) Does this value lie within the range given by the manufacturer? ☒ Yes ☐ No

d) Is the floor of the lift car horizontal or sloping less than 5 % from the horizontal? ☒ Yes ☐ No

e) Following the test of 8.1a, confirm that no deterioration which could adversely affect the normal use of the lift has occurred: ☒ Yes

**8.2 Instantaneous safety gear**☒ N/A

a) Does the safety gear operate correctly when engaging at rated speed with the rated load uniformly distributed? ☐ Yes ☐ No

b) Is the floor of the lift car horizontal or sloping less than 5 % from the horizontal? ☐ Yes ☐ No

c) Following the test of 8.2a, confirm that no deterioration which could adversely affect the normal use of the lift has occurred: ☐ Yes

**9 Counterweight safety gear test**

NOTE. The following tests are to be conducted with the counterweight descending. There is to be no load in the car and the safety gear switch, overspeed governor switch, buffer switch or any other electrical devices that may cause the lift to stop are to be temporarily shorted out. During the tests the brake is to be kept open, with the machine continuing to run until the ropes slip or become slack.

**9.1 Progressive safety gear**☒ N/A

a) Does the safety gear operate correctly when engaging at rated speed with the car empty? ☐ Yes ☐ No

b) State slide distance? m

c) Does this value lie within the range given by the manufacturer? ☐ Yes ☐ No

d) Following the test of 9.1a, confirm that no deterioration which could adversely affect the normal use of the lift has occurred: ☐ Yes

**9.2 Instantaneous safety gear**☒ N/A

a) Does the safety gear operate correctly when engaging at rated speed with the car empty? ☐ Yes ☐ No

b) Following this test, confirm that no deterioration which could adversely affect the normal use of the lift has occurred: ☐ Yes

Table 1. Certificate of test and examination for electric passenger and goods lifts (cont.)

## 10 Reduced stroke buffering

☒ N/A

Does the terminal speed reduction system ensure that the buffer impact speed is appropriate to the stroke of the buffer (see 10.4.3.2 of Part 1)?

☐ Yes ☐ No

## 11 Buffers

## 11.1 Energy accumulation buffers (spring type)

When the car with its rated load is placed on the buffer(s), the ropes being made slack, confirm that the compression corresponds to that given by the characteristic curve of the buffer (as supplied by the buffer supplier or the lift supplier):

☒ N/A ☐ Yes

## 11.2 Energy accumulation buffers (polyurethane type)

When the car with its rated load is placed on the buffer(s), the ropes being made slack, confirm that the compression corresponds to that given by the characteristic curve of the buffer (as supplied by the buffer supplier or the lift supplier):

☒ N/A ☐ Yes

## 11.3 Energy dissipation buffers (oil type)

☐ N/A

## a) Car buffers:

When the car is brought into contact with the buffers at rated load, at rated speed or at a speed for which the stroke of the buffers has been calculated, is operation satisfactory?

☒ Yes ☐ No

## b) Counterweight buffers:

When the counterweight is brought into contact with the buffer with the car empty at rated speed, or at a speed for which the stroke of the buffer has been calculated, is operation satisfactory?

☐ Yes ☐ No

## c) Do the buffers recover automatically after operation?

☒ Yes ☐ No

## 12 Traction checks

## a) Does the car stop under emergency conditions:

1) with car empty, when travelling upwards at rated speed?

☒ Yes ☐ No

2) with 125 % rated load, when travelling downwards in the lower part of the well at rated speed?

☒ Yes ☐ No

b) When the counterweight is resting on its compressed buffers is it impossible for the empty car to be raised under power?

☒ Yes ☐ No

c) From the measurements recorded in item 5 of this table is the balance satisfactory?

☒ Yes ☐ No

State the percentage of the balance:

Specified  
% \*

Actual  
45 %

d) Confirm that the filler weights in the counterweight have been secured:

☒ Yes

Table 1. Certificate of test and examination for electric passenger and goods lifts (cont.)

## 13 Duty cycle tests

a) Does the lift operate satisfactorily for a period of at least 0.5 h when running with rated load, full travel and intermediate stops at a rate of starts at least equal to the number of starts recommended in part 4.2 of Part 6?

☒ Yes ☐ No

b) State the machine room temperature at the end of this test:

17 °C

Is this temperature rise acceptable?

☒ Yes ☐ No

If NO, state reasons:

NOTE. It may be necessary to adjust or omit the operation of the doors to achieve the required number of starts per hour

## 14 General

a) Is the maximum load indicated in the car (e.g. number of persons, load in kilograms and identification number) and does it conform to 15.2.1 of Part 1?

☐ Yes ☐ No \*

b) If the lift is a firefighting lift, confirm that it has been designed in accordance with BS 5588 : Part 5:

☐ N/A ☐ Yes \*

c) If the lift is a firefighting lift, confirm that it has been tested in accordance with BS 5588 : Part 5:

☒ N/A ☐ Yes

d) If the lift has an evacuation system for disabled persons, confirm that it has been designed in accordance with BS 5588 : Part 8:

☐ N/A ☐ Yes \*

e) If the lift has an evacuation system for disabled persons, confirm that it has been Tested in accordance with BS 5588 : Part 8:

☒ N/A ☐ Yes

f) Confirm that the emergency instructions are displayed in the machine room in accordance with 15.4 of Part 1:

☒ Yes

g) Confirm that the emergency operation system(s) function correctly in accordance with 12.5 of Part 1:

☒ Yes

To whom has the emergency operation system been demonstrated?

Name:

Organisation:

Not

DEMONSTRATED

h) Confirm that the artificial lighting in the machine room conforms to 6.3.6 of Part 1:

☒ Yes



Table 1. Certificate of test and examination for electric passenger and goods lifts (cont.)

b) Are all the items associated with the installation, for which the lift manufacturer is not responsible, in a suitable state for the installation to be put into service?

☐ Yes ☐ No

NOTE. Some items requiring attention may not be part of the contract for the lift but part of the installation and the responsibility of others. A list of typical inclusions and exclusions is given in BS 5655 : Part 6

If NO, provide details :

#### 16 Declaration of conformity of design and manufacture

Does the design and manufacture of the lift conform to BS 5655 : Part 1?

☐ Yes ☐ No \*

If NO, state deviations:

Signatures(s):

Company position:





Notes for the completion of this certificate

1. The references quoted below in association with a part number refer to clauses, figures, tables or annexes of the stated part of BS 5655. Other clause numbers relate to this subsection of BS 5655
2. Statements and replies to all relevant questions should be entered in the appropriate boxes. Where multiple choice questions are posed, only one of the alternative boxes should be ticked.
3. Boxes marked with an asterisk (\*) should be completed by the vendors design office
4. *Italic type* is used where reference is made to a requirement of BS 5655: Part 1: 1986

Location **GRENfell TOWER** \*

Vendor Apex Lifts Ltd \*

Length Of Travel	63.209	m
------------------	--------	---

Vendors Identification No  
C5470 \*

Number of levels served:

Purchasers identification No  
H091 \*

Total 22 \*

Front 22 \*

Rear      \*

Side - ★

Power Supply      ☒ Permanent  
                             ☐ Temporary

**Rated Load**            900 kg \*            12 Persons \*

**Rated Speed** 2.0 m/s \*

Machine room location

- ☒ Above well      \*  
☐ Below well      \*  
☐ At side      \*  
☐ Within Shaft      \*

	Specified		Actual at time of test
Voltage	415	*	413
Phase	3	*	3
Frequency	50	*	50
Wire(3or4)	3	*	3
Fuse Rating		*	100
Fuse Type		*	HRC

Are the above entries acceptable?

☐ Yes ☐ No

Machine room temperature at start of dynamic tests	26	°C
--	----	----

	Specified *		Actual	
Main Switch Rating	100	A	100	A

Reeving Ratio	1.1	*
---------------	-----	---

Is the Switch Fused ☐ Yes ☐ No ☒ Yes ☐ No

Is it lockable off ☐ Yes ☐ No ☒ Yes ☐ No

Number of poles 3

**NOTE.** A four-pole switch is necessary if emergency lowering is fitted

**Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)**
**2. Static Examination (mechanical)**
**2.1 Suspension**
**a) Suspension ropes:**

	Specified	Actual
Number:	6	* 6
Nominal diameter:	13 mm*	13 mm
Lay & construction:	R.H. Ordinary 8/19 *	R.H. Ordinary 8/19
Is test certificate in order & available?	<input checked="" type="radio"/> Yes <input type="radio"/> No *	
Is rope data plate fitted to crosshead?	<input checked="" type="radio"/> Yes <input type="radio"/> No	

**b) Rope anchorages :**

	Car	Counterweight
Type	WEDGE CLAMP	WEDGE CLAMPS
Number Of Rope Grips (if any):	1	1
Confirm that rope grips (if any) are fitted correctly :	<input checked="" type="radio"/> Yes	<input checked="" type="radio"/> Yes
State BS number and type of socketed anchorages used (if any):	EYE BOLTS	EYE BOLTS

Describe any other kind of anchorage used:

	Specified	Actual
<i>Are anchorages in accordance with 9.2.3. of part 1 ?</i>	<input checked="" type="radio"/> Yes <input type="radio"/> No *	<input checked="" type="radio"/> Yes <input type="radio"/> No
<i>Are the anchorages prevented from rotating through 180° ?</i>	<input checked="" type="radio"/> Yes <input type="radio"/> No *	<input checked="" type="radio"/> Yes <input type="radio"/> No
<i>Do the ropes conform to 9.5 of part 1 ensuring distribution of load between the ropes?</i>	<input checked="" type="radio"/> Yes <input type="radio"/> No *	<input checked="" type="radio"/> Yes <input type="radio"/> No

**c) Suspension chains:**

	Specified	Actual
1) Number :	<input checked="" type="radio"/> N/A	*
2) Pitch :		*
3) Type and construction:		*

**Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)**

- |  |  |  |
|--|--|--|
| 4) Is the chain test certificate available and in order?                                 | <input type="radio"/> Yes <input type="radio"/> No * |  |
| 5) Are the anchorages in accordance with 9.2.5 of Part 1?                                | <input type="radio"/> Yes <input type="radio"/> No * |  |
|  | Specified  | Actual   |
| 6) Do the chains conform to 9.5 of part 1, ensuring distribution of load between chains? | <input type="radio"/> Yes <input type="radio"/> No * | <input type="radio"/> Yes <input type="radio"/> No |
| d) Eyebolts:   | Specified  | Actual   |
| If eyebolts used do they conform to Part 8?  | <input type="radio"/> Yes <input type="radio"/> No * | <input type="radio"/> Yes <input type="radio"/> No |

**2.2 Compensation**

- |                              |   |
|------------------------------|---|
| a) Is compensation provided? | <input type="radio"/> Yes <input checked="" type="radio"/> No * |
| b) If yes what type?         |   |
|                              | Specified                      Actual                           |
| 1) Rope:                     | *   |
| 2) Chain:                    | *   |
| 3) Anti Rebound:             | *   |
| 4) Number:                   | *   |
| 5) Size:                     | *   |

**2.3 Safety gear, overspeed governor, overspeed governor rope and tension pulley**

- |   |   |
|---|---|
| a) Has the safety gear been tested in accordance with F.3 of part 1 and certified in accordance with F.3.5 of part 1?               | <input checked="" type="radio"/> Yes <input type="radio"/> No *             |
| b) If YES, is the data plate fitted in accordance with 15.14 of Part 1?   | <input checked="" type="radio"/> Yes <input type="radio"/> No               |
| c) Is the safety gear sealed (see 9.8.6.4 of Part 1)?   | <input checked="" type="radio"/> Yes <input type="radio"/> No               |
| d) Confirm that the governor has been tested in accordance with F.4 of Part 1 and certified in accordance with F.4.3 of part 1:     | <input checked="" type="radio"/> Yes <input type="radio"/> No *             |
| e) Specify overspeed governor type:   | BIDIRECTIONAL - BODE  |
| f) State type of overspeed governor fitted:   | VCB 098/1   |
| g) Is the data plate fitted & in accordance with 15.6 of Part 1?  | <input checked="" type="radio"/> Yes <input type="radio"/> No               |
| h) Confirm that the governor is sealed:   | <input checked="" type="radio"/> Yes  |
|   | Specified                      Actual                                       |
| i) State safety rope nominal diameter:  | 8 mm*                      8 mm   |
| j) Confirm that the safety gear, overspeed governor, overspeed governor rope and the tension pulley operate as a compatible system: | <input checked="" type="radio"/> Yes * <input checked="" type="radio"/> Yes |

Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)

<b>2.4 Car</b>			
a) Confirm that the available floor area, related to rated load and maximum number of passengers, conforms to 8.2 of Part 1?	<input checked="" type="radio"/> Yes *		
	Specified	Actual	
b) State the internal width, i.e. wall to wall (without finishes):	mm*		1400 mm
c) State the internal depth, i.e. front return to rear wall or front return to rear return (without finishes):	mm*		1400 mm
<b>2.5 Energy accumulation buffers (spring buffers)</b>			
	<input checked="" type="radio"/> N/A *		
a) Confirm that the buffers conform to 10.4.1 of part 1	<input type="radio"/> Yes *		
	Specified	Actual	
b) State number fitted		*	
c) Confirm that the buffers are correctly identified	<input type="radio"/> Yes		
<b>2.6 Energy accumulation buffers (polyurethane buffers)</b>			
	<input checked="" type="radio"/> N/A *		
a) Confirm that the buffers conform to 10.4.1 of part 1	<input type="radio"/> Yes *		
	Specified	Actual	
b) State size selected:		*	
c) State number fitted:		*	
d) Confirm that the buffers are correctly identified:	<input type="radio"/> Yes		
<b>2.7 Energy dissipation buffers (e.g. oil)</b>			
	<input checked="" type="radio"/> N/A *		
a) Confirm that the buffers have been tested in accordance with F.5 of Part 1 and certified in accordance with F.5.4 of Part 1?	<input checked="" type="radio"/> Yes *		
b) Is the data plate in accordance with 15.8 of part 1?	<input checked="" type="radio"/> Yes <input type="radio"/> No		

**Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)**

c) *If No are they suitable for submission to the test described in 11.3 of this table?*

☒ N/A ☐ Yes ☐ No

d) Are they correctly filled and not leaking?

☒ Yes ☐ No

e) Is there reduced stroke buffering (see item 10 of this table)?

☐ Yes ☒ No \*

f) Is the stroke of each buffer in accordance with 10.4.3 of Part 1?

☒ Yes ☐ No

g) State number fitted

Specified  
2

\*

Actual  
2

## 2.8 Brake

Confirm that the brake sustains the static car at the lowest level when loaded with 125% of rated load

☒ Yes

## 2.9 Landing door assemblies

a) Does the contract require the landing door assemblies to be fire-rated

☒ Yes ☐ No \*

If YES what is the fire-rating requirement

2 Hour\*

b) Is the test certificate available and in order

☐ N/A ☒ Yes ☐ No \*

c) If yes and the doors are manually operated is the means of fire prevention a fusible link

☒ N/A ☐ Yes ☐ No \*

d) If NO describe the method used

e) Confirm that the fire rated elements of the door assembly are correctly fitted :

☒ Yes

## 2.10 Door locks

a) *Confirm that all the door locks have been tested in accordance with F1 of Part 1 and certified in accordance with F.1.4 of Part 1:*

☒ Yes \*

b) Does the data plate conform to 15.13 of Part 1:

☒ Yes ☐ No

**Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)**
**3 Static examination (electrical)**
**3.1 Electric safety devices**

*Confirm that the electric safety devices are in accordance with appendix A of Part 1*

☒ Yes

**3.2 Insulation resistance to earth (see clause 5)**

- |  |             |
|--|-------------|
| a) Lift motor                                | >280 M Ohms |
| b) MG set (if fitted)                        |             |
| 1) Motor                                     | - M Ohms    |
| 2) Generator                                 | - M Ohms    |
| c) Power system                              | >900 M Ohms |
| d) Safety devices<br>(state minimum reading) | >900 M Ohms |

**3.3 Earthing**

a) *Is the maximum continuity resistance to the earth provided less than 0.5 Ohms ? (see clause 7b):*

☒ Yes   ☐ No

b) *Is the car connected to the controller earthing terminal by a separate conductor at least 0.75mm in cross section*

☒ Yes   ☐ No

**3.3 Protection of conductors**

a) *Is the fixed wiring in conduits (or trunking, or fittings which ensure equivalent protection) throughout?*

☒ Yes   ☐ No

b) *If NO do the cables conform to 13.5.1.2 of Part 1?*

☒ N/A   ☐ Yes   ☐ No

**3.3 Phase failure device**

*Confirm that the phase reversal and phase failure protection operates correctly:*

☒ Yes

**3.3 Electrical wiring**

*Do the electrical conductors, including travelling cables conform to 13.5 of Part 1?*

☒ Yes   ☐ No

**Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)**
**4 Dynamic tests**
**4.1 Safety contact/circuits**

- a) Have the contacts at each landing entrance been proved so that when broken they stop and prevent movement of the car outside the unlocking zone? ☒ Yes ☐ No
- b) Have the mechanical locks at each landing entrance been proved for positive locking? ☒ Yes ☐ No
- c) Have the car door/gate contacts been proved so that when broken there is no car movement outside the unlocking zone? ☒ Yes ☐ No
- d) If separate terminal stopping switches are fitted, do they operate satisfactorily? ☐ N/A ☒ Yes ☐ No
- e) Do the final limit switches operate satisfactorily? ☒ Yes ☐ No
- |   | Nominal | Actual   |
|---|---------|----------|
| f) State the distance beyond terminal floor level at which the final limit switches are set to operate: | Top     | 150 mm * |
|   | Bottom  | 150 mm * |
- g) Have the stopping devices on the car top and in the pulley room and pit been proved so that when broken they stop and prevent movement of the car? ☒ Yes ☐ No
- h) Have all the other switches/contacts in safety devices been proved so that when broken they stop and prevent movement of the car? ☒ Yes ☐ No
- i) Does the earthing of the most remote contact (lock or push button) operate a fuse or trip a circuit breaker without delay? ☒ Yes ☐ No
- j) Have the stopping devices on the car top and in the pulley room and pit, been proved so that when broken they stop and prevent movement of the car under emergency electrical operation? ☐ N/A ☒ Yes ☐ No

**4.2 Car top control station**

- a) Confirm that the lift speed when under car top control does not exceed 0.63 m/sec: ☒ Yes
- b) Speed up: 0.25 m/s
- c) Speed down: 0.25 m/s
- d) Confirm that the design of the car top station conforms to 14.2.1.3 of part 1: ☒ Yes \*
- e) Confirm that the operation of the car top station conforms to 14.2.1.3 of Part 1: ☒ Yes

**Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)**
**4.3 Clearance and run-bys**

a) Will the car and counterweight clear all obstacles with the car and rated load compressing the car buffers?

☒ Yes ☐ No

b) When the counterweight rests on its fully compressed buffers, what is the minimum distance to the first striking point above the car, determined in accordance with 5.7.1.1c of Part 1?

240MM m \*

c) By how much is the distance in b) exceeded?

20MM m

d) When the counterweight rests on its fully compressed buffers, is there a sufficient space to accommodate a rectangular block 0.5 m x 0.6 m x 0.8 m above the car as specified in 5.7.1.1d of Part 1?

☒ Yes ☐ No

e) Confirm that the further guided travel of the counterweight, with the car on its fully compressed buffers, exceeds 300mm, as specified in 5.7.1.2 of part 1:

☒ Yes

f) When the car rests on its fully compressed buffers, is there a sufficient space to accommodate a rectangular block 0.5 m x 0.6 m x 1.0 m below the car as specified in 5.7.3.3 of Part 1, and at least 0.5 m between the bottom of the pit and the lowest point of the car

☒ Yes ☐ No

NOTE. Attention is drawn to the requirement given in 5.7.3.3.b2 of part 1 that the clear distance between the bottom of the pit and the lowest part of the guide shoes or rollers of safety gear block, toe guards or parts of vertical sliding doors be at least 0.1m

**4.4 Entrance clearances**

a) Is the horizontal distance between the sill of the car and sill of all the landing doors 35 mm or less?

☒ Yes ☐ No

b) Is the running clearance between door panels, and between panels and upright, lintels or sills 6 mm or less?

☒ Yes ☐ No

c) Confirm that no recess or projection on the face of the sliding door panels exceeds 3 mm:

☒ Yes

d) Is the distance between the inner surface of the well and the sill or framework of the car entrance or door 0.15 m or less, or 0.2 m if over a height not exceeding 0.5 m?

☒ Yes ☐ No

e) If the answer to d) is NO, is the car door mechanically locked when away from the unlocking zone, in accordance with 8.11.1 of Part 1?

☐ N/A ☒ Yes ☐ No



Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)

## 4.5 Door tests

NOTE. Where appropriate, the following tests should be carried out with the car and landing doors coupled

- a) How are the doors operated? ☐ Manually If so answer f, h, i, j, k, l, m, n.  
☒ Powered If so answer all except m.
- b) Is the measured maximum force to prevent closing, at the mid point of travel, 150 N or less? ☒ Yes ☐ No  
State the figure recorded: 140 N
- c) Is the measured kinetic energy 10 J or less? ☒ Yes ☐ No  
State the figure recorded: 4 J
- d) Do all the protective devices reverse the doors in accordance with 7.5.2.1.1.3 of Part 1? ☒ Yes ☐ No
- e) If the protective device is made inoperative (see 7.5.2.1.1.3c of Part 1)?
- 1) Do the doors remain open ☒ Yes ☐ No
- 2) If the answer to 1) is NO, do the doors close with a kinetic energy not exceeding 4 J? ☒ N/A ☐ Yes ☐ No
- f) Is the unlocking zone 0.2 m or less above and below landing levels (or 0.35 m in the case of simultaneously operated car and landing doors)? ☒ Yes ☐ No
- g) Do the landing doors have an automatic mechanical self-closing mechanism? ☐ N/A ☒ Yes ☐ No
- h) Is each set of landing doors capable of being unlocked from the outside with an emergency key? ☒ Yes ☐ No  
If not, why not?
- i) Does the door motor/retiring ramp actuator protection system function correctly? ☐ N/A ☒ Yes ☐ No
- j) What form of electrical protection is provided for the door motor/retiring ramp actuator? AC CIRCUIT BREAKER  
☐ D.C. circuit breaker ☐ Three phase circuit breaker ☐ Overloads in each phase ☒ Timing relay ☐ Thermistors  
State the relevant characteristics: ☐ N/A  
Time to operate 20 s  
Trip current (if applicable) 3 A
- k) Can the doors be manually opened within the unlocking zone with a force of less than 300 N with the power off (see 8.11.2 of Part 1)? ☒ Yes ☐ No
- l) If the rated speed of the lift is greater than 1.0 m/s is the force required to open the car doors when outside the unlocking zone 50 N or greater? ☐ N/A ☒ Yes ☐ No
- m) Does the 'car here' indicator conform to 7.6.2 of Part 1 for manual doors? ☒ N/A ☐ Yes ☐ No
- n) If the entrance clearances are not in accordance with 4.4d of this table, has it been checked that the car doors are mechanically locked when outside the unlocking zone in normal operation? ☐ N/A ☒ Yes ☐ No

**Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)**

**5 Measurements of the electrical system**

a) State the power system (use terms as described in 4.2.3 of Part 6) \*

b) Provide the following details of the lift motor (as stated on the data plate )

	Specified		Actual
Maker		*	ZIEHL ABEGG
Serial number		*	0450077312
Type		*	VFD200L-4
Voltage	v	*	3 Y360/400 v
Power Rating	kw	*	30 kw
Current Rating	A	*	66 A
Speed	r.p.m.	*	1470 r.p.m.
Class of insulation		*	F
Duty rating		*	240 SPH

c) Measure and record the following operational data when the car is at mid point of travel

<b>Rated-speed operation (with lift performing approximately to its power system)</b>									
Car loading condition		Lift motor speed 1) r.p.m.	Lift speed 1) m/s	Lift motor input			System input 2)		
				Running		Start	Running		Start
				V	A	A	V	A	A
Empty	up	1351	2.0	571	40.7	63.5	412	1.1	45.2
	down	1348	2.0	547	46.5	98.4	410	29.5	76.9
Balanced	up	1349	2.0	556	39.2	80.2	413	9.8	59.0
	down	1350	2.0	559	38.4	78.2	413	9.4	58.8
Rated	up	1348	2.0	548	47.0	103.5	412	30.5	79.2
	down	1352	2.0	572	39.8	63.8	416	1.1	45.6

- 1) Complete either of these columns in its entirety & make one entry only in the alternative column for the "rated up" condition  
 2) Energy convertor or equivalent. Measure the system input to the controller from the main supply

<b>Low-speed operation (with two speed a.c. motor)</b>									
⊙ N/A *									
Car loading condition		Lift motor speed 1) r.p.m.	Lift speed 1) m/s	Lift motor input			System input 2)		
				Running		Start	Running		Start
				V	A	A	V	A	A
Empty	up								
	down								
Balanced	up								
	down								
Rated	up								
	down								

- 1) Complete either of these columns in its entirety & make one entry only in the alternative column for the "rated up" condition  
 2) Energy convertor or equivalent. Measure the system input to the controller from the main supply

**Table 1. Certificate of test and examination for electric passenger and goods lifts (cont)**

Maximum levelling deviation			
Car loading condition		Maximum levelling deviation (+ or -)	
		Specified mm	Actual mm
Empty	up		4
	down		2
Balanced	up		3
	down		3
Rated	up		2
	down		4

d) Quote the following data from the nameplate of the associated energy convertor(s)

☐ N/A

- |              |                |        |       |  |        |
|--------------|----------------|--------|-------|--|--------|
| 1) Type      | CIMR - L84045  |        |       |  |        |
| 2) Serial No | JOO49G9963T002 |        |       |  |        |
| 3) Input     | kw             | 115 A  | 400 V |  | r.p.m. |
| 4) Output    | kw             | 80KV A | 400 V |  | r.p.m. |

**6 Lift motor overcurrent protective devices**

**6.1 Main windings**

a) Measure and record the following (tick box or enter value, as appropriate):

Type of device	Manual reset	Automatic reset	Time to operate s	Trip current A	Setting
Three phase circuit breaker	X			100	
Overloads in each phase	X		19		
Timing relay		X			
Thermistor		X			
Other (name type)					

b) Have you found these satisfactory?

☒ Yes ☐ No

**Table 1. Certificate of test and examination for electric passenger and goods lifts (cont.)**

**6.2 Slow speed windings**

☒ N/A

a) Measure and record the following (tick box or enter value, as appropriate):

Type of device	Manual reset	Automatic reset	Time to operate s	Trip current A	Setting
Three phase circuit breaker					
Overloads in each phase					
Timing relay					
Thermistor					
Other (name type)					

b) Have you found these satisfactory?

☐ Yes ☐ No

**6.3 Converter input**

☐ N/A

a) Measure and record the following (tick box or enter value, as appropriate):

Type of device	Manual reset	Automatic reset	Time to operate s	Trip current A	Setting
Three phase circuit breaker		X		100	
Overloads in each phase					
Timing relay			X		
Thermistor			X		
Other (name type)					

b) Have you found these satisfactory?

☒ Yes ☐ No

**6.4 MG set drive motor**

☒ N/A

a) Measure and record the following (tick box or enter value, as appropriate):

Type of device	Manual reset	Automatic reset	Time to operate s	Trip current A	Setting
Three phase circuit breaker					
Overloads in each phase					
Timing relay					
Thermistor					
Other (name type)					

b) Have you found these satisfactory?

☐ Yes ☐ No

**Table 1. Certificate of test and examination for electric passenger and goods lifts (cont.)**
**7 Overspeed governor tests**
**7.1 Car governor**

Complete the following:

Governor type: VCB 098/1, BIDIRECTIONAL - BODE

Serial number: 101 10 1886

Device	Tripping speed			Does it operate effectively?
	m/s			
	Marked	Measured		
		Car up	Car down	
Electrical		2.60	2.64	☉ Yes   ○ No
Mechanical			2.79	☉ Yes   ○ No

State how the governor was tested on the installation

BIDIRECTIONAL GOVERNOR  
CWT TESTED EMPTY CAR WITH CWT IN FREEFALL  
CAR TESTED FULL LOAD WITH CAR IN FREEFALL

**7.1 Counterweight governor**

Complete the following: ☒ N/A

Governor type:

Serial number:

Device	Tripping speed			Does it operate effectively?
	m/s			
	Marked	Measured		
		Car up	Car down	
Electrical				<input type="radio"/> Yes <input type="radio"/> No
Mechanical				<input type="radio"/> Yes <input type="radio"/> No

State how the governor was tested on the installation:

**Table 1. Certificate of test and examination for electric passenger and goods lifts (cont.)**

**8 Car safety gear test**

NOTE. The following tests are to be conducted with the car descending. The test load is to be uniformly distributed in the car, and the safety gear switch, overspeed governor switch, buffer switch or any other electrical devices that may cause the lift to stop are to be temporarily shorted out. During the tests the brake is to be kept open, with the machine continuing to run until the ropes slip or become slack

**8.1 Progressive safety gear**

☒ N/A

a) Does the safety gear operate correctly when engaging at rated speed with 125 % of rated load uniformly distributed ?

☒ Yes ☐ No

b) State slide distance?

495MM m

c) Does this value lie within the range given by the manufacturer?

☒ Yes ☐ No

d) Is the floor of the lift car horizontal or sloping less than 5 % from the horizontal?

☒ Yes ☐ No

e) Following the test of 8.1a, confirm that no deterioration which could adversely affect the normal use of the lift has occurred:

☒ Yes

**8.2 Instantaneous safety gear**

☒ N/A

a) Does the safety gear operate correctly when engaging at rated speed with the rated load uniformly distributed ?

☐ Yes ☐ No

b) Is the floor of the lift car horizontal or sloping less than 5 % from the horizontal?

☐ Yes ☐ No

c) Following the test of 8.2a, confirm that no deterioration which could adversely affect the normal use of the lift has occurred:

☐ Yes

**9 Counterweight safety gear test**

NOTE. The following tests are to be conducted with the counterweight descending. There is to be no load in the car and the safety gear switch, overspeed governor switch, buffer switch or any other electrical devices that may cause the lift to stop are to be temporarily shorted out. During the tests the brake is to be kept open, with the machine continuing to run until the ropes slip or become slack.

**9.1 Progressive safety gear**

☒ N/A

a) Does the safety gear operate correctly when engaging at rated speed with the car empty?

☐ Yes ☐ No

b) State slide distance?

m

c) Does this value lie within the range given by the manufacturer?

☐ Yes ☐ No

d) Following the test of 9.1a, confirm that no deterioration which could adversely affect the normal use of the lift has occurred:

☐ Yes

**9.2 Instantaneous safety gear**

☒ N/A

a) Does the safety gear operate correctly when engaging at rated speed with the car empty?

☐ Yes ☐ No

b) Following this test, confirm that no deterioration which could adversely affect the normal use of the lift has occurred:

☐ Yes

**Table 1. Certificate of test and examination for electric passenger and goods lifts (cont.)**

<b>10 Reduced stroke buffering</b>		<input checked="" type="radio"/> N/A	
Does the terminal speed reduction system ensure that the buffer impact speed is appropriate to the stroke of the buffer (see 10.4.3.2 of Part 1)?		<input type="radio"/> Yes <input type="radio"/> No	
<b>11 Buffers</b>			
<b>11.1 Energy accumulation buffers (spring type)</b>			
When the car with its rated load is placed on the buffer(s), the ropes being made slack, confirm that the compression corresponds to that given by the characteristic curve of the buffer (as supplied by the buffer supplier or the lift supplier):		<input checked="" type="radio"/> N/A <input type="radio"/> Yes	
<b>11.2 Energy accumulation buffers (polyurethane type)</b>			
When the car with its rated load is placed on the buffer(s), the ropes being made slack, confirm that the compression corresponds to that given by the characteristic curve of the buffer (as supplied by the buffer supplier or the lift supplier):		<input checked="" type="radio"/> N/A <input type="radio"/> Yes	
<b>11.3 Energy dissipation buffers (oil type)</b>		<input type="radio"/> N/A	
a) Car buffers: When the car is brought into contact with the buffers at rated load, at rated speed or at a speed for which the stroke of the buffers has been calculated, is operation satisfactory?		<input checked="" type="radio"/> Yes <input type="radio"/> No	
b) Counterweight buffers: When the counterweight is brought into contact with the buffer with the car empty at rated speed, or at a speed for which the stroke of the buffer has been calculated, is operation satisfactory?		<input checked="" type="radio"/> Yes <input type="radio"/> No	
c) Do the buffers recover automatically after operation?		<input checked="" type="radio"/> Yes <input type="radio"/> No	
<b>12 Traction checks</b>			
a) Does the car stop under emergency conditions:			
1) with car empty, when travelling upwards at rated speed?		<input checked="" type="radio"/> Yes <input type="radio"/> No	
2) with 125 % rated load, when travelling downwards in the lower part of the well at rated speed?		<input checked="" type="radio"/> Yes <input type="radio"/> No	
b) When the counterweight is resting on its compressed buffers is it impossible for the empty car to be raised under power?		<input checked="" type="radio"/> Yes <input type="radio"/> No	
c) From the measurements recorded in Item 5 of this table is the balance satisfactory?		<input checked="" type="radio"/> Yes <input type="radio"/> No	
State the percentage of the balance:		Specified 50 %	Actual 50 %
d) Confirm that the filler weights in the counterweight have been secured:		<input checked="" type="radio"/> Yes	





**Table 1. Certificate of test and examination for electric passenger and goods lifts (cont.)**

1) Confirm that the artificial lighting in the well conforms to 5.9 of Part 1: ☐ N/A ☒ Yes

j) Are the machine room conditions satisfactory?

☒ Yes ☐ No

**If NO, state reasons:**

[illegible]

k) Are the provisions for heating and ventilating the machine room in working order?

☒ Yes ☐ No

l) Confirm that the machine room doors or trap doors are fitted with a suitable lock conforming to 6.3.3.3 of Part 1:

☒ Yes

m) What are the means of emergency communication for passengers in the lift car?

**Audible signal**

### Voice communication

**Confirm that at least one means of emergency communication works:**

☒ Yes

n) Confirm that the emergency lighting of the car stays illuminated for at least 1h:

☒ Yes

**o) Is there safe means of access to all items of lift equipment in accordance with Part 1?**

☒ Yes ☐ No

If NO, state reasons:

[illegible]

**p) Confirm that the safety notices/instructions specified in clause 15 of Part 1 and recommended in 3.6 of Part 6 are correctly displayed:**

☒ Yes

q) Confirm that the toe guard conforms to 8.4 of Part 1:

☒ Yes

r) Has a counterweight screen been fitted?

☐ N/A ☒ Yes ☐ No

## 15 Conclusions

a) Following the foregoing tests, confirm that all items for which the lift contractor is responsible are complete and that no deterioration which could adversely affect the normal use of the lift has occurred

☒ Yes



Table 1. Certificate of test and examination for electric passenger and goods lifts (concluded.)

## 17 Declaration of test

I/we certify that on 9/8/05 the equipment was thoroughly examined and found to be free from obvious defects, subject to any statement in 15c and that the foregoing is a correct report of the result.

Vendor/purchaser's identification number:

C5470 H091

**Signatures(s):**

ROGER ANTHONY

Name and address of public service, association, company firm or person making the examination:

APEX LIFTS  
APEX HOUSE  
LEFA BUSINESS PARK,  
EDGINGTON WAY, SIDCUP  
KENT DA14 5BH

Position in the above organization of the person who conducted the examination:

**PROJECT MANAGER / TESTER**

or

Qualifications of examiner, if working on his/her own account:

Test certificate serial number:

**C5470**

Date:

19/8/05

## APEX DATA