Alpha
Consulting Engineers Pte Ltd

FEEDBACK REPORT FORM

Ref No: 135- 200410 (6)

To: LCT From: LFY

Job No./Project: LIFT MASTER SPECS *(where applicable)*
Section 3 - Hoistway Equipment

Source of feedback: _____

Scope of Feedback: * ☐ Quality ☐ Environmental ☐ Administrative ☐ Contractual
☐ Technical ☒ Specification ☐ Others

Section A : Problem & Cause
Update spec on compensating cables, dust covers, toe guards.
Compensating cables not required for travel less than 30m.

Section B : Mitigating Action Taken, if any

Section C : Suggested Corrective Action
Update spec.

Section D : Approved Corrective Action

Document Affected * : ☑ Yes ☐ No Affected Document : L/3-1 to L/3-3

Approved By : (LCT) Date : 21/4

Section E : Action

Action By : NA

Targeted Completion : April 2010

Actual Completion : 19 April 2010 Verified By : (LCT)

** Mark [X] where appropriate*

Distribution:							

Select one of the following headings

LIFT & ESCALATOR INSTALLATION

LIFT INSTALLATION

ESCALATOR INSTALLATION

SECTION 3 - HOISTWAY EQUIPMENT

3.1 General

The hoistway equipment shall include guide rails, ropes, counterweights, buffers, terminal devices, emergency access door, lighting and switches etc. and any other necessary items within the hoistway for the operation and safety of the lift installation.

3.2 Guide Rails and Fastenings

All the guide rails shall be of Standard 'Tee' section steel with machined working faces. The guides shall be joined with tongued and grooved matching joints together with strong backing plates.

Guide rails shall be erected plumb and fastened securely to the lift shaft framing by heavy steel brackets, so designed and located that the rails shall not deflect more than 8 mm under normal operation.

Guides shall be held to their fastenings by through bolts or clips of such design that any rotary movement of the clip will not release the guide, and shall withstand the application of the safety gear when stopping a fully loaded car or counterweight.

Guide rails shall extend for such length to prevent any of the car or counterweight shoes from running off the guides. Dry guides shall be employed for all lifts.

Special guides rail supports shall be provided for the goods lifts to withstand the lateral force during loading and unloading by forklifts.

3.3 Ropes for Lifts

Hoisting ropes, rope attachments and fittings and the safety factor of ropes shall conform to the current edition of Singapore Standard CP 2.

Ropes shall not be spliced other than for the purpose of attachment to the car, counterweight or anchorage. The particular type of rope shall have a close strand construction, resulting in an increased metallic cross-sectional area and strength, and shall have superior bending qualities compared with other types. Manufacturers' certificates for the ropes shall be submitted.

3.4 Compensating Cables & Devices

Compensating cables where required shall be used to counter balance the weight of the hoisting cables and the unbalanced portion of the travelling cables.

~~The weight of the hoisting cables and the unbalanced portion of the travelling cables shall be counterweighted by steel cables attached to the underside of the car and counterweight and passing under a weighted sheave in the lift pit. These cables shall be of suitable size and number, to counter-balance the hoist and travelling cables as nearly as possible.~~

Adjustments for equalising the tension in the compensating cables shall be provided. The compensating sheave shall operate in guides securely fastened in the pit. An adjustable switch shall be furnished which shall switch off the electricity supply to the lift when, due to cable stretch, the compensation sheave exceeds a predetermined limit of travel.

Tie-down compensation devices shall be provided for lifts with speed of 210 mpm and above, to tie the car and counterweight together to limit the buffer engagement or application of car or counterweight safety, where appropriate.

3.5 Buffers for Lifts

Oil buffers of the spring return type and spring buffers shall be installed under all cars and counterweights of lifts having a rated speed in excess of 15 mpm. Spring buffers may be used where the rated speed is not in excess of 60 mpm. For rated speed in excess of 60 mpm, oil buffers shall be used.

The strokes of the buffers shall be in accordance with the requirements stipulated in the current edition of the Singapore Standard CP 2.

Spring buffers shall be designed so that they will not take a permanent set upon absorbing the energy of a fully loaded car at governor-operating speed.

3.6 Counterweights for Lifts

A counterweight constructed of multiple cast iron or cut steel sections with a minimum of two tie rods extending through all the sub-weight sections, all enclosed and secured within a steel frame shall be provided for each lift. The frame shall be complete with renewable roller guide shoes at the top and bottom of weight, and shall be so designed that sub-weights can be added or removed to effect optimum balance of the car, when it is equal to the weight of the car and approximately 45% of the contract load.

Counterweights shall be guarded by means of rigid screen extending from a position 0.3m above the lift pit floor to a position at least 2.1m above the lift pit floor.

Where compensating cables are fitted, the guard may be omitted, on the side, facing the lift car to which the cables are attached.

3.7 Hoistway Terminal Devices

Terminal stopping devices shall be provided in each of the hoistways to slow down and stop the car automatically at the terminal landings and to automatically interrupt the power supply to the lift machine and apply the brake, should the car travel beyond the terminal landings.

3.8 Special Requirements of Counterweight Safety Gears

Safety gears shall be provided for the counterweights of those lifts where the space below the hoistways are used as a passageway or are occupied by persons or if unoccupied, are not secured against unauthorised access.

3.9 Hoistway Emergency Access Doors

Hoistway emergency access doors will be required for those lifts passing non-stop through a number of floors of a building without any landing entrances. The access doors will be provided under the building work, however, the Work shall include all necessary electrical contacts etc. for interlocking all the doors with the respective lifts including all associated cabling, controls etc. The control shall be such that the lift will be rendered inoperative when

any of its associated access door is opened. A light shall be provided for each emergency access door and all the lights within the hoistway for each lift shall be controlled by a switch located in the respective lift machine room. The locations of these access doors will be shown on the Specification Drawings or/in the Schedule of this Specification.

3.10 Pit Ladders

An aluminium cat ladder shall be provided by the Main Contractor for each lift pit. The cat ladder shall be so positioned as to permit easy access from the lift lobby to the pit.

3.11 Luminaire and Switches

A luminaire complete with switch shall be provided on the top of each lift car and in the lift pits (one luminaire for each lift). The switches shall be rated at 5 amp, 230 volt of the totally enclosed industrial type. Additional luminaires where shown on the Specification Drawings shall also be provided.

3.12 Fascia Plates

Sheet steel fascia plates of thickness not less than 2.0mm (14 SWG) shall be provided and fixed between the underside of landing entrance sills and the top of the door hanger case as well as between every blind hoistway emergency access doors to form a flush surface in the path of travel at the car entrance. All hoistway emergency access doors shall also be provided with fascia plates. The fascia plates shall be installed for the full width of the clear hoistway door opening.

For passenger lifts, the clearance between the edge of the car-platform sill and the hoistway enclosure or fascia plates for the full width of the clear hoistway door opening and emergency access door opening shall not be more than 125mm as stipulated in the current edition of the Singapore Standard CP 2.

Where there is more than one entrance to the lift car, the sides of the hoistway facing the other entrances shall also be provided with fascia plates.

3.13 Dust Covers and Toe Guards

Dust covers and toe guards where required shall be fabricated from 2.0mm (14 SWG) sheet steel shall be provided at the appropriate landings within the hoistway of each lift.