(Please refer to Section 8, Code of Practice for Energy Efficiency of Building Services Installation 2018 Edition)

Part 1 – Lift and Escalator Installation Summary

(* Please delete, if not applicable) Page ___of ___

Name of Building / Unit / Common Area * _____

_____

Address of Building / Unit / Common Area * _____

_____

Date of Declaration by Registered Energy Assessor in Form EE2 / EE3 / EE4 * _____

Documents submitted (Please tick where applicable.)	No. of sheets
☐ Form EE-LE Part 1 : Lift and Escalator Installation Summary	
☐ Form EE-LE Part 2 : Traction Lift and Hydraulic Lift Worksheet	
☐ Form EE-LE Part 3 : Escalator Worksheet	
☐ Form EE-LE Part 4 : Passenger Conveyor Worksheet	
☐ Form EE-LE Part 5 : Total Power Factor for Three-Phase Three-Wire Power Supply System	
☐ Form EE-LE Part 6 : Declaration	
☐ Location layout drawings showing the locations of the lifts, escalators & passenger conveyors	
☐ A drawing list indicating the title and reference number of each drawing	
☐ Manufacturer-issued or contractor*-issued technical documents to indicate the technical data of lifts/escalators/ passenger conveyors in this Form (*Refers to the contractor, who is a registered lift contractor / registered escalator contractor (under Lifts and Escalators Ordinance, Cap. 618) engaged to carry out the lift and escalator installation so indicated in this Form)	
☐ A technical document list to summarise all technical document titles and the corresponding model numbers/descriptions of the lifts/escalators/passenger conveyors	
☐ Others (Please give details) _____ _____	

Remarks (applicable to Parts 1 to 4) :-

1) Ref. Nos. of all lifts/escalators/passenger conveyors in this Form should be consistent with the Ref. Nos. shown in drawings.
2) Location layout drawings should :
   - clearly indicate all newly installed/retrofitted lift, escalator & passenger conveyor installation governed by BEC, with reference nos. tallying with reference nos. shown in Parts 2 to 4 of this Form; and
   - indicate the lift, escalator & passenger conveyor installation not governed by the BEC, if shown on the drawing, with an appropriate symbol, marking or colouring different from the ones governed.
3) All documents including this Form are for demonstration of compliance with the BEC for the lift, escalator & passenger conveyor installation, and should cover all the relevant items governed by the BEC in respect of the lift, escalator & passenger conveyor installation.
4) Should space provided in this Form be inadequate, please provide details with clear cross-referencing on separate sheets and attach to this Form.
5) Descriptions and numbering of each installation, system, equipment, building block, floor, room, space etc. in each of Forms EE-LG, EE-AC, EE-EL, EE-LE & EE-PB, should such appear in more than one type of Form, should be **identical**.
6) **Any incomplete or erroneous information in this Form may render this Form being regarded invalid.**

Part 2 – Traction Lift and Hydraulic Lift Worksheet

Page ___of ___

(Please tick where applicable)

Any installation of traction/hydraulic lift involved ? (* Please delete, if not applicable)

☐ Yes, installation of traction* / hydraulic* lift involved (If yes, please provide information in 1) to 9) below)

☐ No installation of lift involved (if no, please proceed direct to Part 3)

1) Electrical Power (BEC Clause 8.4) (Please provide information in table below)

(All at rated load and at rated speed in the upward direction)

Lift Ref. No.	Lift type		Rated load (kg)	Rated speed (m/s)	Running active electrical power (kW) (BEC Clause 8.4.1 / 8.4.2)	Max allowed electrical power (kW) (BEC Table 8.4.1a (1) / 8.4.1b (2) / 8.4.2)	Lift Car Lighting Power Density (W/m^2)	Power Factor(3)	Total Harmonic Distortion (3) (THD %)	Installed Decoration Load (kg)
	Traction / Hydraulic	Observation lift? (BEC Clause 8.5.4)								
(Please insert additional row if necessary)										
		☐ Yes ☐ No								
		☐ Yes ☐ No								
		☐ Yes ☐ No								
		☐ Yes ☐ No								
		☐ Yes ☐ No								
		☐ Yes ☐ No								
		☐ Yes ☐ No								
		☐ Yes ☐ No								
		☐ Yes ☐ No								
		☐ Yes ☐ No								
		☐ Yes ☐ No								
		☐ Yes ☐ No								

Remarks applicable to lifts listed in 1) :-

(1) BEC Table 8.4.1a is applicable to each of the installation in a new building.
(2) BEC Table 8.4.1b is applicable to each of the installation involved in a major retrofitting works of an existing building.
(3) Should be obtained during the T&C on-site measurement.

Part 2 – Traction Lift and Hydraulic Lift Worksheet

(Please tick where applicable)

2) Lift Decoration Load (BEC Clause 8.5.2)

For lifts listed in 1) (please tick where applicable)

☐ the decoration load in the lift car does not exceed the corresponding maximum allowable value given in BEC Table 8.5.2

☐ Installation details shown on dwg.no._____ attached

☐ Decoration load calculation shown on document ref. no. _____attached

☐ no installation of decoration load is involved

3) Lift Ventilation and Air-conditioning (BEC Clause 8.5.4)

(Please tick where applicable)

(a) The ventilation in each lift listed in 1), except for observation lift, after lift idling for 2 minutes can be automatically shut off until reactivation by passenger call (BEC Clause 8.5.4.1) ?

☐ Yes

(b) Any lifts listed in 1) provided with air-conditioning inside the lift car ?

☐ Yes, and the air-conditioning in each lift, except for observation lift, after lift idling for 10 minutes can be automatically shut off until reactivation by passenger call and resume operation no earlier than 5 minutes after the shut-off (BEC Clause 8.5.4.2)

☐ No lift provided with air-conditioning

(c) Lift car ventilation fan consumes at or below 0.7 W per L/s air flow at design condition (BEC Clause 8.5.4.3) ?

☐ Yes

☐ No ventilation fan involved

4) Lift Regenerative Braking (BEC Clause 8.5.5)

For lifts listed in 1), any installation of lift is with rated speed of 2.5 m/s or above and with rated load at 1000 kg or above ? (Please tick where applicable)

☐ Yes, and regenerative braking provided.

☐ Schematic wiring diagram / drawing no. _____ attached
☐ Photo ref. no. _____ attached
☐ Document ref. no. _____ showing the details of the device attached

☐ No

5) Lift Car Automatic Lighting Control (BEC Clause 8.5.6)

For each lift listed in 1), lift car lighting power can be automatically reduced to 50% or less after idling for 10 minutes ?

☐ Yes, Type of lighting control:_____

☐ No. Reason:_____

Part 2 – Traction Lift and Hydraulic Lift Worksheet

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(Please tick where applicable)

6) Lift Parking Mode (BEC Clause 8.5.3)

For lifts listed in 1), any installation of lift bank involved?

(Please tick where applicable)

☐ Yes, and for each lift bank at least one lift car would operate under a parking mode during low traffic period when the traffic demand is low, and not respond to passenger calls until it returns to the normal operation mode (BEC Clause 8.5.3.1 & 8.5.3.2)

☐ No installation of lift bank involved

7) Total Power Factor (BEC Clause 8.5.1)

For each lift listed in 1), in respect of its total power factor of the motor drive (at the isolator connecting the lift to the building's electrical supply circuit) at rated load rated speed (traveling upward) (BEC Clause 8.5.1.1)

(please tick where applicable)

☐ the total power factor is not less than 0.85 (BEC Clause 8.5.1.1 and 8.5.1.4 with calculation in accordance with BEC Appendix B)

☐ a power factor correction device is installed at the motor control centre of the motor drive to provide the compensation such that the overall total power factor is not less than 0.85 (BEC Clause 8.5.1.3)

- ☐ Schematic wiring diagram / drawing no. _____ attached
- ☐ Photo ref. no. _____ attached
- ☐ Document ref. no. _____ showing the details of the device, the T&C records and calculation of total power factor attached

8) Total Harmonic Distortion (BEC Clause 8.6)

For each lift listed in 1), in respect of its total harmonic distortion of current (at the isolator connecting the lift to the building's electrical supply circuit) produced by the motor drive at rated load rated speed (travelling upward)

(please tick where applicable)

☐ the total harmonic distortion is limited to the maximum allowable value specified in BEC Table 8.6.1 (BEC Clause 8.6.1)

☐ a harmonic correction device is installed at the motor control centre of the motor drive such that the overall total harmonic distortion is reduced to a level limited to the maximum allowable value specified in BEC Table 8.6.1 (BEC Clause 8.6.3)

- ☐ Schematic wiring diagram / drawing no. _____ attached
- ☐ Photo ref. no. _____ attached
- ☐ Document ref. no. _____ showing the details of the device and the T&C records attached

Part 2 – Traction Lift and Hydraulic Lift Worksheet

(Please tick where applicable)

9) Metering and Monitoring Facilities (BEC Clause 8.7)

(please tick where applicable)

For each lift listed in 1), for its electrical supply circuit for the motor drive, in respect of measurement of voltages (all phase to phase and phase to neutral), currents (three-phrase currents and neutral), total power factor, total harmonic distortion, energy consumption (kWh), power (kW) and maximum demand (kVA)

☐ Metering devices are provided as specified in BEC Clause 8.7.1

- ☐ Schematic wiring diagram / drawing no. _____ attached
- ☐ Photo ref. no. _____ attached
- ☐ Document ref. no. _____ showing the details of the device attached

☐ The metering devices for the total harmonic distortion measurement are capable of measuring at least up to 31st harmonic order (BEC Clause 8.7.2)

☐ The measurement parameters are trended every 15 minutes and include hourly, daily, monthly and annual data. The monitoring facilities are capable of maintaining all data collected for a minimum of 36 months (BEC Clause 8.7.3)

Part 3 – Escalator Worksheet

(Please tick where applicable)

Any installation of escalator (excluding passenger conveyor) involved?

☐ Yes (If yes, please provide information in 1) to 5) below)

☐ No installation of escalator involved (if no, please proceed direct to Part 4)

1) Electrical Power (BEC Clause 8.4) (Please provide information in table below)

(All under no-load condition at rated speed)

Escalator Ref. No.	Type (Non-public Service / Public Service / Heavy Duty)	Rise (m)	Nominal width (mm)	Rated speed (m/s)	Running active electrical power (kW) (BEC Clause 8.4.3)	Max allowed electrical power (kW) (BEC Table 8.4.3)	Power Factor	Total Harmonic Distortion (THD %)
(Please insert additional row if necessary)								

2) Total Power Factor (BEC Clause 8.5.1)

For each escalator listed in 1), in respect of its total power factor of the motor drive (at the isolator connecting the escalator to the building's electrical supply circuit or the circuit protective device serving the escalator) at brake load rated speed (steps or pallets moving upward for escalator with a rise)

(please tick where applicable)

☐ the total power factor is not less than 0.85 (BEC Clause 8.5.1.2 and 8.5.1.4 with calculation in accordance with BEC Appendix B)

☐ a power factor correction device is installed at the motor control centre of the motor drive to provide the compensation such that the overall total power factor is not less than 0.85 (BEC Clause 8.5.1.3)

- ☐ Schematic wiring diagram / drawing no. _____ attached
- ☐ Photo ref. no. _____ attached
- ☐ Document ref. no. _____ showing the details of the device, the T&C records and calculation of total power factor attached

3) Automatic Speed Reduction (BEC Clause 8.5.7)

For each escalator listed in 1), provision for activation of speed reduction mode is made?

☐ Yes

☐ No. Reason:_____

Part 3 – Escalator Worksheet

(Please tick where applicable)

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4) Total Harmonic Distortion (BEC Clause 8.6)

For each escalator listed in 1), in respect of its total harmonic distortion of current (at the isolator connecting the escalator to the building's electrical supply circuit or the circuit protective device serving the escalator) produced by the motor drive at no load rated speed (please tick where applicable)

☐ The total harmonic distortion is limited to the maximum allowable value specified in BEC Table 8.6.2 (BEC Clause 8.6.2)

☐ A harmonic correction device is installed at the motor control centre of the motor drive such that the overall total harmonic distortion is reduced to a level limited to the maximum allowable value specified in BEC Table 8.6.2 (BEC Clause 8.6.3)

- ☐ Schematic wiring diagram / drawing no. _____ attached
- ☐ Photo ref. no. _____ attached
- ☐ Document ref. no. _____ showing the details of the device and T&C records attached

5) Metering and Monitoring Facilities (BEC Clause 8.7)

For each escalator listed in 1), for its electrical supply circuit for the motor drive, in respect of measurement of voltages (all phase to phase and phase to neutral), currents (three-phrase currents and neutral), total power factor, total harmonic distortion, energy consumption (kWh), power (kW) and maximum demand (kVA)

(please tick where applicable)

☐ Metering devices are provided as specified in BEC Clause 8.7.1

- ☐ Schematic wiring diagram / drawing no. _____ attached
- ☐ Photo ref. no. _____ attached
- ☐ Document ref. no. _____ showing the details of the device attached

☐ The metering devices for the total harmonic distortion measurement are capable of measuring at least up to 31st harmonic order (BEC Clause 8.7.2)

☐ The measurement parameters are trended every 15 minutes and include hourly, daily, monthly and annual data. The monitoring facilities are capable of maintaining all data collected for a minimum of 36 months (BEC Clause 8.7.3)

Part 4 – Passenger Conveyor Worksheet

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(Please tick where applicable)

Any installation of passenger conveyor involved?

☐ Yes (If yes, please provide information in 1) to 4) below)

☐ No installation of passenger conveyor involved

1) Electrical Power (BEC Clause 8.4) (Please provide information in table below)

(All under no-load condition at rated speed)

Passenger conveyor Ref. No.	Type (Non-public Service / Public Service)	Nominal length (m)	Nominal width (mm)	Rated speed (m/s)	Running active electrical power (kW) (BEC Clause 8.4.4)	Max allowed electrical power (kW) (BEC Table 8.4.4)	Power Factor	Total Harmonic Distortion (THD %)
(Please insert additional row if necessary)								

2) Total Power Factor (BEC Clause 8.5.1)

For each passenger conveyor listed in 1), in respect of its total power factor of the motor drive (at the isolator connecting the passenger conveyor to the building's electrical supply circuit or the circuit protective device serving the passenger conveyor) at brake load rated speed (steps or pallets moving upward for conveyor with a rise)

(please tick where applicable)

☐ The total power factor is not less than 0.85 (BEC Clause 8.5.1.2 and 8.5.1.4 with calculation in accordance with BEC Appendix B)

☐ A power factor correction device is installed at the motor control centre of the motor drive to provide the compensation such that the overall total power factor is not less than 0.85 (BEC Clause 8.5.1.3)

- ☐ Schematic wiring diagram / drawing no. _____ attached
- ☐ Photo ref. no. _____ attached
- ☐ Document ref. no. _____ showing the details of the device, the T&C records and calculation of total power factor attached

Part 4 – Passenger Conveyor Worksheet

(Please tick where applicable)

3) Total Harmonic Distortion (BEC Clause 8.6)

For each passenger conveyor listed in 1), in respect of its total harmonic distortion of current (at the isolator connecting the passenger conveyor to the building's electrical supply circuit or the circuit protective device serving the passenger conveyor) produced by the motor drive at no load rated speed (please tick where applicable)

☐ the total harmonic distortion is limited to the maximum allowable value specified in BEC Table 8.6.2

☐ a harmonic correction device is installed at the motor control centre of the motor drive such that the overall total harmonic distortion is reduced to a level limited to the maximum allowable value specified in BEC Table 8.6.2 (BEC Clause 8.6.3)

- ☐ Schematic wiring diagram / drawing no. _____ attached
- ☐ Photo ref. no. _____ attached
- ☐ Document ref. no. _____ showing the details of the device and T&C records attached

4) Metering and Monitoring Facilities (BEC Clause 8.7)

For each passenger conveyor listed in 1), for its electrical supply circuit for the motor drive, in respect of measurement of voltages (all phase to phase and phase to neutral), currents (three-phrase currents and neutral), total power factor, total harmonic distortion, energy consumption (kWh), power (kW) and maximum demand (kVA)

(please tick where applicable)

☐ Metering devices are provided as specified in BEC Clause 8.7.1

- ☐ Schematic wiring diagram / drawing no. _____ attached
- ☐ Photo ref. no. _____ attached
- ☐ Document ref. no. _____ showing the details of the device attached

☐ The metering devices for the total harmonic distortion measurement are capable of measuring at least up to 31st harmonic order (BEC Clause 8.7.2)

☐ The measurement parameters are trended every 15 minutes and include hourly, daily, monthly and annual data. The monitoring facilities are capable of maintaining all data collected for a minimum of 36 months (BEC Clause 8.7.3)

Part 5 – Total Power Factor for Three-Phase Three-Wire Power Supply System

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1) Calculation of Total Power Factor (Based on BEC Appendix B)

Lift / Escalator / Passenger Conveyor Ref. No	Measured Line Voltage (V) (1)			Hypothesized Phase Voltage (V)			Measured Line Current (A) (1)			Calculated Apparent Power (kVA)	Measured Active Power (kW) (2)	Calculated Total Power Factor
	V_{12}	V_{23}	V_{31}	V_1	V_2	V_3	I_1	I_2	I_3			
(Please insert additional row if necessary)												

Remarks applicable to lifts / escalators / passenger conveyors listed in 1) :-

(1) The line voltages and line currents shall be obtained by measurement on site.

(2) The active power shall be read from metering devices based on two-wattmeter method.

Part 6 – Declaration

I, Registered Energy Assessor, hereby declare that all the information contained in this form and in the substantiation materials attached have been thoroughly examined and well prepared to demonstrate the compliance with the Building Energy Code.

I understand that any missing information, inconsistency and incorrectness on the submitted materials / information may result in jeopardizing the approval process and having the entire submission been rejected.

Name of the REA:		Registration No.:	
Signature of the REA		Date:	DD / MM / YYYY