

1.0 GENERAL REQUIREMENTS

1.1 Scope Of Lift Works Contract

1.1.1 General

The work as detailed in this Specification shall comprise the whole of the labour and all materials necessary to form a complete installation and carry out such inspections, tests, adjustments and commissioning as required to give an effective working installation.

The Trade Contractor will be deemed to have included in the Tender all costs incurred in complying with the requirements of this Specification.

The Trade Contractor shall note the requirement to liaise with others and to provide the required information. The liaison shall include the necessary co-ordination with other Trade Contractors, Trade Sub-Contractors, and Trade suppliers in respect of:

- Dimensional compatibility between the Lift Contract Drawings and those supplied by others.
- Technical interfaces e.g. power supplies and finished floor levels.
- Programming of sequential operations to interface with the work of others and eliminate confrontational situations.

Full allowance shall be made for attending all design development workshops, progress meetings, all test equipment, meters, weights, works tests, watertightness tests, works visits, witness tests, etc as required by the specification.

The Trade Contractor shall submit drawings, calculations and any other information sufficient to substantiate that the proposals meet the performance requirements of this specification.

The lorry lift will be located in close proximity to spaces that are sensitive to the effects of vibration. The Trade Contractor will be required to demonstrate the measures that will be taken to control the transmission of vibration into the building structure as required to comply with the relevant sections of this specification.

1.1.2 Description of Building and Lift Provision

The Building is situated at – The British Museum, World Conservation and Exhibition Centre, London WC1B 3DG.

The works shall include – A 42 tonne direct acting lorry lift in accordance to the **machinery directive**, including the 'Pavement Lid' Assembly.

1.1.3 Lift Operation Sequence – Lift Below Pavement Level Travelling To/From Pavement – Call Lift to Pavement Level

- a. Security zone around lift to be clear of persons, vehicles, goods and animals.
- ~~b. Security zone is proved by automatically scanning PIR's before and during operation – detail to be agreed. Removed 22/12/11.~~
- c. When security zone is proved safe, a flashing beacon illuminates and movement sounder activates until lift is in final position.
- d. A pavement call station is activated (remote control, key switch or pendant operation) – detail to be agreed.
- e. Lift moves up to "locating Pins" to underside of pavement lid, lift stops to locate pins – detail to be agreed.
- f. When pavement lid "locating Pins" are proved mechanically/electrically the lift completes its travel by lifting the pavement lid.

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2.3.3 Noise Levels on Lift Lobbies

Lift noise, when measured at 1.5m from the floor and 1m from the door face with the doors closed, shall not exceed 58dB(A) at any time during the lift cycle.

2.3.4 Vibration in Lift Cars

Vibration measurements shall be taken at the centre of the car, on the floor, in three mutually perpendicular axes corresponding to vertical vibration and lateral quaking. Measurements shall be made of vibration levels in each direction over the following cycles,

- One full cycle from the bottom of the building to the top.
- One full cycle from the top of the building to the bottom.
- One full cycle over a single floor journey.
- Any short floor journeys shall be measured to identify that the correct speed profiles are being achieved.

The vibration levels shall not exceed the values indicated in the performance table.

2.3.5 Noise Levels in Lift Car

Noise levels in the car under acceleration, deceleration and at maximum car velocity in the cycle shall not exceed the values indicated in the performance table.

The engagement of the 'Pavement Lid' shall not exceed the noise and vibration levels detailed in clause 2.3.6 of this specification.

2.3.6 Noise and Vibration Performance Table

Lift Speed (m/s)	Maximum Acceleration (m/s ²)	Maximum Jerk (m/s ³)	Maximum Lateral Vibration (mg)	Maximum Vertical Vibration (mg)	Max. Noise in car (dBA)
0.05 – 0.1	1.2	1.4	12	18	54

The maximum vibration specified is the maximum peak-to-peak figure using the ISO ride quality filter.

2.3.7 Vibration in adjacent structure

The peak velocity of any surface of the building adjacent to the Lift Car guide rails, hydraulic rams, power packs or other associated equipment, as measured in the perpendicular direction to the building surface or in any of the two orthogonal axes parallel to the building surface, shall not exceed a value of 0.3mm/s at any of the 1/3rd octave band frequencies over the range 1 Hz to 160 Hz.

2.3.8 Tender Return - Methodology

As part of the tender return the Trade Contractor should include the methodology and exact details of the tests for proving that all of the vibration and noise criteria mentioned within this specification will be met as part of their works.

2.4 Guide Rails and Brackets**2.4.1 General**

The car guides shall be so jointed and fixed to their brackets so that they do not deflect by more than 1.0mm under normal operating conditions.

2.4.1.1 Design Calculations

Detailed calculations in accordance with Annex D of EN81 shall be submitted if requested by the Contract Administrator, verifying the design deflections and stresses of the selected guide rails.

2.4.1.2 Fixings