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**OFFICE OF THE DEPUTY GENERAL MANAGER MECHANICAL UNIT JKPC LTD, HAFT CHINAR, BEHIND  
POLICE STATION SHERGARI,SRINAGAR,KASHMIR.**

**TENDER NOTICE**

**NIT No: 10 of 2011-12      Dated :-21/11/11**

For and on behalf of J & K Projects Construction Corporation Ltd, sealed tenders affixed with Rupees five revenue stamps are invited from reputed MNC/ISO9001 certified firms/ their authorised representatives having annual turnover of Rs.25 crores for Supply, Installation, Testing & Commissioning of Electric Traction passenger / bed lifts & dumb weightier to be installed at various sites in district Srinagar which should reach the office of the Managing Director J & K Projects Construction Corporation Ltd. Rail Head Complex, Panama Chowk, Jammu Tawi on or before 17/12/11 up to 2.p.m through speed post/ courier Service. The tenders shall be opened on the same day or any other subsequent day convenient to the tender opening authority in presence of the intending tenderers who may wish to remain present at the time of opening of tenders.

The tenders should be accompanied with earnest money in shape of CDR/FDR for an amount of Rupees five lacs pledged to Financial Controller, J & K Projects Construction Corporation Ltd. J. The detailed tender document can be had from the office of the undersigned w.e.f 25/11/11 to 15/12/11 against a non refundable payment of Rupees One thousand five hundred only in form of cash/ D.D (pledged to Dy. General Manager Mechanical Unit, JKPC Ltd, Srinagar). The tender shall be issued to only those firms who have successfully completed & commissioned/have mandate for execution of works of similar nature for a minimum value of Rs. 3 crores (Value of Single contract/aggregate value of contracts during last three years) with any government organisation/PSU (central /State owned). The attested copy of documentary evidence be enclosed with the application form at the time of purchase of tender document. The tender opening authority reserves the right to accept or reject any tender/ tenders without assigning any reasons thereof.

Note: The tender can also be downloaded from our official website [www.jkpc.com](http://www.jkpc.com). The DD for an amount of Rs.1500/ (Rupees one thousand five hundred only) payable to undersigned towards the cost of tender document in that case be enclosed in first cover.

**No: Mech/XI/1314-19**

**Dt: 21/11/11**

**Dy. General Manager,  
Mechanical Unit,  
JKPC Ltd, Srinagar.**

**Copy to:-**

1. Managing Director J & KPCC Ltd Jammu for information.
2. Financial Controller J & KPCC Ltd Jammu for information.
3. General Manager (K) J & KPCC Ltd Srinagar for information.
4. Joint Director, Information Department, J & K Govt. Srinagar for publication of the above NIT in one Leading National English daily & Two Leading English Local Dailies (one from Jammu Province & one from Kashmir Province single publication only).
5. Nodal officer e-tendering, JKPC Ltd for information with the request to upload the tender document on the official website of the corporation
6. Technical Officer, Mechanical Unit, J & KPCC Ltd for information.

## Annexure-I

### Terms and condition

1. The tenders should be sealed in two covers. First cover be super-scribed as Cover-I (Prequalification Bid) having reference of NIT NO, Date & Name of work, containing the EMD for an amount of Rupees Five Lacs in shape of CDR/FDR pledged to Financial Controller J & K Projects Construction Corporation Ltd, Jammu & should also contain the detailed technical specifications, experience, list of successful Installations, proof for works executed and any other relevant data like ISO certification, registration certificate, turn over etc.
2. The Price/Commercial Bid for each work be enclosed in an envelope separately and super-scribed as Cover-II (A-H) having reference of the NIT NO, Date, Annexure no & Name of work. All the covers be enclosed in a single cover along with cover-I should reach the office of the Managing Director J & K Projects Construction Corporation Ltd, Rail Head Complex, Panama Chowk, Jammu Tawi, on or before 17/12/11 upto 2 p.m through speed post/ courier service. The reference of NIT NO, Date & Name of work should be written neatly over the cover.
3. The works contained in annexure A to H shall be treated as individual contracts.
4. The tenderer shall quote the rates in words as well as figures without any cuttings/ overwriting which otherwise shall be liable for rejection.
5. The intending tenderer shall have to sign all the pages of the tender document.
6. The tenders shall be opened on the same day or any other subsequent day as convenient to the tender opening authority in presence of the intending tenderers who may wish to be present at the time of opening of tenders. Pre- qualification bid shall be opened first and the price bid shall be opened subsequently only in respect of those firms who qualify pre-qualification bid.
7. The intending tenderers should have successfully completed & commissioned/ should have mandate for execution of works of similar nature for a minimum value of Rs. 3 crores (Value of Single contract/aggregate value of contracts during last three years) with any government organization/PSU (central /State owned) during last three years have successfully completed & commissioned/ have mandate for execution of works of similar nature for a minimum value of Rs. 3 crores (Value of Single contract/aggregate value of contracts during last three years) with any government organisation/PSU (central /State owned). The documentary evidence to this effect be enclosed.
8. The intending tenderer should have a minimum turnover of Rs. 25.00 Crores for the last financial year. The documentary evidence to this effect be enclosed along with the tender.
9. Tenders not accompanied with EMD shall be rejected outrightly.
10. Conditional tenders shall be rejected outrightly.

11. The successful tenderer shall have to deposit an additional amount towards EMD in shape of CDR/FDR pledged to Financial Controller JKPCCLtd to make it equivalent to the 2% of the value of Contract.
12. The successful firm shall have to furnish bank guarantee @ 10% for timely completion of the work before the execution of the contract.
13. The rates quoted by the firm shall be net and final and inclusive of all taxes viz sales tax, municipal tax, duties, freight, installation charges, testing and commissioning at site and nothing over and above the same shall be entertained nor any escalation shall be allowed.
14. The successful firm shall be fully responsible for watch and ward of the machinery/equipment/ material at site till its proper handing to the concerned authority.
15. The successful firm shall have to follow the instruction of consultant/ manager concerned/ site in charge at the time of installation of the equipment/ execution of the work.
16. The equipment supplied / installed should conform to the specification envisaged in the tender document and in the offer of the successful firm & the same should be free from all manufacturing defects.
17. In case the supply is found to be defective/ not conforming to the specifications same shall be rejected at risk and cost of the contractor.
18. The workmanship should be highest quality and caliber.
19. The defect liability period / warranty period of the equipment shall be two year from the date of commissioning. All the repairs, maintenance or replacements during this period has to be executed at cost of the successful firm.
20. The successful firm shall have to set up a local service centre immediately after completion of first year of defect liability period.
21. The material should be got insured during transportation at cost the successful firm.
22. The successful firm shall have to execute an agreement in writing with the corporation prior to execution of work within seven days time.
23. In case the successful firm fails to supply the equipment in accordance with the specifications and within the time frame or back out from the contract, the corporation shall terminate the contract and recover the extra cost involved. In addition to this the corporation shall forfeit the earnest money and may impose penalty upto 10% at the discretion of the Managing Director.
24. In case of any dispute, the matter shall be subject to arbitration and the Managing Director JKPCCLtd shall be the sole arbitrator whose decision shall be final and binding on both the parties.
25. The payment shall be released in accordance with the payment clause envisaged as under:-
  - a. The initial 50% payment Shall be released at the time of receipt of material in full at site. The bill of material duly verified by the concerned Manager should be provided with the packing list & working drawings.

- b. Additional 20% payment shall be released at the time of successful erection/installation of the lift at site.
  - c. 10% payment shall be released at the time of successful testing & commissioning of the lift.
  - d. 10% payment shall be released in two equal installments (to be released six monthly) during the currency first year of defect liability period. The defect liability period shall be reckoned from the date of actual commissioning of lifts.
  - e. Additional 10% payment shall be released in two equal installments (to be released six monthly) during the currency of second year of defect liability period which shall be subject to the inspection of local service centre.
26. The firm shall also be personally liable for all the civil and criminal prosecution under the law if the specification of the supplied equipment/ material used is found in contravention to the specification of the NIT.
27. All legal disputes/ matters subject to Srinagar jurisdiction.
28. The time of completion of this contract shall be four months from the date of issuance of allotment order.
29. The firm shall keep the contract open for 90 days.
30. The tender opening authority reserves right to accept/ reject any tender/ tenders without assigning any reasons thereof.

## Annexure-II

### TECHNICAL SPECIFICATIONS

#### **1.0 General**

These specifications are intended to cover the technical requirements of the complete lift installation work of 4 Nos. Bed Lifts at JLNM & L.D Hospital Srinagar, its component, safety devices, various types of controls and method of operation. 7 Nos. Passenger Lifts at various sites viz 2 No's at Haj House, Bemina, Srinagar, 2 No's at Public Service Commission, Solina, Srinagar, 2 no's at Dental Collage, Shreen Bagh, Srinagar & one No at Sarai Building, Shreen Bagh, Srinagar & One no dumb weightier Of capacity 400 Kgs at JLNM Hospital Rainawari.

#### **2.0 Drive Machinery**

**2.1 Electric Supply** 3 phase, 415 Volts ,50 cycles A.C Electric supply shall be made available by the owner in machine room. The entire lift equipment should be suitable for operation and +10% to -20% of the rated supply voltage

**2.2 Gearless Machine** The lift machine shall be gearless and consist of a motor, fraction sheave and brake drum/disc completely aligned on a single shaft .The gearless machine shall be A.C. gearless with the **VVVF drive** .

**2.3 Sheaves** Sheaves and pulley shall be of hard alloy, cast iron, SG iron or steel and free from cracks, sand holes and other defects. They shall have machined rope grooves. The traction sheaves shall be grooved to produce proper traction and shall be of sufficient dimension to provide for wear in the groove. The deflector sheave shall be grooved so as to provide a smooth bed for the rope. The deflector or secondary sheave assemblies where used shall be mounted in proper alignment with the traction sheaves. such deflectors sheaves shall have grooves larger than rope diameter as specified in clause 8 of IS 14665 (Part -4 sec3) :2000 .The size of all the sheaves shall be in accordance with clause 8 .4 of IS 14665 (Part4-sec 3):2000.Wherever necessary suitable protective guards may be provided.

**2.4 Shaft Keys** Shafts which supports sheave, gears, coupling and other members which transmit torque shall be provided with tight fitting keys of sufficient strength and quality.

**2.5 Brake** The lift drive machinery shall be provided with an electro-magnetic brake or motor operated brake normally applied by means of springs in compression when the operating device is in off position. The brake shall be suitably curved over the brake drum or brake disc and provided with fire proof friction lining. The operation of brake shall be smooth, gradual and with minimum noise .The brake shall be designed to be of sufficient size and strength to stop and hold the car at rest with rated load. The brake should be capable of operation automatically by the various safety devices, current failure and by the normal stopping of the car. The brake shall be released electrically. It shall also be possible to release the brake manually, such releases requiring the permanent application of manual forces so as to move the lift car in short stops. For this purpose suitable brake release equipment wherever necessary shall be supplied with each lift installation and the same shall be kept in safe custody to prevent misuse.

#### **2.5.1 Hand winding wheel or handle**

A suitable hand winding wheel or handle mounted on the end of motor shaft for manual operation to move the lift car up or down to bring it to nearest landing manually. The up or down direction of the movement of car should be clearly marked on the motor/ at suitable location. A warning plate written in bold signal red letters advising the maintenance staff to switch off the mains supply before releasing the brake and operating the wheel is to be prominently displayed.

### **3.0 Type of controls:**

Microprocessor based A.C Variable Voltage Variable Frequency Control shall be used. The design of the controller should be such that it can be mounted on a wall and is dust protected, providing sufficient protection against lizards, rodents, etc. Max. permissible leveling inaccuracy shall be  $\pm 5$  mm only. The VVVF controller shall have the following features : a). Total control at all stages of the motion cycle b) A consistent fully adjustable smooth ride c) Better leveling accuracy under all condition d) A higher power factor e) Lower starting current f) Energy saving through the reduced power consumption The system should monitor critical aspects of system health, self help diagnostic capability as built in, control system to speed up trouble shooting. It shall have constant voltage transformer for trouble free operation. **VVVF Inverter Drive** Fully digital VF inverter incorporating Flux Vector Control, technique of Pulse Width Modulation (PWM) for directly controlling the current of the elevator motor and providing constant speed control over the entire frequency range under all conditions to achieve considerable power saving thereby reducing the overall power consumption reduction in generator capacity and improvement in power factor and high speed switching device – the IGBT (Insulated Gate Bipolar Transistor) embedded in the inverter for smooth and quite operation.

### **4.0 Installation Aspects**

#### **4.1 Installation in Machine room –**

Lift machine room to accommodate the drive machinery, controller etc. shall be on top of the lift shaft Equipment layout in machine room should allow free movement of the maintenance staff . Vibration Isolation arrangement shall be provided in machine room to prevent transmission of vibrations to the building and structure. Provision of lighting and ventilation as required shall be provided by the electrical contractor.

### **5.0 Guide Rails**

The guide rails for lift car and counter weights shall be in accordance with clause 3 of IS 14665 (Part-4, section-2) 2000 .The Guide rails supported by brackets secured to hoistway at each floor shall be continuous throughout the entire travel and shall withstand without any deformation the action of safety care with a fully loaded car .

#### **5.1 Guide Rails Shoes**

To prevent car shaking automatic adjustable guide shoes should be used. The firm should use Teflon guide gibs on lubricated guide rails.

### **6.0 Lift Car**

#### **6.1 Car frame**

The car frame shall be in accordance clause 4 of IS 14665 (Part-4, section-2) 2000 fabricated from formed or structural steel members shall be provided with adequate bracing to support the platform and car

enclosures. The car safety shall be integral with car mounted on the bottom members of the car frame and shall be with flexible guide clamp type designed to stop and hold a fully loaded car and withstand without permanent deformation the operation of safety gears.

## **6.2 Car Platform**

The car platform shall be of framed construction and designed on the basis of rated load evenly distributed confirming to IS 14665 (Part-1) 2000 . A load plate along with overload alarm ,giving the rated load and permissible maximum number of passenger should be fitted in each lift car in a conspicuous position.

## **6.3 Car Body**

The car shall be enclosed on all sides by a metallic enclosure .The enclosure including the door shall withstand without deformation a thrust of 35 Kg applied normally at any point and as per IS 14665 (Part-4, section-3) 2001 and Ventilation openings as required. Lift car door shall have a fire resistant rating of 1 hour. The car roof shall be solid type capable of supporting a weight of at least 140 Kg and as per IS 14665 (Part-4, section-3) 2001

## **6.4 Operating Panels inside the car**

The car operating panel shall be of metal ,flush mounted and duly finished to match the cart interior décor and shall contain all the devices as may be specified depending upon the type of operation required. in addition separate illuminated panel for indication the floor and direction may be provided on the top or the door way .All switches shall be fade proof and the devices shall be of suitable quality. Each device and its operating position shall be legible fade proof and marked.

## **7.0 Buffers**

The suitable heavy-duty spring buffers shall be placed below the car and counter weight arranged to sustain and shock, should the elevator over travel past the terminal limits. Buffer shall be designed for design speed + 15%. Clearance from under side of car resting on a fully compressed buffer shall not be less than 1.20M.

## **8.0 Ropes**

These will be self lubricated and manufactured from high grade steel and material special flexible and the combine breaking strength will be calculated with a minimum factor of safety of 10 times the combine weight of car with full load.

## **9.0 Travelling Cables.**

All wiring and electrical interconnections shall comply with governing codes. Insulated wiring shall have flame retardant and moisture proof outer covering and shall run in metal conduit tubing or approved electrical raceways. Travelling cables shall be flexible and suspended to relieve strain on individual conductors. A minimum of 10% spare conductors shall be provided in travelling cable.

## **10.0 Threshold**

The threshold to be provided should be aluminium grooved, with self-supporting sill angle.

## **11.0 Hall buttons**

For passenger and freight elevators, these shall be provided at each terminal landing. A single micro movement push button shall be provided at top most and landing floors, two micro movement buttons on a single plate shall be provided at each intermediate floor. When a hall call is registered by momentary pressure on a landing button, that button shall become illuminated until the call is answered. Passenger and freight elevators call buttons shall be as per manufacturers standard selection. The catalogues of the buttons offered shall be submitted along with the tender.

### **12.0 Motor**

The make and type of hoisting motors and capacity should be mentioned. The motor should be suitable for elevator service (S4 duty) with high starting torque and starting current should be mentioned.

### **13.0 Alarm Bell**

A battery operated emergency alarm bell, including wiring to be provided and connected to a properly marked push button in the car-operating panel. The alarm bell shall be located at the ground floor, at the floor landing outside and adjacent to hoist way.

### **14.0 Hoistway Gate Interlocks**

Each hoist way gate shall be provided with interlock and which shall prevent the movement of the car away from the landing unless all are closed and locked. The interlock shall also prevent opening of gate except at the landing where the car is stopping or has stopped.

### **15.0 Counter Weight**

The counter weight shall consist of cast iron weight containing structural steel frame and shall be equal to the weight of the complete elevator car and approximately 50% of the contract load. Counterweight is to be provided with over speed safety incase of passenger elevators.

### **16.0 Hitches Plates**

Self aligning (with isolation cushion) hitches plates of better roping shall be provided.

### **17.0 Speed Governor**

The car safety shall be operated by a mechanical centrifugal speed governor located at the top of the hoist way. The governor shall actuate a switch when excessive descending speed occurs disconnecting power to the hoist motor and applying the break prior to deployment of the safeties.

### **18.0 Reverse Phase Relay**

Reverse phase relays should be provided on the controller, which should be designed to protect the elevator equipment against phase reversal and single phasing and phase failure.

### **19.0 Digital Hall Position Indicator**

A digital position indicator shall be provided on all landings indicating the position of the car in the hoistway at all times. Illuminating direction arrows shall indicate the direction of the travel.

## **20.0 Digital car position indicator**

A digital car position shall be provided in each elevator car which shall indicate the landing at which the car has stopped or is passing. Illuminating direction arrows shall indicate the direction of travel.

## **21.0 Car door operator :**

a). An electrical A.C/D.C. door operator shall be provided on the car to automatically operate and close the car door in the following manner.

b). When the car stopped at a landing the car door shall be opened by the electric operator. After the hoist way door has been closed, the pressing of either a car button or landing operating button at other landing shall cause the car door to close. An electric contact shall be provided to prevent the operation of the elevator unless the door is in the position.

## **22.0 Full Collective Automatic Operation**

a). The operation shall be full collective automatic type with one button in the car for each landing level served and up and down buttons at the intermediate landings and a single button at each terminal landing. All stops registered by the momentary pressure of the car button shall be made in the order in which the landings are reached after the buttons have been pressed but irrespective of the sequence in which the calls were registered.

b). All up landing calls shall be answered when the car is travelling in the up direction and all down landing calls shall be answered when the car is travelling in the down direction, except in the case of the uppermost or lowermost calls which shall be answered as soon as it is reached.

## **23.0 Infra red road safety**

Car doors should have infrared safety device. When any beam is interrupted, an electronic circuit shall be actuated and door operating mechanism shall returned the doors to the open position and when the entrance is again clear, the elevator door closes automatically.

## **24.0 Fire man drive**

Fireman drive shall be provided for each elevator. The operation of the fireman drive shall be in two phases. In the first phase it shall cancel all the calls and bring the passengers to the parking floor. All the floor buttons shall remain ineffective till the button is reset. In the second phase the fireman shall use it. In second phase operation the elevator door should open by continuous pressure on the door open buttons and the door shall close if the button is released before the door full open. And hall buttons giving car calls indication shall cause the door to close, and the elevator should run on slow speed. Doors should be fire rated for one hour and shall be provided with jam panels.

## **25.0 Automatic Rescue Device.**

Automatic (Emergency) battery device should come into operation in case of power failure it should sense the direction of motor and stop the elevator at the nearest floor landing and door should open. The automatic rescue device (drive) should be base on maintenance free batteries of suitable capacity –each elevator to have its own Automatic Rescue Device.

**Annexure-III-(A)**

**Lift Specification /Site Requirement**

Name of the work : Supply, installation, testing and commissioning of Two no's  
26 Passenger Bed lifts at JLNH Hospital, Rainawari, Srinagar.

**Specifications**

1. Load 26 Persons (1768 Kg's approx).
2. Travel Ground Floor to 4<sup>th</sup>, Floor (about 16meters).
3. Speed 1 mps
4. Stops & Openings Five stops, Five openings/ openings on same side.
5. Power Supply 415 volts, 3 phase, 50 Hz(AC) Alternating Current.
6. Control A.C. Variable voltage, variable frequency with open/ closed loop.
7. Operation Simple full collective, with/ without attendant.
8. Machines Gearless placed directly above the hoist way.
9. Proposed Car Size About 1600mm wide x 2400 mm deep inside dimensions.
10. Hoist Way Available at site About 2300 mm wide x 3000 mm deep inside dimensions.
11. Car Entrance Protected by Two Speed doors in SS Finish or Centre/Side opening doors having clear opening of about 1200mm x 2100mm high. (to be quoted by tenderer )
12. Hoist Way Entrance Protected by Two Speed doors in SS Finish or Centre/Side opening doors having clear opening of about 1200mm x 2100mm high. (to be quoted by tenderer )
13. Door Operation Automatic and full length infra red electronic door detector system.
14. Machine Room Available at site any changes required need to be specified at the time of approval of drawing.
15. Overhead available 5100 mm
16. Pit depth available at site 1600mm.

17. Signals

(All signal fixtures in stainless steel face plate)

- a. Combined luminous hall buttons & digital hall position indicator at all floors.
- b. Digital car position indicator in car.
- c. Telephone cabinet in car with leads in travelling cables including instrument.
- d. Battery operated alarm bell and emergency light.
- e. Fireman Switch.
- f. Overload warning device.
- g. ARD (Automatic rescue device) optional.

**Signature of the Contractor/firm**

## **Annexure-III-(B)**

### **Lift Specification /Site Requirement**

Name of the work : Supply, installation, testing and commissioning of one no dumb weightier at JLNH Hospital, Rainawari, Srinagar.

#### **Specifications**

- |    |                             |   |
|----|-----------------------------|---|
| 1. | Load                        | 400Kgs  |
| 2. | Travel                      | Ground Floor to 4 <sup>th</sup> , Floor (about 16meters). |
| 3. | Stops & Openings            | Five stops, Five openings/ openings on same side.         |
| 4. | Power Supply                | 415 volts, 3 phase, 50 Hz(AC) Alternating Current.        |
| 5. | Control                     | To be quoted.   |
| 6. | Machines                    | Geared/ Geraless placed directly above the hoist way.     |
| 7. | Hoist Way Available at site | About 1200 mm wide x 2100 mm deep inside dimensions.      |
| 8. | Pit depth available at site | 1600mm.   |

**Signature of the Contractor/firm**

**Annexure-III-(C)**

**Lift Specification /Site Requirement**

Name of the work : Supply, installation, testing and commissioning of one no 26 Passenger Bed lifts at L.D Hospital, Hazuri Bagh, Srinagar.

**Specifications**

1. Load 26 Persons (1768 Kg's approx).
2. Travel Ground Floor to 4<sup>th</sup>, Floor (about 16 meters).
3. Speed 1 mps
4. Stops & Openings Five stops, Five openings/ openings on same side.
5. Power Supply 415 volts, 3 phase, 50 Hz(AC) Alternating Current.
6. Control A.C. Variable voltage, variable frequency with open/ closed loop.
7. Operation Simple full collective, with/ without attendant.
8. Machines Gearless placed directly above the hoist way.
9. Proposed Car Size About 1600mm wide x 2400 mm deep inside dimensions.
10. Hoist Way Available at site About 2300 mm wide x 3000 mm deep inside dimensions.
11. Car Entrance Protected by Two Speed doors in SS Finish or Centre/Side opening doors having clear opening of about 1200mm x 2100mm high. (to be quoted by tenderer )
12. Hoist Way Entrance Protected by Two Speed doors in SS Finish or Centre/Side opening doors having clear opening of about 1200mm x 2100mm high. (to be quoted by tenderer )
13. Door Operation Automatic and full length infra red electronic door detector system.
14. Machine Room Available at site any changes required need to be specified at the time of approval of drawing.
15. Overhead available 5000 mm
16. Pit depth available at site 1600mm.

17. Signals

(All signal fixtures in stainless steel face plate)

- a. Combined luminous hall buttons & digital hall position indicator at all floors.
- b. Digital car position indicator in car.
- c. Telephone cabinet in car with leads in travelling cables including instrument.
- d. Battery operated alarm bell and emergency light.
- e. Fireman Switch.
- f. Overload warning device.
- g. ARD (Automatic rescue device) optional.

**Signature of the Contractor/firm**

## Annexure-III-(D)

### Lift Specification /Site Requirement

Name of the work : Supply, installation, testing and commissioning of one no 26 Passenger Bed lifts at L.D Hospital, Hazuri Bagh, Srinagar.

#### **Specifications**

1. Load 26 Persons (1768 Kg's approx).
2. Travel Ground Floor to 3rd, Floor (about 12 meters).
3. Speed 1 mps
4. Stops & Openings Four stops, Four openings/ openings on same side.
5. Power Supply 415 volts, 3 phase, 50 Hz(AC) Alternating Current.
6. Control A.C. Variable voltage, variable frequency with open/ closed loop.
7. Operation Simple full collective, with/ without attendant.
8. Machines Gearless placed directly above the hoist way.
9. Proposed Car Size About 1600mm wide x 2400 mm deep inside dimensions.
10. Hoist Way Available at site About 2300 mm wide x 3000 mm deep inside dimensions.
11. Car Entrance Protected by Two Speed doors in SS Finish or Centre/Side opening doors having clear opening of about 1200mm x 2100mm high. (to be quoted by tenderer )
12. Hoist Way Entrance Protected by Two Speed doors in SS Finish or Centre/Side opening doors having clear opening of about 1200mm x 2100mm high. (to be quoted by tenderer )
13. Door Operation Automatic and full length infra red electronic door detector system.
14. Machine Room Available at site any changes required need to be specified at the time of approval of drawing.
15. Overhead available 5000 mm
16. Pit depth available at site 1600mm.

17. Signals

(All signal fixtures in stainless steel face plate)

- a. Combined luminous hall buttons & digital hall position indicator at all floors.
- b. Digital car position indicator in car.
- c. Telephone cabinet in car with leads in travelling cables including instrument.
- d. Battery operated alarm bell and emergency light.
- e. Fireman Switch.
- f. Overload warning device.
- g. ARD (Automatic rescue device) optional.

**Signature of the Contractor/firm**

## **Annexure-III-(E)**

### **Lift Specification /Site Requirement**

Name of the work : Supply, installation, testing and commissioning of Two no's 26 Passenger Electric traction lifts at Haj House, Bemina.

#### **Specifications**

1. Load 26 Persons (1768 Kg's approx).
2. Travel Ground Floor to 3<sup>rd</sup> Floor (about 12 meters).
3. Speed 1 mps.
4. Stops & Openings Four stops, Four openings/ openings on same side.
5. Power Supply 415 volts, 3 phase, 50 Hz(AC) Alternating Current.
6. Control A.C. Variable voltage, variable frequency with open/ closed loop.
7. Operation Simple full collective, with/ without attendant.
8. Machines Gearless placed directly above the hoist way.
9. Proposed Car Size About 1600mm wide x 2400 mm deep inside dimensions.
10. Hoist Way Available at site About 3000 mm wide x 3600 mm deep inside dimensions.
11. Car Entrance Protected by Two Speed doors in SS Finish or Centre/Side opening doors having clear opening of about 1200mm x 2100mm high. (to be quoted by tenderer )
12. Hoist Way Entrance Protected by Two Speed doors in SS Finish or Centre/Side opening doors having clear opening of about 1200mm x 2100mm high. (to be quoted by tenderer )
13. Door Operation Automatic and full length infra red electronic door detector system.
14. Machine Room Available at site any changes required need to be specified at the time of approval of drawing.
15. Overhead available 4800 mm
16. Pit depth available at site 1600mm.

17. Signals

(All signal fixtures in stainless steel face plate)

- a. Combined luminous hall buttons & digital hall position indicator at all floors.
- b. Digital car position indicator in car.
- c. Telephone cabinet in car with leads in travelling cables including instrument.
- d. Battery operated alarm bell and emergency light.
- e. Fireman Switch.
- f. Overload warning device.
- g. ARD (Automatic rescue device) optional.

**Signature of the Contractor/firm**

## **Annexure-III-(F)**

### **Lift Specification /Site Requirement**

Name of the work : Supply, installation, testing and commissioning of one no 13 Passenger Electric traction lifts at Sari Building, Shreen Bagh, Srinagar.

#### **Specifications**

1. Load 13 Persons (884 Kg's approx).
2. Travel Ground Floor to 4<sup>th</sup> Floor (about 12 meters).
3. Speed 1 mps.
4. Stops & Openings Five stops, Five openings/ openings on same side.
5. Power Supply 415 volts, 3 phase, 50 Hz(AC) Alternating Current.
6. Control A.C. Variable voltage, variable frequency with open/ closed loop.
7. Operation Simple full collective, with/ without attendant.
8. Machines Gearless placed directly above the hoist way.
9. Proposed Car Size About 1100mm wide x 2000 mm deep inside dimensions.
10. Hoist Way Available at site About 1830 mm wide x 2520 mm deep inside dimensions.
11. Car Entrance Protected by Two Speed doors in SS Finish or Centre/Side opening doors having clear opening of about 900mm x 2100mm high. (to be quoted by tenderer )
12. Hoist Way Entrance Protected by Two Speed doors in SS Finish or Centre/Side opening doors having clear opening of about 900mm x 2100mm high. (to be quoted by tenderer )
13. Door Operation Automatic and full length infra red electronic door detector system.
14. Machine Room Available at site any changes required need to be specified at the time of approval of drawing.
15. Overhead available 4500 mm
16. Pit depth available at site 1600mm.

17. Signals

(All signal fixtures in stainless steel face plate)

- a. Combined luminous hall buttons & digital hall position indicator at all floors.
- b. Digital car position indicator in car.
- c. Telephone cabinet in car with leads in travelling cables including instrument.
- d. Battery operated alarm bell and emergency light.
- e. Fireman Switch.
- f. Overload warning device.
- g. ARD (Automatic rescue device) optional.

**Signature of the Contractor/firm**

## **Annexure-III-(G)**

### **Lift Specification /Site Requirement**

Name of the work : Supply, installation, testing and commissioning of Two no's 8 Passenger Electric traction lifts at Public Service Commission, Solina, Srinagar.

#### **Specifications**

1. Load 8 Persons (544 Kg's approx).
2. Travel Ground Floor to 3<sup>rd</sup> Floor (about 10 meters).
3. Speed 1 mps.
4. Stops & Openings Four stops, Four openings/ openings on same side.
5. Power Supply 415 volts, 3 phase, 50 Hz(AC) Alternating Current.
6. Control A.C. Variable voltage, variable frequency with open/ closed loop.
7. Operation Simple full collective, with/ without attendant.
8. Machines Gearless placed directly above the hoist way.
9. Proposed Car Size About 1300mm wide x 1100 mm deep inside dimensions.
10. Hoist Way Available at site About 1878 mm wide x 1878 mm deep inside dimensions.
11. Car Entrance Protected by Two Speed doors in SS Finish or Centre/Side opening doors having clear opening of about 800mm x 2100mm high. (to be quoted by tenderer )
12. Hoist Way Entrance Protected by Two Speed doors in SS Finish or Centre/Side opening doors having clear opening of about 800mm x 2100mm high. (to be quoted by tenderer )
13. Door Operation Automatic and full length infra red electronic door detector system.
14. Machine Room Available at site any changes required need to be specified at the time of approval of drawing.
15. Overhead available 4200 mm
16. Pit depth available at site 1150mm.

17. Signals

(All signal fixtures in stainless steel face plate)

- a. Combined luminous hall buttons & digital hall position indicator at all floors.
- b. Digital car position indicator in car.
- c. Telephone cabinet in car with leads in travelling cables including instrument.
- d. Battery operated alarm bell and emergency light.
- e. Fireman Switch.
- f. Overload warning device.
- g. ARD (Automatic rescue device) optional.

**Signature of the Contractor/firm**

## **Annexure-III-(H)**

### **Lift Specification /Site Requirement**

Name of the work : Supply, installation, testing and commissioning of one no 16 Passenger Electric traction lifts at Dental Collage Shreen Bagh, Srinagar.

#### **Specifications**

1. Load 16 Persons (1088 Kg's approx).
2. Travel Ground Floor to 3<sup>rd</sup> Floor (about 12 meters).
3. Speed 1 mps.
4. Stops & Openings Four stops, Four openings/ openings on same side.
5. Power Supply 415 volts, 3 phase, 50 Hz(AC) Alternating Current.
6. Control A.C. Variable voltage, variable frequency with open/ closed loop.
7. Operation Simple full collective, with/ without attendant.
8. Machines Gearless placed directly above the hoist way.
9. Proposed Car Size About 2500mm wide x 2100 mm deep inside dimensions.
10. Hoist Way Available at site About 2800mm wide x 2350 mm deep inside dimensions.
11. Car Entrance Protected by Two Speed doors in SS Finish or Centre/Side opening doors having clear opening of about 1000mm x 2100mm high. (to be quoted by tenderer )
12. Hoist Way Entrance Protected by Two Speed doors in SS Finish or Centre/Side opening doors having clear opening of about 1000mm x 2100mm high. (to be quoted by tenderer )
13. Door Operation Automatic and full length infra red electronic door detector system.
14. Machine Room Available at site any changes required need to be specified at the time of approval of drawing.
15. Overhead available 4770 mm
16. Pit depth available at site 1600mm.

17. Signals

(All signal fixtures in stainless steel face plate)

- a. Combined luminous hall buttons & digital hall position indicator at all floors.
- b. Digital car position indicator in car.
- c. Telephone cabinet in car with leads in travelling cables including instrument.
- d. Battery operated alarm bell and emergency light.
- e. Fireman Switch.
- f. Overload warning device.
- g. ARD (Automatic rescue device) optional.

**Signature of the Contractor/firm**

## **Annexure-III-(I)**

### **Lift Specification /Site Requirement**

Name of the work : Supply, installation, testing and commissioning of one no 10 passenger Gearless MRL Electric traction lifts at Dental Collage, Shreen Bagh, Srinagar.

#### **Specifications**

1. Load 10 Persons (800 Kg's approx).
2. Travel Ground Floor to 3<sup>rd</sup> Floor (about 12 meters).
3. Speed 1 mps.
4. Stops & Openings Four stops, Four openings/ openings on same side.
5. Power Supply 415 volts, 3 phase, 50 Hz(AC) Alternating Current.
6. Control A.C. Variable voltage, variable frequency with open/ closed loop.
7. Operation Simple full collective, with/ without attendant.
8. Machines Gearless placed directly above the rails.
9. Proposed Car Size About 1350mm wide x 1400 mm deep inside dimensions.
10. Hoist Way Available at site About 2130mm wide x 2030 mm deep inside dimensions.
11. Car Entrance Protected by Two Speed doors in SS Finish or Centre/Side opening doors having clear opening of about 900mm x 2100mm high. (to be quoted by tenderer )
12. Hoist Way Entrance Protected by Two Speed doors in SS Finish or Centre/Side opening doors having clear opening of about 900mm x 2100mm high. (to be quoted by tenderer )
13. Door Operation Automatic and full length infra red electronic door detector system.
14. Machine Room Available at site any changes required need to be specified at the time of approval of drawing.
15. Pit depth available at site 900mm.

16. Signals

(All signal fixtures in stainless steel face plate)

- a. Combined luminous hall buttons & digital hall position indicator at all floors.
- b. Digital car position indicator in car.
- c. Telephone cabinet in car with leads in travelling cables including instrument.
- d. Battery operated alarm bell and emergency light.
- e. Fireman Switch.
- f. Overload warning device.
- g. ARD (Automatic rescue device) optional.

**Signature of the Contractor/firm**

**Annexure-IV(I)**

**Financial Bid For SITC Of Two no's Bed Lifts & Dumb Weightier At JLNM Hospital Rainawari.**

<b>S.No</b>	<b>Description</b>	<b>Qty</b>	<b>Rate in Rs.</b>	<b>Amount in Rs.</b>
01	Supply, installation, testing and commissioning of Two no's G+4,26 Passenger Bed lifts at JLNM Hospital, Rainawari, Srinagar as per tendered specification contained in Annexure-III(A) of the tender document excluding cost of ARD.	2 no's		
02	Supply ,Installation, Testing & Commissioning of ARD suitable for Two no's G+4, 26 Passenger Bed lifts at JLNM Hospital, Rainawari, Srinagar as per tendered specification contained in Annexure-III(A) of the tender document.	2 no's		
03	Supply, installation, testing and commissioning of one no G+4, 400Kgs,capacity dumb Weightier at JLNM Hospital, Rainawari, Srinagar as per tendered specification contained in Annexure-III(B) of the tender document	1 no		
	<b>SubTotal</b>			
	Add Service Sales Tax @10.5%			
	Add Cess @ 1%			
	<b>Grand Total</b>			

Note: The financial bids for each work/site be enclosed in separate envelopes as same shall be treated as individual contract. The reference of NIT No, date & name of work be super-scribed in bold letters.

**Signature of the Contractor/firm**

**Annexure-IV(II)**

**Financial Bid For SITC Of Two No's Bed Lifts At L.D Hospital, Hazuri Bagh.**

<b>S.No</b>	<b>Description</b>	<b>Qty</b>	<b>Rate in Rs.</b>	<b>Amount in Rs.</b>
01	Supply, installation, testing and commissioning of one no, G+4, 26 Passenger Bed lifts at L.D Hospital, Hazuri Bagh, Srinagar as per tendered specification contained in Annexure-III(C) of the tender document excluding cost of ARD.	1 no		
02	Supply, installation, testing and commissioning of one no, G+3, 26 Passenger Bed lifts at L.D Hospital, Hazuri Bagh, Srinagar as per tendered specification contained in Annexure-III(D) of the tender document excluding cost of ARD.	1 no		
03	Supply ,Installation, Testing & Commissioning of ARD suitable for two no's 26 Passenger Bed lifts at L.D Hospital, Hazuri Bagh, Srinagar as per tendered specification contained in Annexure-III(C & D) of the tender document	2 no's		
	<b>SubTotal</b>			
	Add Service Sales Tax @10.5%			
	Add Cess @ 1%			
	<b>Grand Total</b>			

Note: The financial bids for each work/site be enclosed in separate envelopes as same shall be treated as individual contract. The reference of NIT No, date & name of work be super-scribed in bold letters.

**Signature of the Contractor/firm**

**Annexure-IV(III)**

**Financial Bid For SITC Of Two No's Passanger Lifts At Haj House, Bemina.**

<b>S.No</b>	<b>Description</b>	<b>Qty</b>	<b>Rate in Rs.</b>	<b>Amount in Rs.</b>
01	Supply, installation, testing and commissioning of Two no's, G+3, 26 Passenger Electric traction lifts at Haj House, Bemina, Srinagar as per tendered specification contained in Annexure-III(E) of the tender document excluding cost of ARD.	2 no's		
02	Supply ,Installation, Testing & Commissioning of ARD suitable for Two no's,G+3, 26 Passenger Electric traction lifts at Haj House, Bemina, Srinagar as per tendered specification contained in Annexure-III(E) of the tender document	2 no's		
	<b>SubTotal</b>			
	Add Service Sales Tax @10.5%			
	Add Cess @ 1%			
	<b>Grand Total</b>			

Note: The financial bids for each work/site be enclosed in separate envelopes as same shall be treated as individual contract. The reference of NIT No, date & name of work be super-scribed in bold letters.

**Signature of the Contractor/firm**

**Annexure-IV(IV)**

**Financial Bid For SITC Of One No Passenger Lift At Sarai Building, Shreen Bagh, Srinagar.**

<b>S.No</b>	<b>Description</b>	<b>Qty</b>	<b>Rate in Rs.</b>	<b>Amount in Rs.</b>
01	Supply, installation, testing and commissioning of one no, G+4, 13 Passenger Electric traction lifts at Sarai Building, Shreen Bagh, Srinagar as per tendered specification contained in Annexure-III(F) of the tender document excluding cost of ARD.	1 no		
02	Supply ,Installation, Testing & Commissioning of ARD suitable for one no, G+4, 13 Passenger Electric traction lifts at Sarai Building, Shreen Bagh, Srinagar as per tendered specification contained in Annexure-III(F) of the tender document	1 no		
	<b>SubTotal</b>			
	Add Service Sales Tax @10.5%			
	Add Cess @ 1%			
	<b>Grand Total</b>			

Note: The financial bids for each work/site be enclosed in separate envelopes as same shall be treated as individual contract. The reference of NIT No, date & name of work be super-scribed in bold letters.

**Signature of the Contractor/firm**

**Annexure-IV (V)**

**Financial Bid For SITC Of Two No's Passenger Lift At Public Service Commission,Solina, Srinagar.**

<b>S.No</b>	<b>Description</b>	<b>Qty</b>	<b>Rate in Rs.</b>	<b>Amount in Rs.</b>
01	Supply, installation, testing and commissioning of Two no's, G+3, 8 Passenger Electric traction lifts at Public Service Commission, Solina, Srinagar as per tendered specification contained in Annexure-III(G) of the tender document excluding cost of ARD.	2 no		
02	Supply ,Installation, Testing & Commissioning of ARD suitable for Two no's, G+3, 8 Passenger Electric traction lifts at Public Service Commission, Solina, Srinagar as per tendered specification contained in Annexure-III(G) of the tender document	2 no		
	<b>SubTotal</b>			
	Add Service Sales Tax @10.5%			
	Add Cess @ 1%			
	<b>Grand Total</b>			

Note: The financial bids for each work/site be enclosed in separate envelopes as same shall be treated as individual contract. The reference of NIT No, date & name of work be super-scribed in bold letters.

**Signature of the Contractor/firm**

**Annexure-IV (VI)**

**Financial Bid For SITC Of Two No's Passenger Lift At Dental Collage, Shreen Bagh, Srinagar.**

<b>S.No</b>	<b>Description</b>	<b>Qty</b>	<b>Rate in Rs.</b>	<b>Amount in Rs.</b>
01	Supply, installation, testing and commissioning of one no, G+3, 16 Passenger Electric traction lifts at Dental Collage, Shreen Bagh, Srinagar as per tendered specification contained in Annexure-III(H) of the tender document excluding cost of ARD.	1 no		
02	Supply, installation, testing and commissioning of one no, MRL,G+3, 10 Passenger Electric traction lifts at Dental Collage, Shreen Bagh, Srinagar as per tendered specification contained in Annexure-III(I) of the tender document excluding cost of ARD.	1 no		
02	Supply ,Installation, Testing & Commissioning of ARD suitable for Two no's, G+3, 16/10 Passenger Electric traction lifts at Dental Collage, Shreen Bagh, Srinagar as per tendered specification contained in Annexure-III(H&I) of the tender document	2 no		
	<b>SubTotal</b>			
	Add Service Sales Tax @10.5%			
	Add Cess @ 1%			
	<b>Grand Total</b>			

Note: The financial bids for each work/site be enclosed in separate envelopes as same shall be treated as individual contract. The reference of NIT No, date & name of work be super-scribed in bold letters.

**Signature of the Contractor/firm**

## Annexure-V

### Guaranteed Performance

S.No	Particulars of Details	Guaranteed data
<b>A General :</b>		
1	Name of Manufacturer	
2	Country of manufacturer	
3	Capacities (persons/ weight)	
4	Service	
5	Speed of Travel	
6	Height of Travel	
7	No. of Floors served	
8	No. of openings	
9	Position of counterweight	
10	Type of Leveling method	
<b>B Machine :</b>		
1	Position of Machine	
<b>C Motor</b>		
a).	Type	
b).	Make	
c).	Horse Power	
d).	Standards conforming to	
e).	Electric supply particulars for which it is suitable for operation	
<b>D Drive :</b>		
a).	Number & diameter of ropes	
b).	Make and Type No. of Reduction gear unit	
c).	Reduction ratio of gear unit	
<b>E Brake</b>		
1	Type	
2	Make	
3	Construction and Electrical particulars	

(Operating voltage, current etc)

**F Car :**

- 1 Outside dimensions of car
- 2 Inside clear dimensions
- 3 Construction of car
- 4 Design/ Type of enclosure of car
- 5 Details of flooring
- 6 Attachments and fitting inside the car
- 7 Car Doors :
  - a). Size
  - b). Operation
  - c). Construction, design & finish
  - d). Details of runners & suspension
- 8 Landing Doors :
  - a). Size
  - b). Operation
  - c). Construction, design & finish
  - d). Details of runners and suspension
- 9 Leveling Method :

**G Guides & Guide Shoes:**

- 1 For Car :
  - a). Size
  - b). Weight per metre run

**H Safety Services:**

- 1 Car safety type
- 2 Counter weight safety type
- 3 Door interlocks in cary-type
- 4 Door locks in landing type
- 5 Details of door ledge
- 6 Limit switches :

- a). Type
- b). Location
- c). Function
- d). Number at each location
- e). Make
- f). Rating (Amps)

**I Buffers:**

1 For car :

- a). Type
- b). Construction
- c). Material

2 For counterweight :

- a). Type
- b). Construction

**J Electrical Particulars of Alarm Bell :  
Other safety devices included in the offer :**

**K Controller :**

- 1 Type
- 2 Location
- 3 Manufacturer name, type and electrical particulars  
Operating coils of relays
- 4 Particulars of type, make etc of relays and contractors
- 5 Any other particulars of construction

**L Signaling System :**

- a). In car :
  - i). Door button
  - ii). Call indicator
  - iii). Direction and position indicator
  - iv). Emergency button

- v). Door button
- vi). Alarm bell button
- vii). Changeover switches
- viii). Light and fan switches

b). At landing :

- i). Call button
- ii). Direction and car position indicators

Note : Full and comprehensive details are to be given by the tenderer

**M Inter Communication System :**

- 1 Make & Model
- 2 Technical Data of Manufacturers  
(Please enclosed literature )

**N Emergency Power Pack :**

- 1 Type of Battery and Capacity
- 2 Detail of Float / Boast Change (Make / Model )

**O Automatic Rescue Device:**

- a). Make
- b). Capacity
- c). Battery make and capacity in ampere hour and quantity

**P Any other data**

**Signature of the Contractor/firm**

## Annexure-VI

### Schedule of Programme for Manufacture, Supply, Installation, Testing & Commissioning of Lifts

S.No	Details	Month																			
		Week	1	2	3	4	5	6	7	8	9	10									
	Supply of Preliminary Drawings																				
1	General arrangement drawing																				
2	Electrical drawing																				
3	Foundation and other details																				
4	Any other drawings as per specifications																				
5	Bringing materials to site																				
6	Scaffolding																				
7	Alignment Checking																				
8	Guide Rails																				
9	Hoistway work																				
10	Door work in landings																				
11	Car assembly																				
12	Machine Room machinery installation																				
13	Controller installation																				
14	Wiring Work																				
15	Adjustments																				
16	Commissioning																				
17	Testing																				

**Signature of the Contractor/firm**

## Annexure-VII

### Test of Lift Installations

#### 1. Test of Lift Installation :

##### 1.1 Tests at site :

a). **Leveling Test** : Accuracy of the floor leveling shall be tested with the lift empty, fully loaded. The lift shall be run to each floor while traveling both in upward and downward directions and the actual distance of car floor above/below landing floor shall be measured. In each case there shall not be any appreciable difference in these measurements for leveling at the floors when the car is empty and when it is fully loaded. The tolerances for leveling shall be specified and guaranteed by the tendered.

b). **Safety Gear Tests** : With the contract load still in the car, the safety gear may now be tested, if the lift operates from a d.c supply the excess speed necessary to operate the gear may be obtained by field weakening, but if a.c. motor is installed the gear may be set to operate at the contract speed or alternatively tripped by hand at the contract speed. Instantaneous safety gear controlled by a governor should be tested with contract load and a contract speed, the governor being operated by hand. Two tests should be made, however, with wedge clamp or flexible clamp safeties, one with contract load in the car and other stopping distance obtained should be compared with the specified figures and the guides, car platform, and safety gear should be carefully examined afterwards for signs of permanent distortion. Note -: if there is sufficient cable left on the safety drum after the gear has operated. Counterweight safety gear should be tripped by the counter weight governor and the stopping distance noted. In this case, however the governor tripping speed should exceed that of the car safety governor but by more than 10%. During the safety gear tests an inspector with a tachometer should determine the car speed (from the governor or the main sheave) at the instant or tripping speed with that stated in I.S. The governor jaws and rope should be examined for any undue wear.

c). **Contract Speed**: This should be measured with contract load in the car, with half load and with no load, and should not vary from the contract speed by more than 10%. The convenient method is by counting the number of revolutions, made by the sheave of drum in a known time, chalk mark on the sheave or drum and a stop switch will facilitate timing but care must be exercised to ensure that no acceleration or retardation periods are included, if the roping is 2 to 1 the sheave speed is twice the car speed. Alternatively, the speed can be measured by a tachometer applied directly to shaft immediately below the sheave.

d). **Lift balance** : After the above test, some of the weight shall be removed until the remaining weights represent the figures specified by the tenderer. With this condition car at half way travel the effort required to move the lift car in either direction with the help of winding wheel shall be as nearly, be the same as can be judged

e). **Car and landing doors interlocks**: The lift shall not move with any door open. The car door relay contact and the retiring release contact must be tested. The workings of the door operation and the safety edges and light equipment if any provided shall also be examined.

f). **Controllers**: The operation of the contactors and interlocks shall be examined and it shall be ascertained whether all the requirements laid down in the specifications have been met.

g). **Normal terminal stopping switches**: These shall be tested by letting the car run to each terminal landing in turn, first with no load and then with contract load and by taking measurements, top and bottom over travels can be ascertained.

h). **Final terminal stopping switches** : The normal terminal stopping switches shall be disconnected for this test. It shall be ensured that these switches operate before the buffers are engaged.

i). **Insulation Resistance** : This shall be measured between power and control lines and earth and shall not be less than 5 mega – ohms when measured with D.C voltage of 500 volts. The test shall be carried out with contactors so connected together as to ensure that all parts of every circuit are simultaneously tested.

j). **Earthing** : All conduits, switches, casing and similar metal work shall have earthing continuity.

k). **Ropes** : The size, number construction and fastenings of the ropes should be carefully examined and recorded.

l). **Buffers**: The car should be run on to its buffers at contract speed and with contract load in the car to test whether there is any permanent distortion of the car or buffers. The counter weight buffers should be tested similarly.

## 1.2 Tests at Manufacturer's works :

### a). **High voltage test** :

The dielectric or electrical apparatus (excluding motors, generators and instruments which are tested in accordance with the appropriate Indian Standards wherever they exist) shall be capable of withstanding a test voltage of ten times the working voltage with a maximum of 2000 volts when applied

i). Between the live parts and case or frame with all circuits completed

ii). Between main terminals or equivalent parts with all circuits open and

iii). Between any live parts of independent circuits

N : Owing to the impracticability of applying tests (ii) & (iii) mentioned above on controllers and similar  
o apparatus after controller wiring has been completed, these tests may be made at convenient stages or  
t manufacture.  
e

b). I). **Method of applying high voltage** : The test shall be made with alternating voltage of any convenient frequency, preferably between 49 and 60 cycles per second. The test voltage shall be of approximately sine-wave form and during the application of voltage with peak value, as would be determined by spark gap by oscillograph or by any other approved method shall of the applied voltage shall be measured by means of a transformer or by means of a voltmeter used in connection with a special calibrated voltmeter winding or testing transformer by any other suitable voltmeter connected to the output side of the testing transformer.

ii). **Duration of high voltage test** : The test shall be commenced at a voltage of about one third of the test voltage which shall be increased to the full test voltage as rapidly as is consistent with the value being indicated by the measuring instrument. The full test voltage shall be maintained for one minute. At the end of this period, the test voltage shall be rapidly diminished to one third of its full value before switching off. The oil buffers are examined after the above tests have been made to determine if there have been any oil leakage or distortion and to ensure that the buffers return to their normal position.

c). **Service Temperature Test** : A continuous run of one hour should be made with number of starts and stops to reproduced as nearly as practical the anticipate duty in service (The standard duty cycle is for 90 to 180 start per hour). It is very difficult in practice to carry out this test with alternate starts at full load and no load and it is very necessary therefore to simulate these cycles. A suitable test for all motor except squirrel cage motors is to run the car up from the bottom landing with contract load and stop at each floor. From the top floor a non stop run is made to the lowest floor and the upward journey with stop is then repeated. The time intervals between stops and starts at the floors should be uniform and such as to give about 120 starts in one hour. At the end of this run the temperatures of the armatures and fields of the motors and generator are record. The temperature rise should, not exceed 55oC or 75oC for classes. A or E insulation respectively.

d). **Buffer test** : A copy of the test report shall be intimated after testing at works

**Signature of the Contractor/firm**

**Annexure-VIII**

**Completion Certificate**

1. Lift installation at
2. No. of lifts
3. Capacity
4. Speed
5. Type
6. Method of operation
7. Give details on list of manuals data and information supplied in accordance with
8. Whether brake release equipment and winding wheel has been provided.
9. Whether the layout of equipment in the machine room ensure free movement within
10. Type of variation, isolation foundation provided
11. Whether guide rails have been installed properly
12. Whether the car frame is made of rigid construction and the car so mounted as to minimize vibration and noise being transmitted inside.
13. Whether the platform and all other dimensions conform to IS : 3554-1976 amended upto date
14. Whether the car body is rigid to withstand application of fires
15. Whether car aprons, landing threshold, sills have been provided.
16. Details of intercommunication system provided whether it is working satisfactory
17. Whether rating and instructions plate has been prominently displayed inside the car.
18. Whether doors have been properly fixed
19. Type of leveling device if any provided and the accuracy of leveling achieved
20. Whether counter weight conforms to IS : 4666-1980 and whether counter weight guards have been provided.
21. Type of guide shoes provided
22. No. and size of hoisting ropes and governor ropes along with their origin, type, ultimate strength and factory of safety.
23. Type and method of operation of car and landing doors.
24. Method of proper fastenings
25. Type of safety gear with name of manufacturer
26. Type of buffers indicating also the name, stroke, certified maximum load and certified maximum striking speed and whether buffer has been tested

27. Door locks whether these have been tested for satisfactory submitted by the firm.
28. Whether alarm bell and emergency door lock release operating key and associated safety and other safety included.
29. Whether all wiring in the machine room and the host way etc, properly identified by plastic metallic identification tags.
30. What auxiliary switches have been provided.
31. Whether earthing has been done properly also the extra wires provided as per requirement mentioned.
32. Whether the controllers casing is insect proof with hinged doors and gaskets and foundation facilities
33. Whether the lift supplier has recommended common spare required for maintenance and trouble free operation. Certified the lift installation and components confirm to IS : 4666-1980, 1860-1980, 2365-1977, 4289-1984, 7759-1975, 732-1983 and another relevant standards local lift Act and Rules, Indian Electricity Act and Rules and CPWD General Specifications of Electrical Works (2000) amended upto date.

**List of Indian Standards Connected with Lift Installations**

1	Code of Practice for installation, operation & maintenance of electric passenger and goods lifts (1st Revision)	IS. 1860-1980 Reaffirmed 1991
2	Code of practice for installation, operation and maintenance of electric service lift	IS. 6620-1972
3	Specification for Electric passenger and goods lifts	IS.4666-1980 Reaffirmed 1991
4	Electric Service lift	IS.6383-1971 Reaffirmed 1991
5	Outline dimensions for Electric lifts (under revision draft finalized)	IS.3534-1976 Reaffirmed 1991
7	Specification for steel wire suspension ropes for lifts and hoists (with amendments)	IS.2365-1977 Reaffirmed 1991
8	Glossary of terms relating to wire ropes	IS.2363-1981 Reaffirmed 1983
9	Specification for lift cables	IS.4289-1984 Reaffirmed 1983
10	Glossary of terms for electrical cables and conduits	IS.1885 Part 32
11	Specification for rubber insulated cable	IS : 9968 (Part) 1988
12	Specification for varnished, cotton cloth and tape for electrical purpose	IS.3352-1965 Reaffirmed 1990
13	Specification for lift door locking device and contacts	IS. 7759 – 1975
14	Specification for hot rolled and slit steel bars	IS.1173-1978 Reaffirmed 1978
15.	Method of load rating of worn gear	IS.7443-1974 Reaffirmed 1991
16.	Code of practice for selection of standard worm and helical gear box	IS.7403-1974 Reaffirmed 1991
17	Isometric screw threads	IS.4218 (part II) 1976 – do – 1991
18	Degree of protection provide by enclosures for low voltage switchgear and control gear	IS.2147-1962
19	Classification of insulating material for electrical	1271
20	Code of practice for earthing	IS 3043 – 1987
21	Electrical installation for safety of building	IS 1646 – 1997
22	Code of practice for the protections of building and allied structures against lighting	IS – 2309 1989

**Annexure-IX**

**Instructions to be displayed in English in the lift car**

**Passenger lift for non residential building**

<b>S.No</b>	<b>Inside the car</b>
1	Lift Number
2	Capacity
3	Persons
4	No smoking
5	Operate push buttons/ switches correctly
6	Do not lean against the lift door
7	Do not panic in the event of breakdown press alarm buttons and follow instructions of authorised staff.
8	USE Telephone / intercom kept inside the car for help

**Goods lift for non – residential buildings inside the car**

1	Lift number
2	Capacity
3	No smoking
4	None other than the lift operation shall operate the lift
5	Do not panic in the event of break down. Press alarm button and follow instructions of authorised staff.

**Annexure-X**

**Letter Of Acceptence**

Ref: \_\_\_\_\_

Date: \_\_\_\_\_

**Subject:-**

Sir,

I/we hereby tender for the execution of the work specified in the underwritten memoranda within the time specified at the rates specified therein accordance in all respects with the specification, design and instructions supplied by your .....Which I/we have read carefully.

I/we hereby distinctly and expressly declare and acknowledge that before the submission of my/our tender, I/we have carefully followed the general instruction and read the detailed specifications and schedule of quantities and clearly understood all the conditions of contract I/we have also seen the location where the said work is to be done and made such investigations of the work required in regard to the materials required to be furnished as to enable me/us to complete the work successfully.

I/we agree to complete the work in.....weeks from the date of award of work.

I/we agree to keep the offer open for ninety days from the date of opening of tender.

Yours Faithfully,

Signature

**Annexure-XI**

**ARTICLE OF AGREEMENT**

Article \_\_\_\_\_ of \_\_\_\_\_ agreement \_\_\_\_\_ made

At .....

This.....

Date.....

Of.....

Between.....

The employer which expression shall include its successors and assigns and all the person for the time being in management of the employer of the one part and Messer's .....

.....(Hereinafter referred to as contractors which expression shall include his/their respective heirs successors, executors, administrators and assigns of the other part.

Whereas the employer invited tender for the Supply, Installation, testing & commissioning of Lifts to be installed at various sites in Kashmir Valley ..... as per specifications, schedules of quantities specified etc, described the work to be prepared for

.....  
.....

Whereas the contractor tendered for such work under tender date.....

Whereas the tender as submitted by the contractor was the engineer in-charge on behalf of the employer, by bank draft a sum amounting to Rs..... for the due and faithful performance of the contract on the part of the contractor.

Now it is hereby agreed and declared between the parties hereto as follows:

1. In Consideration of the payments to be made to the contractors as hereafter provided in appendix, the contractor shall upon and subject to the conditions herein contained and the said conditions of contract execute and complete the work shown upon the drawings and such further detailed drawings as may be furnished to him and described in the said specification and the said schedule of quantities.

By.....

2. The employer shall pay the contractor such sums as shall become payable become at the time and in the manner specified in the said conditions.

3. Time is the essence of the agreement and the contractor shall pay or allow the employer to deduct 10% of the Contract value (which percentage shall be determined at the discretion of the engineers-in-charge and the employer depending upon the circumstances of the case) and subject to clause of the contract , of the above agreement as liquidated damages for the period during which the said work shall remain incomplete beyond the time allowed as per the contract conditions or beyond the time duly extended in writing as per said conditions. The employer may deduct such damages from any money due to the contractor

4. The term engineers-in-charge in the said condition shall mean.....and in the event or his/their death or ceasing to be the engineers in-charge for the purpose of this agreement such other engineers-in-charge not being an engineers-in-charge or Engineers -in-charge to whom the contractor shall object for reason considered to be sufficient by the employer, providing always that the engineer-in-charge subsequently appointed shall not be entitled to disregard or overrule any decision given by or under the authority or direction of the previous engineers-in-charge.

5. The plans, agreement and document about mentioned shall be from the basis of this agreement and the decisions of the said engineers-in-charge are the other engineers- in-charge for the time being as mentioned in said conditions. In reference to all matters of dispute as to materials and workmanship shall be final and binding on both parties.

6. The employer through the engineer-in-charge reserves to him-self the right of altering the drawings and or adding to or omitting any item of work or of having portions of the same carried out departmentally or otherwise and such variations shall not vitiate this agreement.

7. This agreement comprises the work above and all subsidiary work therewith, even though such works may not be shown on the drawings or described in the said specifications or the schedule of quantities.

8. All disputes and differences of any kind whatsoever arising out ..... connection with the contract or the carrying out of the works (whether during the programme the works are after their completion) shall be referred to

arbitrators. The provision of (he arbitration act 1940 or any statutory modification thereof and of the rules made their under for the time being shall apply to arbitration under this clause.

9. This invitation to tender and general instruction to contractor's agreement and schedule of conditions of contract, schedule of payments, schedule of quantities and systems specifications etc. hereto annexed form part of this contract.

This contract has been read by us and fully understood by us.

In witness hereof the parties hereto have set in their respective hands the day and the year herein above  
written

.....  
.....

**Signed by for on behalf of the employer.**

**In the presence of**

**Signed by the said contractor**

**In the presence of**