



DEPARTMENT OF CIVIL ENGINEERING
Indian Institute of Technology Madras
I.I.T.P.O., MADRAS-600 036

Form for Inviting Quotations

Ref.No.CIE/ARUM/2017/5-Ton Hoist/

Date: 26/7/2017

DUE DATE: 9/8/2017

To

Dear Sirs,

1. Quotations are invited in duplicate (two bidding covers) for the various items shown below / overleaf / Enclosed list.
2. The Quotations duly sealed and superscribed on the envelope with the reference No. and due date, should be addressed to the undersigned and contain in 2 bid system i.e. Technical bid and Commercial bid in two separate envelopes should be enclosed in a single envelope only so as to reach on or before the due date stipulated above.
3. The Quotations should be valid for sixty days from the due date and the period of delivery required should also be clearly indicated.
4. If the item is under DGS&D Rate contract No. and the price must be mentioned. It may also please be indicated whether the supply can be made direct to us at the Rate contract price (Please note that we are not Direct Demanding Officers). If so please send copy of the RC.
5. Relevant literature pertaining to the items quoted with full specifications (and drawing, if any) should be sent along with the Quotations, wherever applicable. Samples if called for, should be submitted free of charges, and collected back at the supplier's expenses.
6. Local Firms : Quotations should be for free delivery to this Institute. If Quotations for Ex-Godown delivery charges should be indicated separately.
7. Firms Outside Madras : Quotations should be for F.O.R. Madras. If F.O.R. consignor station, freight charges by passenger train / lorry transport must be indicated. If Ex-Godown, packing, forwarding and freight charges must be indicated.
8. The rate of sales / General Taxes and the percentage of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim for Sales / General Taxes will be admitted at any stage and on any ground whatsoever The taxes leviable should take into consideration that we are entitled to have concessional Sales Tax applicable to non Government Educational Institutions run with no profit motive for which a concession. Sales Tax Certificate will be issued at the time of final settlement of the bill.
9. Goods should be supplied carriage paid and insured.
10. Goods shall not be supplied without an official supply order.
11. Payment : Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later.

Yours faithfully,


[Dr. ARUN MENON]

- Note: (i) Quotation should be sent by SPEED POST only or to be delivered directly to the concerned.
(ii) Firms are requested to submit the specifications of their product along with supporting technical Documentation / brochure instead of reproducing the specifications sent by us.

TECHNICAL SPECIFICATIONS

Addition of 5-Ton Hoist and Regular Maintenance of 10-Ton EOT

1. Type : Double Girder box type
2. Type of application : For lifting and carrying of test specimens: Weight ranges 1-5 tons
3. Scope of supply : Design, manufacture, supply, erection and commissioning of 5-ton hoist and regular maintenance of the 10-ton EOT crane
4. Class of duty : Class II (medium duty)
5. Standards : Crane hoist to be designed in accordance with the latest editions of IS 807 and IS 3177 and other relevant standards.
6. Location : Indoor
7. Capacity SWL : 10 tons
8. Height of lift : 9 metres
9. Span : 10 metres
10. Bay length : 23 metres

Sl.No.	Items	Description of work
1.	5Tons hoist	Supply of new 5 Tons hoist mechanism with rope, hook, gear box and crane mechanism (C.T. mechanism) including interfacing panel for old hoist and new hoist with pendant station and necessary electrical arrangement.
2.	Regular Maintenance	Regular maintenance for 10 Tons E.O.T. crane including painting.
3.	Cross travel trolley frame	Trolley frame to be made in one piece built up of rolled sections and plates to form a rigid structure capable of withstanding stresses. Top of trolley frame should be covered with plates all over except for openings required with wire ropes, flexible cable for bottom block, etc. Trolley frame to be fitted with substantial safety stops to prevent the crane from falling. For parts placed on the trolley, access for maintenance, repair or replacement should be provided. Handrails of suitable height should be provided on all four sides for safety while carrying out maintenance work.
4.	Cross travel	Shall be double flanged wheels of EN8 Material, machined and wheels hardened to required hardness, connected to CT the output shaft of the gear box shall be extended on either side and coupled to CT wheels. The wheels to be mounted on antifriction bearings and shall facilitate easy removal & replacement.
5.	Hook	Shall be single shank "C" type forged steel conforming to IS 3815 / IS 5749/ IS 560 with spring loaded safety latch mounted on thrust bearing for freely swiveling. Provision for lifting iron cage of diameter 14 mm (or suitable diameter for 5-ton hoist as


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		per the design) through bar should also be given.
6.	Rope drum	Machined out of seamless pipe of adequate thickness with machined grooves for the wire rope. The length/diameter should be sufficient to wind the wire rope in one layer only when the drum is in the fully wound position.
7.	Sheaves	Sheaves machined out of MS with adequate no of grooves to suit the no. of falls.
8.	Gear boxes	Straight or helical spur gear should be used for all motions (worm, bevel gears should not be used). All gears shall be of EN8 or equivalent, hardened with machine cut or hobbled teeth, metric module only. Totally enclosed type, filled with oil. Gear box should be fabricated out of steel plates of minimum 8mm thickness. Top covers to be horizontal at each shaft centre line and fastened to the top half and can be removed for inspection and repair.
9.	Coupling	Flexible shock absorbing couplings for connecting motor shaft to gear box shaft shall be used.
10.	Bearings	Ball and roller antifriction/ friction should be used Wherever necessary grease nipples of standard size to be provided.
11.	Brakes	Double shoe brakes hinged type, brake drum of forged steel, completely machined. Brake levers, hinge pins etc., shall be of hardened steel. Hoist - Electromagnetic and Hydraulic thruster brake – 1 no. (The type may vary as per the design requirement with proper permission from concern person)
12.	Motor capacity	Hoist 4 KW – 1 no. (The ratings may vary as per design).
13.	Control panel	Control panel made out of MS sheet not less than 14SWG duly powder coated with double door (for indoor duty) consisting of main contractor, CT contactor of different current rating. The control Voltage should be 110V, AC with interlock arrangement. All motion shall be operated through V.V.V.F drive of suitable kW. The new hoist and crane shall be operated through pendent push button station as well as through Radio Remote Operation. Pendent push button should have variable frequency (with dual speed) changing device.
14.	Power supply	Power supply to DSL, motors, control circuit, lighting, hand lamp brakes etc. shall be as per relevant standards.
15.	Painting	Complete new hoist covering structural, mechanical and electrical parts to be thoroughly cleaned of dirt and then painted with 2 coats of red oxide primer followed by 1 coat of synthetic enamel paint (yellow), drives and electrical parts (grey). After erection and commissioning at site, final coat of synthetic enamel paint (yellow, with drives and electrical parts in grey), shall be given for entire crane structure considering maintenance.
16.	DSL guard:	DSL guard to be provided for the wire rope not to come in

		contact with DSL system.
17.	Spares	Spares considered necessary for 2 years operation of the crane to be supplied.
18.	General	The following should not be used in any part of the crane bush bearing, combustible material, wood, open gears in any drives. All bolts/nuts except those with Nylon nuts should be of High tensile Grade 12.2 with grip loose nuts or spring washers. All components should be of metric sizes. Defects in materials like factures, cracks Blowholes, laminations, pitting etc. are not allowed. It should be ensured that the hoist/crane is manufactured as per the tolerances specified in the standard. Grease nipples to be provided wherever necessary for lubrication. All the bought out items including cables shall be of reputed make only.
19.	Testing at Manufacturer's	All electrical and mechanical equipment shall be work tested in accordance with appropriate standards.
20.	Documentation	The following documents shall also be submitted along with the supply (5 sets): Material test certificate of all the items electrical, mechanical and structural components. G A drawing (showing elevation, cross section & plan of the crane) indicating clearances, hook approach, lift, wheel base wheel loads with spacing, etc., gear box details of all drives, circuit diagrams showing wiring of complete new hoist/crane. Test certificates for all motors, brakes, hook, wire rope, radiography test for welded parts of girder, end carriage etc. Inspection /test reports, of bought out items.
21.	Installation and commissioning	Installing of new 5-ton hoist mechanism, taping of power supply from the nearby power supply including cable supply, routing of cable in the conduit, supply required material handling equipment, tools, unloading from the vehicle, erection, commissioning and testing of crane as per Indian Standards is supplier's responsibility.
22.	Warranty	New 5-ton crane hoist, supplied raw materials, bought out items and workmanship shall be guaranteed for a period of 18 months after being put into service.

NOTE: Suppliers are required to visit the site before providing a quote.

