

**INDIAN INSTITUTE OF TECHNOLOGY KANPUR  
CENTRAL STORE & PURCHASE SECTION**

**Document related to Technical Bid Criteria**

**Name of work:** Designing, planning, supplying and fixing of mobile storage system at P.K. Kelkar Library, IIT, Kanpur.

Estimated Cost : Rs. 80,00,000/- (Approx)

**Dy. Registrar (S & P)  
Central Store,  
I.I.T., Kanpur**



**INDIAN INSTITUTE OF TECHNOLOGY KANPUR**  
**Store & Purchase, (Central Store)**

**E-Quotation Notice –No.IWD/CO/2015/504 Dated: 11.03.2015**

Dy. Registrar (S&P), Central Store, IIT Kanpur invites on behalf of Director, online item rate quotations in two envelope systems for the following work from eligible OEM (Original Equipment Manufacturers):

Designing, planning, supplying and fixing of mobile storage system at P.K. Kelkar Library, IIT, Kanpur.

*Estimated Cost: Rs 80.0 Lakh (approx), Earnest Money :Rs. 1.60 Lakh, Period of completion 03 Months.*

*The Quotation notice with all relevant information is available on [www.tenderhome.com](http://www.tenderhome.com) and institute (website <http://www.iitk.ac.in/infocell/tender/tendernotice.htm>, quotation are available on [www.tenderwizard.com/IIT](http://www.tenderwizard.com/IIT). However on line quotation shall be received only on [www.tenderwizard.com/IIT](http://www.tenderwizard.com/IIT) Last date & time of online submission of quotation **10.04.2015** upto 1530 hrs.*

*Dy. Registrar (S&P)*

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**INDIAN INSTITUTE OF TECHNOLOGY KANPUR**  
**Central Store & Purchase Section**  
**Notice Inviting E-Quotation**

**E-Quotation Notice –No.IWD/CO/2015/504 Dated: 11.03.2015**

1. Dy. Registrar (S&P), Central Store, IIT Kanpur invites on behalf of Director, online item rate quotations in two envelope systems for the following work from eligible OEM (Original Equipment Manufacturers):

(i) Name of work: Designing, planning, supplying and fixing of mobile storage system at P.K. Kelkar Library, IIT, Kanpur.

(ii) Estimated cost : **Rs. 80 Lakh (Approx)**

**(iii)** Earnest Money : **Rs. 1.60 Lakh**

**(iv)** Period of Completion : **03 Months**

(v) Last date & time of online submission of Quotation : Upto 3:30 PM  
on 10.04.2015

(vi) Period during which EMD, Cost of Quotation Document, e-Quotation Processing Fee and other Documents related to technical bid in hard copy shall be submitted at Dy. Registrar (S&P) central store : After last date and time of submission of tender and upto 3:30 PM on 16.04.15

(vii) Time & date of opening of Technical Bid : At 3:30 PM on 23.04.2015

(viii) Time & date of opening of Financial Bid For the qualified agencies : Shall be informed online to the Qualified agencies only.

(ix) Time & date of Prebid meeting : 11.00 AM on 25.03.2015

(x) Location of Prebid meeting : Office of Dy. Registrar (S&P)  
Central Store, IIT Kanpur

(xi) Time & date of Technical presentation : 11.00 AM on 28.04.2015

**2. The agencies who fulfill the following requirements shall be eligible to apply.**

- Should have executed at least one work of similar nature of the value of Rs. 60.00 Lakh in any government department/ IITs/ NITs/ equivalent educational or research Institutes/Central PSUs during the last seven years.
  - Should be in the business to provide such facility minimum since last Seven years.
  - Registration with Service Tax.
  - Should have valid PAN number.
3. The Quotation notice with all relevant information is available on [www.tenderhome.com](http://www.tenderhome.com) and institute website [www.iitk.ac.in/infocell/tender/tendernotice.htm](http://www.iitk.ac.in/infocell/tender/tendernotice.htm). Quotations are available on [www.tenderwizard.com/IIT](http://www.tenderwizard.com/IIT). However online quotation shall be received only on [www.tenderwizard.com/IIT](http://www.tenderwizard.com/IIT). Last date & time of online submission of quotation **10.04.2015** upto 1530 hrs.
4. Those agencies not registered on the website [www.tenderwizard.com/IIT](http://www.tenderwizard.com/IIT) are required to get registered beforehand. If needed they can be imparted training on online bidding process as per details available on the website. The contract details are Tender wizard B1/5a 2<sup>nd</sup> floor main Nazafgarh Road, new Delhi. Janakpuri.
5. The agencies are required to submit the following documents in hard copy in two separate sealed envelopes by due date in the office of Dy. Register (S&P). Each envelope should have the name of the work & Quotation Notice No.

***List of Documents to be scanned and uploaded within the period of bid submission:***

**a. Envelope-1:** Earnest money of 1.60 Lakh for 3 years in the shape of fixed deposit receipt of any scheduled bank or the state bank of India

**b. Envelope-2:**

- i. Demand Draft/ Pay Order or Banker's Cheque of any scheduled Bank towards cost of Bid document.*
- ii. Copy of the bank transfer for ITI Limited through E-tendering fees.*
- iii. Details of the similar nature of work executed during the last seven year in the enclosed performa (Form-A).*
- iv. Performance report of the completed work in the enclosed performa (Form-B)*
- v. Details of works in hand in the enclosed performa (Form-C)*
- vi. Certificate of Registration of Sales Tax/ VAT and Service Tax and acknowledgement of up to date filed return if required.*
- vii. Any other Document as required.*

**Form 'A'**

i) Details of the similar nature of works executed during the last seven years in the enclosed Performa Form- A.

S.N	Name of work/ Project and location	Owner Sponsoring organization	Cost of work (in crores)	Details of commencement as per contract	Stipulated date of completion	Actual date of completion	Litigation Arbitration/ pending/ in progress with details	Name Address telephone of officer to whom reference may be made.	Remarks
1	2	3	4	5	6	7	8	9	10

**FORM-B**

1. Name of work/  
Project & Location
2. Agreement No.
3. Estimated Cost
4. Tender Cost
5. Date of start
  
6. Date of completion
  - a) Stipulated date of completion
  - b) Actual date of completion
  
7. Amount of compensation levied for delayed  
Completion if any.
  
8. Performance report
  - i) Quality of work: Excellent / Very good / Good / Fair
  - ii) Resourcefulness: Excellent / Very good / Good / Fair

Superintending Engineer/  
Chief Project Manager or Equivalent  
(Seal of the organization)

Date:

iii) Details of the works in hand in Performa Form-C.									
S.N	Name of work/ Project and location	Owner Sponsoring organization	Cost of work (in crores)	Details comment as per contract	Stipulated date of completion	Up-date % progress of work	Slow progress if any, and reasons thereof	Name and Address/ telephone of the officer to whom reference may be made	Remarks (indicate whether any show cause notice issued or arbitration initiated)
1	2	3	4	5	6	7	8	9	10

## **Instructions to Bidder for e-tendering**

1. The intending tenderer must read the terms and conditions and technical specification of e-Tendering carefully. He should only submit his tender if he considers himself eligible and he is in possession of all the documents required.
2. Information and Instructions for tenderer posted on website shall form part of tender document.
3. The tender document consisting of specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website [www.iitk.ac.in/infocell/tender/tendernotice.htm](http://www.iitk.ac.in/infocell/tender/tendernotice.htm) and [www.tenderhome.com](http://www.tenderhome.com) free of cost and shall be submitted on line on website [www.tenderwizard.com/IIT](http://www.tenderwizard.com/IIT).
4. The bids can only be submitted after filling all the details in new drop down menu of e tendering portal such as demand draft or pay order or bankers cheque or deposited call receipt or fixed deposited receipt and bank guarantee of any scheduled bank (bankers name, amount, number and date) towards cost of bid documents and EMD in favour of the Director IIT Kanpur and processing fee in favour of ITI Ltd, New Delhi and other documents as required.
5. The intending tenderer has to fill all the details such as Banker's name, Demand Draft/Fixed Deposit Receipt /Pay Order/ Banker's Cheque/Bank Guarantee number, amount and date.

The amount of EMD can be paid by multiple Demand Draft / Pay Order / Banker's Cheque / Deposit at call receipt / Fixed Deposit Receipts.

6. Those contractors not registered on the website mentioned above, are required to get registered beforehand. If needed they can be imparted training on online bidding process as per details available on the website.
7. The intending tenderer must have valid class-III digital signature to submit the tender.
8. On opening date, the contractor can login and see the tender opening process. After opening of tenders he will receive the competitor tender sheets.
9. Contractor can upload documents in the form of JPG format and PDF format.
10. Contractor must ensure to quote rate of each item. The column meant for quoting rate in figures in yellow colour. In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0".



Therefore, if any cell is left blank and no rate is quoted by the tenderer, rate of such item shall be treated as "0" (ZERO).

## **FORM e-Quotation**

*The Dy. Registrar (Store & Purchase), central store, I.I.T., Kanpur invites online item rate tenders from eligible OEM agencies for the works of: **Designing, planning, supplying and fixing of mobile storage system at P.K. Kelkar Library, IIT, Kanpur.***

1. The estimated cost of the work is **Rs. 80.00 Lakh (Approx).**
2. The authority competent to approve NIT for the combined cost and belonging to the major discipline will consolidate NITs for calling the quotation. He will also nominate Division which will deal with all matters relating to the invitation of tenders.
3. **Criteria of eligibility**  
Vendor should have satisfactorily completed at least one similar nature of work of the value of Rs. 60.00 Lakh in any government department/ IITs/ NITs/ equivalent educational or research Institutes/Central PSUs during the last seven years. The completion certificate of the work should be enclosed.
4. The time allowed for carrying out the work will be **03 Months** from the date of start as defined in schedule or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the tender documents.
5. The site for the work is available.\*
6. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website [www.iitk.ac.in/infocell/tender/tendernotice.htm](http://www.iitk.ac.in/infocell/tender/tendernotice.htm) and [www.tenderhome.com](http://www.tenderhome.com) free of cost and shall be submitted on line on website or [www.tenderwizard.com/IIT](http://www.tenderwizard.com/IIT).  
Other necessary documents also can be seen in the office of the Dy. Registrar Store & Purchase central store, IIT, Kanpur between hours of 10:00 AM to 5:00 PM from **18.03.2015 to 16.04.2015** every day except on Saturdays, Sundays and Public Holidays in free of cost.
7. After submission of the tender the contractor can re-submit revised tender any number of times but before last time and date of submission of tender as notified.
8. While submitting the revised tender, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of tender as notified.
9. Earnest Money can be paid in the form of Fixed Deposit Receipt (drawn in favour of Director, IIT, Kanpur) of any scheduled bank or the State Bank of India

(i) **Cost of Quotation Document – Rs. 1,050/-** drawn in favour of the Director IIT, Kanpur.

(ii) **e-Quotation Processing Fee – Rs. 8,427/-** is to be paid online in favour of **"ITI Limited"** payable at Delhi.

viii. EMD shall be placed in single sealed envelope superscripted as "Earnest Money" with name of work and due date of opening of the Quotation also mentioned thereon.

Cost of Quotation Document and copy of the bank transfer for ITI Limited through E-tendering fees, Copy of Registration / Enlistment Order and certificate of work experience wherever applicable and other documents if required and specified in this bid document shall be scanned and uploaded to the e-Tendering website within the period of Quotation submission and certified copy of each shall be deposited in a separate envelope marked as "Other Documents"

Both the envelopes shall be placed in another envelope with due mention of Name of work, date & time of opening of Quotation and to be submitted in the office of Dy. Registrar (S&P) after last date & time of submission of Quotation and up to 03:30 PM **on 16.04.2015.**

Online Quotation documents submitted by intending Quotation shall be opened only of those Quotation, whose Earnest Money Deposit, Cost of Quotation Document and e- Quotation Processing Fee and other documents placed in the envelope are found in order.

The tender submitted shall be opened at 03:30 PM on 23.04.2015

10. The tender submitted shall become invalid and cost of Quotation & e-Tender processing fee shall not be refunded if:

- (i) The tenderers is found ineligible.
- (ii) The Quotation does not upload all the documents as stipulated in the Quotation document.
- (iii) If any discrepancy is noticed between the documents as uploaded at the time of submission of tender and hard copies as submitted physically in the office of tender opening authority.

11. Intending Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderers shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The tenderers shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a tender by a tenderers implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work and local conditions and other factors having a bearing on the execution of the work.

12. The competent authority on behalf of the Board of Governors, IIT, Kanpur does not bind itself to accept the lowest or any other tender and reserves to itself the authority to reject any or all the tenders received without the assignment of any reason. All tenders in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the tenderers shall be summarily rejected.

13. Canvassing whether directly or indirectly, in connection with tenderers is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable for rejection.
14. The competent authority on behalf of Board of Director IIT, Kanpur reserves to himself the right of accepting the whole or any part of the Quotation and the tenderers shall be bound to perform the same at the rate quoted.
15. The contractor shall not be permitted to tender for works in the IIT Kanpur responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity. He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazetted officer in the IIT Kanpur. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
16. No Engineer of Gazetted Rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the tender or engagement in the contractor's service.
17. The tender for the works shall remain open for acceptance for a period of **ninety (90) days** from the date of opening of tenders if any tenderer withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to the department, then the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the tenderers shall not be allowed to participate in the retendering process of the work.
19. This Notice Inviting Quotation shall form a part of the contract document. The successful tenderers/contractor, on acceptance of his tender by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of:-
  - a) The Notice Inviting Quotation, all the documents including additional conditions, specifications and drawings, if any, forming part of the tender as uploaded at the time of invitation of tender and the rates quoted online at the time of submission of tender and acceptance thereof together with any correspondence leading thereto.
20. In case any discrepancy is noticed between the documents as uploaded at the time submission of bid on line and hard copies as submitted physically in then office of the Dy. Registrar (S&P), central store then the bid submitted shall become invalid and the institute shall, without prejudiced to any other right or remedy, be a the liberty to forfeit 50% of said EMD as affosaid. Further the bidder shall not be allowed to re-tendering process of the work

**Dy. Registrar**  
**Store & Purchase (Central Store), IIT, Kanpur**

## ITEM RATE TENDER AND CONTRACT FOR WORK

(A) Tender for the work of: *Designing, planning, supplying and fixing of mobile storage system at P.K. Kelkar Library, IIT, Kanpur.*

### Signature of officer issuing the documents

Designation: **Dy. Registrar Store & Purchase , (Central Store) IIT, Kanpur**

Date of Issue \_\_\_\_\_

### TENDER

I/We have read and examined the Notice Inviting Quotation, Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, Special conditions, Schedule of Rate & other documents and rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the Board of Director, IIT, Kanpur within the time specified in Schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of contract and with such materials as are provided for, by, and in respects in accordance with, such conditions so far as applicable.

We agree to keep the tender **open for (90) ninety days from the date of opening of tender** and not to make any modifications in its terms and conditions.

A sum of Rs. **1.60 Lakh** is hereby forwarded in Fixed deposit receipt of scheduled bank as earnest money. If I/we, fail to furnish the prescribed performance guarantee or fail to commence the work within prescribed period I/we agree that the said Board of Governors, IIT, Kanpur or his successors in office shall without prejudice to any other right or remedy be at liberty to forfeit the said earnest money absolutely. Further, if I/we fail of commence work as specified, I/we agree that Board of Governors, IIT, Kanpur or his successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely, otherwise the said earnest money shall be retained by him towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered, up to maximum of the percentage mentioned in Schedule 'F' and those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form. Further, I/We agree that in case of forfeiture of earnest money or both Earnest Money & Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.

I/We undertake and confirm that eligible similar work(s) has/ have not been got executed through another contractor on back to back basis. Further that, if such a

violation comes to the notice of Department, then I/we shall be debarred for tendering in IIT, Kanpur in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.

I/We hereby declare that I/we shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information derived therefrom to any person other than a person to whom I/we am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Dated \_\_\_\_\_ \*\* \_\_\_\_\_

Witness: \*\*

Address: \*\*

Occupation: \*\*

\*\*

Signature of contractor

Postal Address \*\*

# ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the Director, IIT, Kanpur for a sum of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_)

The letters referred to below shall form part of this contract Agreement:-

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_

For & on behalf of Director  
IIT, Kanpur

Dated \_\_\_\_\_

Signature \_\_\_\_\_  
Designation \_\_\_\_\_

### **Terms & Conditions:**

1. Vendor should attend the pre-bid meeting on 25.03.2015 at 11.00 AM to understand the scope of the work and to clarify any doubts that may arise during design and planning.
2. The bidder has to deposit earnest money of 1.60 Lakh for 3 years in the shape of fixed deposit receipt of any scheduled bank or the state bank of India
3. Quote should be made in two parts: technical bid and financial bid separately.
4. Technical bid will be opened on 23.04.2015 at 03.30 PM.
5. Technical bid should contain specification, plan of compactor, fixing layout of compactors, experience certificate for similar nature of work, earnest money and any required authorization from OEM (original equipment manufacturer).  
Pictures of all the items should be included in technical bid with detailed specification.
6. The bidder has to make technical presentation before Institute constituted committee for technical evaluation on 28.04.2015 at 11.00 AM  
The technical presentation should comprise the following:
  - a. Profile of bidder
  - b. Plan of compactors with size, shape etc.
  - c. Pictorial presentation of layout
  - d. No's of storage level with UDL in kg/shelf.
  - e. Fixing layout of compactors
  - f. Storage capacity with different volume of books
  - g. Detail of raw material to be used in fabrication of compactors
  - h. Details of centre lock arrangement.
7. The preference will be given to bidder who has maximum book holding storage capacity at minimum cost. The standard size of book will be taken as 450mm(L)x350mm(B)x50mm(Thickness) for calculating book holding capacity.
8. The bidder strictly complied with technical specification specified for storage system in the enclosed document.
9. Vendor should have satisfactorily completed at least one similar nature of work of the value of Rs. 60.00 Lakh in any government department/ IITs/ NITs/ equivalent educational or research Institutes/Central PSUs during the last seven years. The completion certificate of the work should be enclosed.
10. The bidder will be evaluated as per criteria mentioned at Form-'D'.
11. The quoted rates should be inclusive of comprehensive annual maintenance contract for three years after the successful completion of the work.

12. The 50% earnest money deposit will be released after one year of successful completion the work and remaining 50% will be released after successful completion of annual maintenance of further two years after due certification of concerned department.
13. Quotes should have minimum validity of 90 days.
14. The vendor should quote separately the cost of annual maintenance for these compactors for five years after completion of the maintenance period of three years.
15. The time required for supply of equipment including installation should be 03 (Three) months from the date of supply order.
16. The vendor should have proper authorization from the manufacturer, when needed.
17. The quoted amount will be released after successful completion of the work.
18. All quotes should be in Indian Rupees (INR).
19. In case of any omission or clarification the vendor may be contacted at later date.



**FORM 'D'****CRITERIA FOR EVALUATION AND SELECTION OF AGENCY**

<b>Sl. No.</b>	<b>Attributes</b>	<b>Evaluation</b>
1	Experience in similar nature of work of value of Rs. 60.00 Lakh in any government department/ IITs/ NITs/ equivalent educational or research Institutes/Central PSUs during the last seven year.	(Maximum Marks- 20)
		i) Value of work Rs. 60 Lakh to Rs. 70 Lakh- 10 Marks ii) Value of work Rs. 70 Lakh to Rs. 80 Lakh- 15 Marks iii) Value of work above Rs. 80 Lakh- 20 Marks
2	Performance of works (quality)	(Maximum Marks- 10)
		i) Very good (10) ii) Good (7) iii) Satisfactory (5)
3	Technical presentation	(40 Marks)
4	Weightage of financial bid	Maximum 30 Marks to lowest bid
	<b>Total</b>	<b>100 Marks</b>

**i. Evaluation of Technical score:**

The agencies securing 42 Marks out of 70 Marks for technical bid shall be considered for the opening of financial bid. These marks will be denoted as technical score (TS).

**ii. Evaluation of Financial score:**

The firm quoting minimum cost shall be awarded 30 Marks which will be treated as financial score (FS).

**iii. Evaluation of total marks:**

The total marks = TS + FS

Where FS =  $\left[ \frac{\text{minimum quoted value}}{\text{quoted value}} \right] \times 30$  Marks

**Note:** The agency obtaining maximum marks (TS+FS) in above evaluation will be considered for award.

# **TECHNICAL SPECIFICATION OF STORAGE SYSTEM**

Compactor/Mobile/Mechanical driven Storage System of following Configuration and Specification:

- **Single Face Fixed (SFF) Unit**
- **Single Face Mobile (SFM) Unit**
- **Double faced Mobile (DFM) Unit**

## **❖ RAW MATERIALS**

### **1. STEEL:-**

The System has been made from high quality steel of furniture grade as per IS513 for CRCA and IS 10748 for HRCA from Reputed Steel manufactures like TATA or ESSAR. Relevant test certificates should be submitted at the time of supply of material.

### **2. COLOUR:-**

The compactor system is powder coated in Silver & Black finish in Pure Polyester.

### **3. BEARING:-**

Bearing from reputed manufactures like NBC, NTN or equivalent with corresponding test certificate only should be used.

### **4. CHAIN:-**

Only diamond or Roll-on Brand chain to be used.

### **5. WHEEL:-**

Iron Die Cast with anti-rust Zinc.Loading:1000kg/wheel.

### **6. GUIDE RAIL:-**

Made of at least 25mm Solid Steel with electroplated finish.

## **❖ Component Specification:**

1) **Super Structure**:-The Super structure of the compactor storage system is pillar based rigid knock down type with specification as indicated below.

- **Main body:** The main body should be made up of the sheet thickness for back being 0.8 mm thick while that of the sides and the top is 0.9 mm thick.
- **Upright:-**LC channel design in 1.6 mm thickness with pitch in 50 mm increment.
- **Shelves:-**Boltless type shelves will made of 0.8mm thick, CRCA, Quality steel having 10 folds each design to carry a UDL of 70-80KG per shelf.
- **Front Cladding:-**Anti dust with 1 mm thickness.
- **Rear Cladding:-**should use single sheet of 0.8mm thickness with the full height stiffner of 1 mm thickness to enhance the strength of the system.
- **Side Cladding:-** should use three sheet of 0.63mm thickness rather than single one so that it gives strength to the system .
- **Inner Cladding:-**provided U & Z type of two sheet with 0.63mm thickness to cover the mechanism from top to bottom.
- **Top Channel:-**use 1mm thick sheet.
- **Tong & Groove:-**Specially designed for preventing the dust & insects.
- **Bumper:-**Natural Rubber of 22 X 19mm;22X 39mm .
- **For Central partition in DFM** we use 0.63 mm thickness of Sheet.
- **Index Holder:-**For maintain the record by user.

- 2) **Under Structure:**-Base frame is fabricated from HRC material conforming to IS10748/IS1079 with thickness of 2.5mm with height of 100mm.

**Bearing:**

*In one bay & two bay systems 7 no's of bearing, three bay having 8 no's & four bay 10 no's of Plummer bearing to be used in the system.*

**Guide Rail:**

*Two no's. of rails should provided in 1, 2 & 3bay.*

*Three no's. of rails should provided in 4 bay.*

- 3) **Drive mechanism:**

*Should be provided in between front cladding and inner cladding , it should include the arrangement of two stage chain and sprocket.*

• **Sprocket & chain tentioner :**

*The drive mechanism will comprise of sprocket and chain tensioner arrangement (Sprocket-chain-tensioner arrangement or two stage sprocket –chain arrangement) Movement shall be achieved mechanically with three bay drive wheel.*

• **Chain:**

*The chain used will be **Diamond/Rollon** make only.*

• **Driving wheel :**

*PU molded with Steel insert for better strength .Driving wheel will comprise of a central hub resting on a pair of roller bearings with three insert arms engaging into the hub. Easy knob on handle should be provided for easy & smooth handling of the system.*

• **Safety Lock :**

*Each drive type units shall have locking KNOB near the drive wheel for manual locking of individual units.*

• **Central lock:**

*Each system will be provided with a central lock to enable locking of the entire system with one key.*

• **Powder Coating Technical details :**

*Thickness of the Powder coating will be 40-50 microns to achieve the above.*

*The details of Powder coating specification are as follows:*

*Shade :- As per Standard or our requirement*

*Backing Temperature :- 200 Deg C*

*Backing Time :- 20 Minutes*

*Dry Film Thickness :- 35 – 45 Microns*

*Gloss ( 60 Deg Head) :- 50/60*

*Scratch Hardness => 3.0 Kg*

*Flexibility < 4 mm*

<i>Impact Resistance</i>	<i>&gt;= 270 Kg.cm</i>
<i>Pencil Hardness</i>	<i>2H</i>
<i>Particle Size Dist (&gt;80μ)</i>	<i>00/10 per cent</i>
<i>Particle Size Dist (&lt;32μ)</i>	<i>35/45 per cent</i>
<i>Particle Size Dist (&gt;10μ)</i>	<i>05/15 per cent</i>

**Pre-Treatment:**

- *The structure shall be pre treated.*
- *All components should be subjected to an elaborate, extensive, four-step six-zone special anti-corrosion treatment. Hot phosphating process conforming to class-B of IS: 3618 is carried out before painting of all items made from CR/HR Steel Sheets*
- *The confirmation certificate should be submitted for following test:*
  - \* De-greasing*
  - \* Pickling*
  - \* Phosphating*
  - \* Passivation*

**TESTING:**

*The test certificates of following test should be submitted after painting conforming to relevant part/sec. of IS:101:-*

- 1. Adhesion Test (Bend Test)*
- 2. Impact Resistance Test*
- 3. Scratch Hardness Test*
- 4. Corrosion Resistance Test (Neutral Salt Spray Test)*

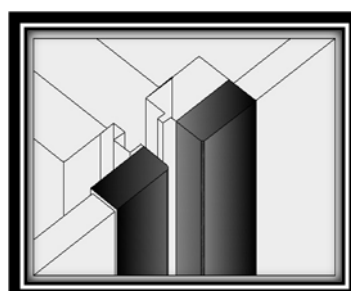
**FEATURES REQUIRED:**

*The following are also required in fabrication of compactor:*

- 1. LC channel pillar Base Design in 1.6 mm thickness at all four corners of each cabinet.*



- 2. 50mm pitch for easy height adjustment of Loading Level.*
- 3. Extra Strong boltless shelf clips.*
- 4. Ten fold panel in 0.8mm thickness.*
- 5. Close Type front panel.*



- 6. Each system should have arrangement to be provided cabinet for safety of record.*

*inbuilt Dust Proof front & Top of the*



7. *Rounded Corner/User friendly design.*



8. Bumper:-*Specially incorporated so that noise should not come when system close.*



9. User friendly, aesthetically appearing steering wheel.

- Handle has dual mode used (A pull out knob is provided in every handle to enhance uses, unlike steel handle.)
- It is non slippery with firm grip, without any sharp edge unlike steel handle which is manually fabricated by cutting & welding process.



10. Anti topple arrangement:-

Each cabinet have full proof an anti-toppling arrangement, which is achieved by putting special clips at all four corners of each under structure. This will prevent the unit from toppling .Anti tilt arrangement is a very essential arrangement of the mobile storage system, which are a pair of roller bearing, suspended from the base unit moving within ground rail and guiding the unit while motion.

11. End Stopper:-*Each system will be provided with stoppers on either ends of the rails to prevent the de-railing of the compactor unit.*

12. Push fit index holder provided this separately at the front of every cabinet.

13. 10 Lever quality center locking arrangement.

14. Safety lock: -Unique safety lock arrangement to avoid accidentally being trapped while using the system.



**PLANT & MACHINERY:**

The fabricator must have following plant and machinery:

**(A) Press Shop**

- Quality press shop comprising of CNC controlled Shoring bending & banking Machine.
- Pneumatic spot welding & MIG welding Machines.

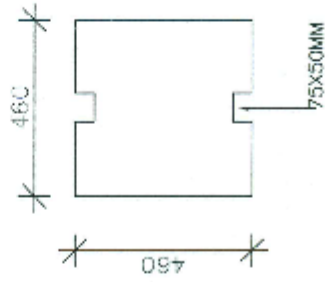
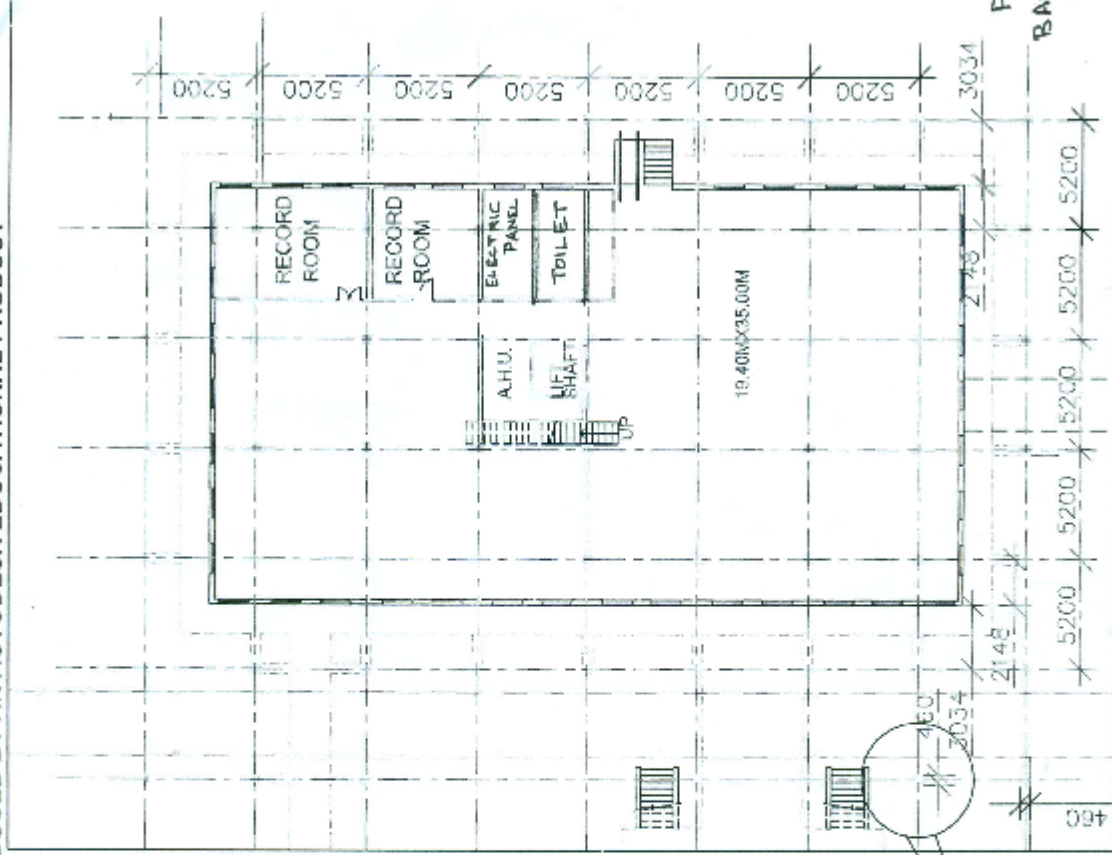
**(B) Paint Shop:-**

Fully automatic paint shop, comprising of

1. Spray Phosphating line.
2. Inline Drying oven.
3. Robotized Powder Coating.
4. Baking oven.

Note: The supplier/fabricator has to enclose the self certificates of above plant & machinery.

PLAN OF  
BASEMENT



COLUMN DETAIL

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

## **BILL OF QUANTITY**

**Name of work: Designing, planning, supplying and fixing of mobile storage system at  
P.K. Kelkar Library, IIT, Kanpur**

<b>S. No.</b>	<b>Description</b>	<b>Quantity</b>	<b>Rate</b>	<b>Amount</b>
1	<p>Designing, planning, supplying, hoisting, installation of compactor/mobile/mechanical driven including fixing in position with adequate number of well designed fasteners in position of approved make and made. The compactor should be designed as per enclosed technical specifications.</p> <p>The dimension required for compactors are as follows: Length = As per availability at site Height = 2400 mm Width = 900 mm Depth = 460 mm Storage level in each unit = 6 to 7 level</p> <p>(i) Maximum numbers of single face fixed unit, single face mobile unit and double faced mobile unit can be planned in area as mentioned in attached plan of an existing building.</p> <p>(ii) Storage capacity of books: 1,00,000 to 1,30,000</p> <p>(iii) Central locking arrangement should be provided on the last single faced mobile unit to lock the entire system.</p> <p>(iv) The components of compactor should be designed as per enclosed specification.</p> <p>(v) The entire system will be powder coated as per enclosed specification.</p> <p>(vi) The other features mentioned in technical specification should be strictly followed or exceeded.</p> <p>(vii) The price should be inclusive of all types of taxes and duties.</p> <p>(viii) Annual maintenance contract inclusive of any types of required spares for three years from the successful completion of the work.</p>	1 JOB		
2	<p>Cost of Annual maintenance per year for these compactor including cost of minor repairs and excluding the cost of required spares.</p> <p>The period of AMC will be five years.</p>	1 JOB per year		
			<b>Total</b>	