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**E-QUOTATION DOCUMENT FOR REPLACING DAMAGED CEILINGS
AND ROOFING SHEETS AT CISF BARRACK**

Website:www.tenderwizard.com/CPT
SUPTDG.ENGINEER-I'S OFFICE
COCHIN PORT AUTHORITY
COCHIN-682009

QUOTATION No.T6/Q-07/2025-C

COCHIN PORT AUTHORITY

**E-QUOTATION FOR REPLACING DAMAGED CEILINGS AND ROOFING
SHEETS AT CISF BARRACK
“QUOTATION NO : T6/Q-07/2025-C”**

CONTENTS

Sl. No.	Item	Page No.
1	e-Quotation Notice	2-3
2	General Conditions	4-6
3	Specifications For Materials To Be Used in the Works	7-11
4	Detailed specifications for items of works	12-19
5	Annexure-I	20

SIGNATURE OF QUOTATIONER

COCHIN PORT AUTHORITY



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No.T6/Q-07/2025-C

Dated:19-03-2025

e-QUOTATION NOTICE

1. Electronic Quotations (**e-quotations**) under **Two Cover system** on percentage basis are invited on behalf of Cochin Port Authority, from experienced, resourceful and bonafide contractors for the following work:

Sl. No	Tender No. and Name of work	Particulars	Qualifying Criteria
1.	T6/Q-07/2025-C. “Replacing damaged ceilings and roofing sheets at CISF Barrack” Estimated cost- Rs.4,45,230/-	Last date and time for submission of quotations-14.30 hrs on 08/04/2025. Public opening of quotations - 15.00 hrs on 08/04/2025.	See para-2 below.

2. Minimum Qualification criteria required for considering quotations:

(i)Experience:

The tenderer should have successfully completed at least:

one similar work of value not less than Rs.3.56 lakhs

OR

two similar works, each of value not less than Rs.2.23 lakhs

OR

three similar works, each of value not less than Rs.1.78 lakhs, during the preceding seven years ending 28th February 2025.

Explanatory notes:

- (a) Similar work(s) means “(a) Similar work(s) means **“Civil Construction/Civil Repair Works/ Civil Maintenance Works”**”. The experience certificate of works executed in private sectors/ organisations shall be considered for qualification, only on submission

of TDS (Form No.26AS) certificate along with work order and completion certificate.

- (b) Copy of completion certificates of each work issued by the owner/responsible officer of the owner under whom he has executed such contract shall be attached. The certificate shall contain details of work involved specifying the nature of work, the completion cost of the work, date of commencement & date of completion of the work.
- (c) The works reckoned for the above purpose are those executed by the tenderers as prime Contractor or proportionately as member of joint venture or Sub Contractor. The Sub-Contractor shall be an authorized and approved Sub-Contractor by the Employer of the work(s) against which the tenderer has claimed his experience. The tenderer shall attach attested copy(s) of approval issued by the Employer(s) authorizing as a Sub-Contractor; in proof of the claim of the tenderer as a sub-Contractor. The tenderer is also obliged to produce the original of the certified copy(s) on request by the department.
- (d) Following enhancement factors will be used for the costs of works executed for bringing the financial figures to a common base value in respect of the works completed in the past years.

Year before	Multiplying factor
One year	1.07
Two years	1.14
Three years	1.21
Four years	1.28
Five years	1.35
Six years	1.42

ii) Financial Turnover:

Average Annual Turnover of the tenderer during the last three financial years ending **31st March 2024** shall not be less than **Rs.1.34 lakhs**. In proof of this Audited Annual Accounts Statements or IT returns duly acknowledged by the Income Tax department along with Computation Statement signed by the Auditor/ Chartered Accountant, for the last three years shall be produced by the tenderer.

3. Schedule of Quantities of Work & General Conditions for carrying out the work are enclosed.

Encl:- As above

**Sd/-
SUPTDG ENGINEER-I**

1. GENERAL CONDITIONS

- 1.1 The work consists of “**Replacing damaged ceilings and roofing sheets at CISF Barrack**” and includes the following :
- i. Dismantling Asbestos cement sheet.Repairs to plaster.
 - ii. Providing plain multipurpose cement board ceiling.(High pressure steam cured)
 - iii. Structural steel work for ceiling.
 - iv. Painting work with Acrylic emulsion & Synthetic Enamel paint.
 - v. Providing Cement sheet roof.
- 1.2 The bidders need to obtain the one time User ID & password for log-in to e-tendering Portal www.tenderwizard.com/COPT from the service provider M/s. KEONICS by paying registration amount of Rs.1124/- through online Payment using Credit/Debit Card/Net banking or DD in favour of “KSEDCL, Bangalore”.
- 1.3 The intending bidder must have valid Class-II or III digital signature certificate to submit the bid. For further details, please contact e-Tender Help Desk No. 080-40482000/ 080-49352000/ 9746118529/ 9605557738.
- 1.4 e-Quotations are invited from the experienced contractors.
- 1.5 The Quotationer shall submit the Quotation Notice, General conditions & Schedule of Quantities of work ‘**Online**’. The name and address of the quotationers shall be necessarily entered in the space provided in the Schedule of Quantities of Work.
- 1.6 The Quotationer shall inspect the site before submitting the quotation in order to make them fully aware of the site and its conditions.
- 1.7 Clarifications if any required can be obtained by contacting the Asst. Exe. Engineer/ Asst. Engineer of concerned Civil section.
- 1.8 The period of contract is **3 month** from the date of commencement of the work.
- 1.9 The Engineer-in-Charge of the work (Engineer’s Nominee/ Nominee) shall be Suptdg Engineer-I.
- 1.10 Work Site**
- The work has to be carried out is at Willingdon Island. **Water & Electricity**
- Water:** Water, if required for the work, shall be arranged by the Quotationer at his own cost.
- Electricity:** Electricity, if required for the work, shall be arranged by the Quotationer at his own cost..
- 1.11 The rate/ percentage quoted shall be excluding Goods & Service Tax (GST).
- 1.12 The Quotationer shall have valid GST Registration number. GST as applicable for the work will be paid extra by the Port. The GST applicable as per law can be billed on the Port Authority, which will be paid to the Quotationer by the

Board along with the bills, for which the Quotationer shall hold valid GST Registration number.

- 1.13 All labour, skilled or unskilled for the work shall be provided by the Quotationer at his own cost and settling any disputes with the labour shall be, Quotationer's responsibility.
- 1.14 All care and precautionary measures for avoiding any kind of damage/accidents in the work site shall be taken by the Quotationer. All safety precautions shall be taken while carrying out the work. The Quotationer shall supply the necessary safety equipments to the workers employed by him and also ensure that they use it, while carrying out the work. The Quotationer shall be solely liable and responsible for accidents if any, occurring during the period of Contract.
- 1.15 The work shall be completed without causing any damage to the existing structures/cables etc. In case any damage is caused, the same has to be rectified at Quotationer's risk and cost.
- 1.16 The Port will in no way be responsible for any loss/damages caused in connection with the work.
- 1.17 The quantities specified in the schedule of quantities of work are only approximate and shall be increased or decreased at the discretion of the Engineer-in-Charge according to actual requirements. Payment will be made as per actual measurements, according to the percentage quoted.
- 1.18 Quotations shall be valid for a period of 60 days from the due date of submission of quotation.
- 1.19 **Liquidated Damages:** In case of delay in completion of the contract, liquidated damages (L.D) may be levied at the rate of half percent ($\frac{1}{2}\%$) of the Contract Price per week of delay, subject to a maximum of 10% of the Contract Price. The amount of Liquidated Damages can be adjusted or set-off against any sum payable to the Quotationer.
- 1.20 **Security Deposit:** Security Deposit (SD) shall be at 10% of the contract value or value of the work done whichever is higher and it shall consist of two parts:
a) Retention Money to be recovered from Running Bills as detailed below:-
Retention Money shall be deducted at 5% of the gross amount of the bill from the first Running Account bill onwards till the recovered sum amounts to 5% of the contract value or the value of the work done whichever is higher. Retention money shall be refunded to the Contractor within 14 days from the date of payment of final bill. The total amount thus deposited towards SD will be retained as security for the due and proper fulfillment of the contract and will not carry any interest. Such deposit shall be forfeited on failure to perform or non-fulfillment by the Contractor of the terms and conditions of the contract.
b) Performance Security to be submitted at award of the work
Performance Security Performance Security for civil works shall be 5% of the Contract value. The Performance Security shall be provided by the Contractor to the Employer not later than 21 days from the date of letter of acceptance and shall be

furnished in one of the following forms: i) Banker's Cheque/Demand Draft/Pay Order of a Scheduled Bank. ii) An irrevocable Bank Guarantee (BG) enforceable and encashable at Cochin, drawn from any scheduled bank operating in India as per the proforma 34.6. The BG furnished towards the Performance Security shall be valid for a period until a date 30 days from the day of expiry of the defect liability period stipulated as per the terms of the contract.

Unless performance Security is furnished within the period specified in above or such extension of that period as may be permitted by the Engineer in writing, the Earnest Money will be liable to forfeiture and the contract to cancellation. Performance Security will be released / refunded to the Contractor not later than 30 days from the date of completion of Defect Liability / warranty period of the work.

If the Cost of Work done exceeds the Contract Value, the total amount retained as Security Deposit considering the Performance Security initially submitted together with the Retention Money recovered from the running account bills, shall amount to 10% of the Cost of Work done. In cases where cost of Work done exceeds the Contract Value while releasing the Retention Money after payment of Final Bill, only 5% cost of Work Done is released, instead of the entire Retention Money recovered from the bills. The balance amount shall be retained; to make up for the shortage in the Performance Security, upto the completion of Defects Liability Period.

- 1.21 **Execution of Agreement:** The successful Quotationer will be required to execute **within 21 days from the date of receipt of work order**, an agreement at his expense on proper value Kerala State Stamp Paper in the prescribed departmental form, consisting of the work order issued to the Quotationer, together with the Quotation submitted by him including General Conditions, for the due and proper fulfilment of the contract.
- 1.22 The Defect Liability Period for the work is one year.
- 1.23 Till signing of agreement, the Quotation together with the acceptance letter shall constitute a binding contract between the Quotationer and Cochin Port.
- 1.24 The Contractor shall comply with all the provisions of the Indian Workmen's Compensations Act, Public Liability Policy, Provident Fund Regulations, Employees Provident Fund and ESI Act etc. amended from time to time and rules framed there under and other laws affecting the Contract labour that may be brought in to force from time to time.
- 1.25 **The bidders having EPF/ ESI registration certificates only shall be considered for qualification in the tender, if applicable, as per EPF /ESI Acts.**

In case, the Tenderer does not have the required number of employees which makes such registration mandatory, an Undertaking as per Annexure I to the effect shall be furnished.

SIGNATURE OF QUOTATIONER.

2. SPECIFICATIONS FOR MATERIALS TO BE USED ON THE WORKS

2.1 GENERAL

- 2.1.1 Except where otherwise specified or authorised by the Chief Engineer or the Engineer- in- charge materials supplied and works executed by the contractor must conform to the latest edition of the Indian Standard Specification and the code of practice published by the Indian Standard Institution. Samples of the materials to be supplied by the contractor shall be shown to the Chief Engineer or his representative sufficiently in advance for the approval for its quality for use on work.
- 2.1.2 All materials supplied shall be stored appropriately to prevent deteriorations or damage from any cause what so ever and to the entire satisfaction of the Chief Engineer or the Engineer- in- charge.
- 2.1.3 The materials required for the work shall be brought to the site and stacked at the places shown by the Engineer-in-Charge and the same shall be got approved for use in work sufficiently advance so that the progress of the work is not affected by the supply of materials.
- 2.1.4 Payment for the materials supplied, shall be given only after they are used on the work.
- 2.1.5 Tolls are payable by the Contractor as per rules for vehicles using the Port's road for supplying the materials.

2.2 CEMENT

- 2.2.1 Quality of cement used for the work shall be 43 grade ordinary Portland cement conforming to IS: 8112 or 53 grade ordinary Portland cement conforming to IS: 12269 or Pozzolona cement conforming to IS: 1489 unless otherwise approved by the Engineer-in-Charge.
- 2.2.2 The cement required for the work will have to be procured by the contractor and shall comply with the relevant IS. As far as possible, cement shall be procured from government agencies. The cement shall, if required by the Chief Engineer / Engineer-in-Charge, be tested and analyzed by an independent analyst at the Contractor's cost and result produced to the Engineer-in-Charge.
- 2.2.3 Supply of cement shall be taken in 50kg bags bearing manufacture's name and ISI marking. Samples of cement arranged by the contractor shall be taken by the Engineer-in-Charge and got tested in accordance with provisions of relevant B.I.S codes. In case, test results indicate that the cement arranged by the Contractor does not conform to the relevant B.I.S codes, the same shall stand rejected and shall be removed from the site by the contractor at his own cost within a week's time of written order from the Engineer-in-Charge to do so.
- 2.2.4 A cement godown/store of adequate capacity as directed by the Engineer-in-Charge shall be constructed by the contractors at the site of the work for which no extra payment shall be made. Double lock provision shall be made to the door of the cement godown. The key of one lock shall remain with the Engineer-in-Charge or his authorized representative and the key of the other lock shall remain with the contractor. The contractor shall be responsible for the watch and ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer-in-Charge.

- 2.2.5 The cement brought to the site and cement remaining unused after completion of work shall not be removed from the site without written permission from /of the Engineer-in-Charge.
- 2.2.6 The cement shall be stored in a weather proof building with facilities for inspection.
- 2.2.7 The contractor shall maintain a cement register showing dates of receipt and issue, quantities used daily and balance which shall be accessible to the Engineer-in-Charge.

2.3 WATER

- 2.3.1 Clean fresh water free from oils, acids, alkalies, salt, sugar, organic materials or other harmful materials shall be used for washing aggregates, mixing and curing of concrete. The water used shall comply with clause 5.4 of IS: 456-2000. Potable water is generally considered good for mixing concrete.
- 2.3.2 Samples of water arranged by the contractor shall be taken by the Engineer in Charge and got tested in accordance with the provisions of relevant BIS codes. In case test results indicate that the water arranged by the contractor does not conform to the relevant BIS codes, the same shall not be used for any works. The cost of tests shall be borne by the contractor.

2.4 SAND FOR MAKING MORTAR FOR MASONRY WORK/ PLASTERING WORK

- 2.4.1 Sand used for masonry mortar shall conform to IS: 2116. Sand used for plastering shall conform to IS: 1542.

2.5 MOISTURE RESISTANT/FIRE RESISTANT 6 MM THICK FIBER CEMENT BOARD

- 2.5.1 Fixing the moisture resistant/ fire resistant 6mm thick fibre cement board (High Pressure Steam cured) with necessary accessories & GI self drilling/ tapping screws etc., of required size (Screws shall be of counter sunk rib head of 1.60mm to 4 mm thick of 8 to 10 gauge of length varying from 25 to 45 mm), and filling the groove (i.e. 2-3mm gap between boards),taping and jointing of the first layer 6mm and 9mm thick fiber cement boards with epoxy based sealing compound or with silicon sealant. Second layer is fixed over it in a staggered pattern, with suitable arrangement as per approval of Engineer-incharge.
- 2.5.2 The length and breadth of fibre cement board shall be measured correct to the nearest cm and area worked out in square metres correct to two places of decimal.
- 2.5.3 The rate shall include the cost of materials and labour involved in all the operations described above. Nothing extra shall be paid for fixing arrangement i.e. drilling, nut & bolts, filling groove etc.

2.6 STRUCTURAL STEEL

- 2.6.1 Angles, plates and other Structural Steel sections used for the work shall conform to IS: 2062. It shall be free from visible as well as manufacturing defects such as pitting , cracks, laminations, twists etc and excessive rusting.

2.6.2 Structural steel used shall be of TATA make or approved equivalent . It shall be free from visible as well as manufacturing defects such as pitting, cracks, laminations, twists etc. and rusting. MS angles shall conform to IS-2062. The plates shall conform to IS.226. The angles & plates shall be free from visible as well as manufacturing defects such as pitting, cracks, laminations, twists etc. and excessive rusting.

2.7 WATER THINNABLE CEMENT PRIMER

2.7.1 The primer used for the work shall be Silicon based primer, manufactured by Asian/ Nerolac/ Berger/ Nitco of premium quality.

2.8 ACRYLIC EMULSION PAINT EXTERIOR/INTERIOR

2.8.1 The surface shall be thoroughly cleaned of dust and then be sand papered to give a smooth and even surface. Over the prepared surface one base coat of primer for exterior/interior emulsion paint of same brand shall be applied with hand brush in horizontal stroke followed immediately by a vertical one which together shall constitute one coat. After the primer coat has dried for at least 48 hours, the surface shall be lightly sand papered to make it smooth. All loose particles shall be dusted off after rubbing and the surface cleaned well. The first finishing coat of exterior/interior emulsion paint shall then be applied with hand brush in horizontal stroke followed immediately by a vertical one which together shall constitute one coat. The second coat shall be applied in the same way of first coat to obtain an even surface, after the first finishing coat dried as per the directions of the Engineer-in –Charge.

2.8.2 Measurements of the work under this head shall be made on the basis of the area of work done and rate quoted shall include the cost of labour, materials, scaffolding etc. required for the completion of work.

2.8.3 The weather proof exterior acrylic emulsion paint shall be of approved premium quality either “Weather coat” by Berger or Nerolac Excel or “Weather shield” by ICI Dulux or Snowcryn XT-premium by Snowcem India Ltd. or Jotun Paints/ Asian paints. The interior acrylic emulsion paint shall be of approved premium quality either manufactured by Berger or Dulux or Nicholson or Jotun Paints/ Asian paints. The coverage shall conform to the manufacture’s specification. The colour/ shade shall be as per direction of the Engineer-in-Charge.

2.8.4 The Weather Proof Exterior Acrylic Emulsion paint shall be of approved premium quality manufactured by either Asian Paints/ Berger Paints/Nerolac Excel Paints or its equivalent. The coverage shall conform to the Manufacturer’s specification. The colour / shade shall be as per schedule or as per the direction of Engineer-in-Charge. . The paint shall be brought to the site of work by the Contractor in its original containers in sealed condition. The material shall be brought in at a time in adequate quantities to suffice for the whole work or at least a week’s work. The materials shall be kept in the joint custody of the Contractor and the Engineer-in-Charge. The empty containers shall not be removed from the site of work till the relevant item of the work has been completed and permission obtained from the Engineer-in-Charge.

2.8.5 The Contractor shall invariably produce the Test Certificates and Bills with batch number and date, signed by an authorised person of the Manufacturer /

Dealer, while seeking final approval of the Engineer-in-Charge for use on the Work.

2.9 SYNTHETIC ENAMEL PAINT

- 2.9.1 The Synthetic Enamel paint shall be of approved premium quality and shall conform to IS : 2923 (2003). The coverage shall conform to the Manufacturer's specification. The colour / shade shall be as per schedule or as per the directions of Engineer-in-Charge. The paint shall be brought to the site of work by the Contractor in its original containers in sealed condition. The material shall be brought in at a time in adequate quantities to suffice for the whole work or at least a week's work. The materials shall be kept in the joint custody of the Contractor and the Engineer-in-Charge. The empty containers shall not be removed from the site of work till the relevant item of the work has been completed and permission obtained from the Engineer-in-Charge.
- 2.9.2 The Contractor shall invariably produce the Test Certificates and Bills with batch number and date, signed by an authorised person of the Manufacturer / Dealer, while seeking final approval of the Engineer-in-Charge for use on the Work.
- 2.9.3 Paints/ primers of approved premium brand and manufacture shall be used. Only ready mixed Paint (Exterior grade) as received from the manufacturer without any admixture shall be used. If for any reason, thinning is necessary in case of ready mixed Paint, the brand of thinner recommended by the manufacturer or as instructed by the Engineer-in-Charge shall be used. The surface shall be thoroughly cleaned off all dirt, rust, dust, grease etc. with wire brush, sand paper etc., and be made perfectly clean and dry while painting. For wood surfaces visible knots, holes etc. shall be filled with appropriate filling material with some shade as paint and rubbed smooth before applying paint. The number of coats shall be as per schedule. Successive coats shall be applied only on the next day after rubbing with the finest grade of wet abrasive paper and dusting of the loose particles.
- 2.9.4 Measurements of the work under this head shall be made on the basis of the area of work done and rate quoted shall include the cost of surface preparation, materials, labour, scaffolding etc. required for the completion of works as detailed above.

2.10 RIDGES/ HIPS

- 2.10.1 The Contractor shall Provide and fix Corrugated serrated adjustable ridges and hips in fibre cement reinforced by organic fibres and/or inorganic synthetic fibres roofing with suitable fixing accessories or self drilling fastener and EPDM washer etc.
- 2.10.2 The pieces shall be free from cracks, chipped edges or corners and other damages.

2.11 MATERIALS NOT SPECIFIED

- 2.11.1 All materials not herein detailed and fully specified but which may be required for use on works, shall be subject to the approval of the Engineer-in-Charge without which they shall not be used anywhere in the permanent works.

2.12 SAMPLING AND TESTING OF MATERIALS

- 2.12.1 Sampling and testing of the material supplied by the contractor for use on the Work shall be done as per the provisions of the relevant BIS codes/specifications. In the absence of BIS specification in a particular case, the sampling and testing shall be done as directed by the Engineer-in-Charge

as per sound engineering practice. Material conforming to the specifications and approved by the Engineer-in-Charge shall only be used by the Contractor.

2.12.2 All the sampling and testing shall be done at the Contractor's cost.

SIGNATURE OF QUOTATIONER

3. DETAILED SPECIFICATIONS FOR ITEMS OF WORKS

3.1 GENERAL

3.1.1 Except where otherwise specified or authorized by the Engineer-in-Charge, all items of works executed by the contractor shall conform to the latest edition of the Bureau of Indian Standard Specifications and code of practices published by the B.I.S. Where no such specifications or code of practice exists the latest B.S.S. codes of practice or any other equivalent / standard code of practice shall also be considered for adoption. The tenderer while indicating any such specifications shall enclose the full set of the publication so referred and not in extracts. Photostats / Xerox copies in duplicate shall be forwarded which shall not be returned to the contractor. In absence of any specification, the department deserves the right to adopt trade specifications and/or sound engineering practices for the specialized work as may be decided by the Engineer-in-Charge which shall be final, conclusive and binding on the contractor.

3.2 DISMANTLING/ DEMOLISHING WORKS

3.2.1 The tenderer shall inspect the site and carry out the required investigation by himself about the present position and condition of the existing structures and assess the difficulties and the work involved in its dismantling and removal. It will be deemed that the tenderer has satisfied himself the condition of the structure and the nature of the work involved for the dismantling and removal and estimated its cost accordingly and he will be in no way responsible for the lack of such knowledge and also consequences thereof to the tenderer. The dismantling shall be done carefully without causing any damage to the remaining portions / structure.

3.2.2 Roofing including ridges, hips, valleys and gutters etc. are to be dismantled as per the direction of Engineer-in-charge. All the dismantled usable materials shall be stacked at the area pointed out by the Engineer-in-charge and all unusable materials shall be disposed by the contractor.

3.2.3 All the dismantling works shall be done carefully without causing any damage to the adjacent portion/ existing structure. The unserviceable dismantled/ cut materials shall be disposed off within 6kms of the work site and levelled as directed by the Engineer-in-Charge.

3.3 REPAIRS TO PLASTER

3.3.1 The work includes cutting the patch and preparing the wall surface.

3.3.2 Scaffolding

Scaffolding as required for the proper execution of the work shall be erected. If work can be done safely with the ladder or jhoola these will be permitted in place of scaffolding.

3.3.3 Cutting

The mortar of the patch, where the existing plaster has cracked, crumbled or sounds hollow when gently tapped on the surface, shall be removed. The patch shall be cut out to a square or rectangular shape at position marked on the wall as directed by the Engineer-in-Charge or his authorized representative. The edges shall be slightly under cut to provide a neat joint.

3.3.4 Preparation of Surface

The masonry joints which become exposed after removal of old plaster shall be raked out to a minimum depth of 10 mm in the case of brick work and 20 mm in the case of stone work. The raking shall be carried out uniformly with a raking tool and not with a basuli, and loose mortar dusted off. The surface shall then be thoroughly washed with water, and kept wet till plastering is commenced. In case of concrete surfaces, the same shall be thoroughly scrubbed with wire brushes after the plaster had been cut out and pock marked.

3.3.5 **Application of Plaster**

Cement plastering shall be with the grade of mortar and of thickness specified in the schedule. For external work and under coat work, the fine aggregate shall conform to grading IV. For finishing coat work the fine aggregate conforming to grading zone V shall be used.

- 3.3.6 Ceiling plaster shall be completed before commencement of wall plaster. Plastering shall be started from the top and worked down towards the floor. All putlog holes shall be properly filled in advance of the plastering as the scaffolding is being taken down. To ensure even thickness and a true surface, plaster about 15 × 15 cm shall be first applied, horizontally and vertically, at not more than 2 metres intervals over the entire surface to serve as gauges. The surfaces of these gauged areas shall be truly in the plane of the finished plaster surface. The mortar shall then be laid on the wall, between the gauges with trowel. The mortar shall be applied in a uniform surface slightly more than the specified thickness. This shall be brought to a true surface, by working a wooden straight edge reaching across the gauges, with small upward and side ways movements at a time. Finally the surface shall be finished off true with trowel or wooden float according as a smooth or a sandy granular texture is required. Excessive troweling or over working the float shall be avoided. All the corners shall be rounded off to a radius of 25 mm unless otherwise specified.
- 3.3.7 Where smooth finishing is specified in the schedule the plastering shall be floated over with neat cement slurry using 2.2 kg of cement per square metre immediately after the final coat of plastering and rate quoted for plastering shall include cost of this finishing work.
- 3.3.8 When suspending work at the end of the day, the plaster shall be left, cut clean to line both horizontally and vertically. When recommencing the plastering, the edge of the old work shall be scrapped cleaned and wetted with cement slurry before plaster is applied to the adjacent areas, to enable the two to properly join together. Plastering work shall be closed at the end of the day on the body of wall and not nearer than 15 cm to any corners or arrises. It shall not be closed on the body of the features such as plasters, bands and cornices, nor at the corners of arrises. Horizontal joints in plaster work shall not also occur on parapet tops and copings as these invariably lead to leakages. The plastering and finishing shall be completed within half an hour of adding water to the dry mortar. No portion of the surface shall be left out initially to be patched up later on. The plastering and finishing shall be completed within half an hour of adding water to the dry mortar.

3.3.9 The plastered surface on which glazed tiles or other similar type of finishing are to be provided subsequently shall not be finished smooth but shall be scarified for forming a base for providing the final surface finish as required.

3.3.10 The surface shall be finished even and flush and matching with the old surrounding plaster. All roundings necessary at junctions of walls, ceilings etc. shall be carried out in a tidy manner..All dismantled mortar & rubbish etc. shall be disposed off within 24 hours from its dismantling promptly as directed by the Engineer-in-Charge.

3.3.11 Curing

Curing shall be started as soon as the plaster has hardened sufficiently not to be damaged when watered. The plaster shall be kept wet for a period of at least 7 days. During this period, it shall be suitably protected from all damages at the contractor's expense by such means as the Engineer-in-Charge may approve. The dates on which the plastering is done shall be legibly marked on the various sections plastered so that curing for the specified period thereafter can be watched.

3.3.12 Finish

The plaster shall be finished to a true and plumb surface and to the proper degree of smoothness as required. The work shall be tested frequently as the work proceeds with a true straight edge not less than 2.5 m long and with plumb bobs. All horizontal lines and surfaces shall be tested with a level and all jambs and corners with a plumb bob as the work proceeds.

3.3.13 Precaution

Any cracks which appear in the surface and all portions which sound hollow when tapped, or are found to be soft or otherwise defective, shall be cut out in rectangular shape and redone as directed by the Engineer-in-Charge.

(i) When ceiling plaster is done, it shall be finished to chamfered edge at an angle at its junction with a suitable tool when plaster is being done. Similarly when the wall plaster is being done, it shall be kept separate from the ceiling plaster by a thin straight groove not deeper than 6 mm drawn with any suitable method with the wall while the plaster is green.(ii) To prevent surface cracks appearing between junctions of column/beam and walls, 150 mm wide chicken wire mesh should be fixed with U nails 150 mm centre to centre before plastering the junction. The plastering of walls and beam/column in one vertical plane should be carried out in one go. For providing and fixing chicken wire mesh with U nails payment shall be made separately.

3.3.14 The rate shall include all labour and materials including scaffolding, plastering of jambs, sills, soffits or opening, providing grooves at edge of sunshade, curing etc. complete. required for completion of work including lead as described in the item for disposal of old dismantled plaster /material. Measurement of the work under this head shall be made on the basis of the area of work done.

3.3.15 Protective Measure

Doors, windows, floors, articles of furniture etc. and such other parts of the building shall be protected from being splashed upon. Splashing and droppings, if any, shall be removed by the contractor at his own cost and the

surface cleaned. Damages, if any, to furniture or fittings and fixtures shall be recoverable from the contractor.

3.3.16 Measurements

Length and breadth shall be measured correct to a cm. The area shall be calculated in square metre correct to two places of decimal. Patches below 0.05 square metre in area shall not be measured for payment. Pre-measurements of the patches to be plastered shall be recorded after the old plaster has been cut and wall surface prepared.

3.3.17 Rate

The rate shall include the cost of all labour and materials involved in all the operations described above.

3.4 STEEL FABRICATION WORK

- 3.4.1 The steel sections as specified shall be cut square accurately to correct lengths. The cut edges should be dressed to a neat and workmanship finish and be free from distortion where parts are to be in contact metal to metal. All materials shall be straight and if necessary, before being worked shall be straightened and/or flattened and shall be free from twists.
- 3.4.2 The component parts shall be assembled and aligned in such a manner that they are neither twisted nor otherwise damaged and shall be so prepared that the specified camber, if any, is provided. Proper clamps, clips, jigs and other fasteners (bolts & welds) shall be placed in a balance pattern to avoid any distortion in the members and to ensure their correct positioning.
- 3.4.3 Welded connections shall be provided for joints except for the joints specially provided for erection purposes. For joints provided for erection purposes bolted connections shall be used.
- 3.4.4 All bolts shall be provided with washers of sufficient thickness. The threaded portion of each bolt shall project through the nuts at least one thread.
- 3.4.5 Welding shall be done in accordance with the specifications laid down in IS 816 and as per detailed working drawing or as directed by the Engineer in charge. Welding edges and the adjacent areas of the members (extending up to 20mm) shall be thoroughly cleaned of all oil, grease, scale and rust and made completely dry. Gaps between the members to be welded shall be kept free from all foreign matters. The welding procedure adopted and consumables used shall be got specifically approved by the Engineer-in-charge. Excessive convexity, shrinkage, cracks, under cutting, improperly fitted / misaligned parts, members distorted by the heat of welding etc. due to faulty welds shall be corrected- whole or portion- as directed by the Engineer-in-charge.
- 3.4.6 The steel sections as specified shall be straightened and cut square to correct lengths. The steel work shall be hoisted and placed in position carefully without any damage to itself and other structures and injury to workmen.
- 3.4.7 The suitability and capacity of all plants and equipments used for the work shall be to the complete satisfaction of the Engineer-in-charge.
- 3.4.8 Proper safety arrangements shall be provided for working and inspection at no extra cost wherever required.

- 3.4.9 If the fabrication is done outside the worksite premises the structural and fabrication should be subject to the inspection by the departmental officials. Suitable transport facilities shall be provided for the inspection staff.
- 3.4.10 The electrodes required for the welding work shall be got approved before use. The electrodes should be stored properly without exposing them to atmospheric action. Proper protection should be given for site fabrication. The welding must be carried out under a covered roof.
- 3.4.11 The contractor should possess plant and equipments, derricks. Lifting tackles, wire ropes, chain pulleys, jacks, welding sets etc. that may be required for fabrication and erection. The equipment being used shall be kept in good condition throughout.
- 3.4.12 Fabrication and erection of steel work shall be in accordance with the provision of IS 800.
- 3.4.13 All damages to steel works caused during the transit or otherwise at the time of fabrication or erection and after erection shall be made good at no extra cost.
- 3.4.14 All steel work shall be provided with one coat of iron primer Red Oxide/ Zinc Chromate paint. Before applying primer, all rust & scale shall be removed by scrapping or brushing with steel wire brushes. All dust & dirt shall be thoroughly wiped away from the surface. If the surface is wet, it shall be dried before priming coat is applied.
- 3.4.15 After completion of the required fabrication of members, the surface shall be well cleaned with wire brush and sandpapering as directed by the Engineer-in-charge and one coat of Zinc Chromate primer shall be applied. Before application of the primer coat all the welded joints shall be got inspected and approved by the Engineer in charge. All painting work shall be done after the erection of steel members in position. Any damage to the painted surface during the course of erection shall be rectified as directed by the Engineer In charge after fixing the members in position. The fasteners like bolts, nuts etc. used during erection shall also be painted with a coat of primer and two coats of bituminastic paint
- 3.4.16 Sequence of erection of grillage/ angle members shall be so arranged that the structural stability is fully ensured.
- 3.4.17 Prior to the positioning of the members all laitance and loose materials shall be removed by wire brushing and chipping and bearing surfaces cleaned as directed by the Engineer in charge.
- 3.4.18 The rates given shall be for the finished items of work including fabricating, erecting and alignment with appropriate materials, all connections, welding, rectification wherever necessary, transporting and handling charges, all accessories, equipments, scaffolding, all lifts etc. including cost of all labour, and materials.
- 3.4.19 The finished work including erection shall be measured in Kilogram inclusive of the weight of posts, members, M.S plate stiffeners, M.S base plates, bolts, nuts, washers but no allowance shall be made for the welded material. The measurement for plates used on the work shall be made for the actual quantity used in work. The rate quoted per Kilogram shall be inclusive of cost of all

materials & labour applying iron primer, erection in position, scaffolding, all transportation, lifts etc

3.5 **SCRAPPING & CLEANING OLD PAINTED SURFACE**

3.5.1 All loose particles and scales shall be scrapped off and holes in plaster as well as patches of less than 50 cm area shall be filled up with mortar of same mix. The surface shall then be cleaned with water jetting if required and allowed to dry for at least 48 hours before painting.

3.5.2 Whenever scaffolding is necessary, it shall be erected on double supports tied together by horizontal pieces, over which scaffolding planks shall be fixed.

3.6 **PAINTING-GENERAL**

3.6.1 Commencing Work

Painting shall not be started until the Engineer-in-Charge has inspected the items to be used, satisfied himself about their proper quality and given his approval to commence the painting work with the approved materials. Painting of external surface shall not be done in adverse weather condition like hail storm and dust storm. Painting, except the priming coat, shall generally be taken in hand after practically finishing all other building works. The rooms should be thoroughly swept out and the entire building cleaned up, at least one day in advance of the Paint work being started.

3.6.2 Preparation of Surface

The surface shall be thoroughly cleaned and dusted off. All rust, dirt, scales, smoke splashes, mortar droppings and grease shall be thoroughly removed before painting is started. The prepared surface shall have received the approval of the Engineer-in-Charge after inspection, before painting is commenced.

3.6.3 **Application**

3.6.3.1 Before pouring into smaller containers for use, the Paint shall be stirred thoroughly in its containers, when applying also, the Paint shall be continuously stirred in the smaller containers so that its consistency is kept uniform.

3.6.3.2 The painting shall be laid on evenly and smoothly by means of crossing and laying off, the latter in the direction of the grains of wood. The crossing and laying off consists of covering the area over with Paint, brushing the surface hard for the first time over and then brushing alternately in opposite direction, two or three times and then finally brushing lightly in a direction at right angles to the same. In this process, no brush marks shall be left after the laying off is finished. The full process of crossing and laying off will constitute one coat.

3.6.3.3 No left over Paint shall be put back into the stock tins. When not in use, the containers shall be kept properly closed.

3.6.3.4 No hair marks from the brush or clogging of Paint puddles in the corners of panels, angles of mouldings etc. shall be left on the work.

3.6.3.5 In painting doors and windows, the putty round the glass panes must also be painted but care must be taken to see that no Paint stains etc. are left on the glass. Tops of shutters and surfaces in similar hidden locations shall not be

left out in painting. However, bottom edge of the shutters where the painting is not practically possible, need not be done nor any deduction on this account will be done but two coats of primer of approved make shall be done on the bottom edge before fixing the shutters.

3.6.3.6 On painting steel work, special care shall be taken while painting over bolts, nuts, rivets overlaps etc.

3.6.3.7 The additional specifications for primer and other coats of Paints shall be as according to the detailed specifications under the respective headings.

3.6.3.8 **Brushes and Containers**

After work, the brushes shall be completely cleaned of Paint and linseed oil by rinsing with turpentine. A brush in which Paint has dried up is ruined and shall on no account be used for painting work. The containers when not in use, shall be kept closed and free from air so that Paint does not thicken and also shall be kept safe from dust. When the Paint has been used, the containers shall be washed with turpentine and wiped dry with soft clean cloth, so that they are clean, and can be used again.

3.7 CEMENT PRIMER COAT

3.7.1 Cement primer coat is used as a base coat on wall finish of cement plaster before Paints are applied on them. The cement primer is composed of a medium and pigment which are resistant to the alkalies present in the cement in wall finish and provides a barrier for the protection of subsequent coats of Paints.

3.7.2 Primer coat shall be preferably applied by brushing and not by spraying. Hurried priming shall be avoided particularly on absorbent surfaces. New plaster patches in old work should also be treated with cement primer before applying Paints etc.

3.7.3 **Preparation of the Surface**

The surface shall be thoroughly cleaned of dust, old white or colour wash by washing and scrubbing. The surface shall then be allowed to dry for at least 48 hours. It shall then be sand papered to give a smooth and even surface. Any unevenness shall be made good by applying putty, made of plaster of paris mixed with water on the entire surface including filling up the undulations and then sand papering the same after it is dry.

3.7.4 **Application**

The cement primer shall be applied with a brush on the clean dry and smooth surface. Horizontal strokes shall be given first and vertical strokes shall be applied immediately afterwards. This entire operation will constitute one coat. The surface shall be finished as uniformly as possible leaving no brush marks. It shall be allowed to dry for at least 48 hours, before oil emulsion Paint is applied.

3.8 WALL PAINTING WITH PREMIUM ACRYLIC INTERIOR EMULSION PAINT

3.8.1 The wall surface shall be prepared as specified in Clause 15.5.2 above.

3.8.2 **Application:** The number of coats shall be as stipulated in the item. The Paint will be applied in the usual manner with brush, spray or roller. The Paint dries

by evaporation of the water content and as soon as the water has evaporated the film gets hard and the next coat can be applied. The time of drying varies from one hour on absorbent surfaces to 2 to 3 hours on non-absorbent surfaces. The thinning of emulsion is to be done with water and not with turpentine. Thinning with water will be particularly required for the under coat which is applied on the absorbent surface. The quantity of water to be added shall be as per manufacturer's instructions. The surface on finishing shall present a flat velvety smooth finish. If necessary more coats will be applied till the surface presents a uniform appearance.

3.8.3 **Precautions**

(a) Old brushes if they are to be used with emulsion Paints, should be completely dried of turpentine or oil Paints by washing in warm soap water. Brushes should be quickly washed in water immediately after use and kept immersed in water during break periods to prevent the Paint from hardening on the brush. (b) In the preparation of wall for plastic emulsion painting, no oil base putties shall be used in filling cracks, holes etc. (c) Splashes on floors etc. shall be cleaned out without delay as they will be difficult to remove after hardening. (d) Washing of surfaces treated with emulsion Paints shall not be done within 3 to 4 weeks of application.

3.8.4 **Measurements**

The length and breadth shall be measured correct to a cm. Measurements of the work under this head shall be made on the basis of the area of work done and the rate quoted shall include the cost of labour, materials scaffoldings etc. required for the completion of the work.

3.9 **APPLYING SYNTHETIC ENAMEL PAINT**

3.9.1 The surface shall be thoroughly cleaned off all dirt, rust, dust, grease etc. with wire brush, sand paper etc., and be made perfectly clean and dry while painting.

3.9.2 The number of coats shall be as per schedule. Successive coats shall be applied only on the next day after rubbing with the finest grade of wet abrasive paper and dusting of the loose particles. The primers and paints used shall be of approved quality.

3.9.3 Measurements of the work under this head shall be made on the basis of the area of work done and rate quoted shall include the cost of surface preparation, materials, labour, scaffolding etc. required for the completion of works as detailed above.

SIGNATURE OF QUOTATIONER

COCHIN PORT AUTHORITY

**REPLACING DAMAGED CEILINGS AND ROOFING SHEETS AT CISF
BARRACK**

UNDERTAKING REGARDING EPF AND ESI REGISTRATION

I/ We, M/s..... (Name & Address of the tenderer) solemnly affirm and undertake that I/ We do not have the required number of employees for taking registration under EPF Organisation and ESI Corporation. I/ We also undertake that I/ We take the full responsibility for all the consequences arising due to the above and indemnify Cochin Port officials for any actions taken in this regard

SIGNATURE OF QUOTATIONER