SCOPE OF WORK

RATE CONTRACT FOR GRIT BLASTING TO SA 2.5 STANDARDS FOLLOWED BY PAINT APPLICATION IN TANKS AND BILGES AND CHIPPING OF SEA TUBES, SEA CHESTS AND UNDER WATER HULL TO ST-3 STANDARDS WITH APPLICATION OF PAINT OF IN SHIPS FOR THREE YEARS

The details of Scope of work are as follows:-

<table>
<thead>
<tr>
<th>S.NO</th>
<th>JOB DESCRIPTION</th>
<th>DENOM</th>
<th>TOTAL QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Salt water cleaning of tanks and bilges (salt water is yard supply).</td>
<td>Sq mtr</td>
<td>19500</td>
</tr>
<tr>
<td>2</td>
<td>Fresh water cleaning of tanks and bilges.</td>
<td>Sq mtr</td>
<td>19500</td>
</tr>
<tr>
<td>3</td>
<td>Grit blasting to SA 2.5 standards of tanks and bilges.</td>
<td>Sq mtr</td>
<td>19500</td>
</tr>
<tr>
<td>4</td>
<td>Surface preparation to <strong>ST3 std</strong> of tanks and bilges (Where SA 2.5 is not possible)</td>
<td>Sq mtr</td>
<td>1950</td>
</tr>
<tr>
<td>5</td>
<td>Application of primer in tanks and bilges (Primer is yard supply)</td>
<td>Sq mtr</td>
<td>19500</td>
</tr>
<tr>
<td>6</td>
<td>Application of paint in tanks and bilges (Paint is yard supply).</td>
<td>Sq mtr</td>
<td>39000</td>
</tr>
<tr>
<td>7</td>
<td>Chipping of sea tubes &amp; sea chest</td>
<td>Sq Mtr</td>
<td>2250</td>
</tr>
<tr>
<td>8</td>
<td>ST-3 preparation of sea tubes &amp; sea chest</td>
<td>Sq Mtr</td>
<td>2250</td>
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<td>9</td>
<td>Application of primer in sea tubes, sea chest &amp; U/W hull (Primer is yard supply)</td>
<td>Sq Mtr</td>
<td>9750</td>
</tr>
<tr>
<td>10</td>
<td>Application of paint in sea tubes, sea chest &amp; U/W hull (Paint is yard supply).</td>
<td>Sq Mtr</td>
<td>58500</td>
</tr>
<tr>
<td>11</td>
<td>Chipping of U/W Hull</td>
<td>Sq Mtr</td>
<td>7500</td>
</tr>
</tbody>
</table>

The detailed scope of work is given below:

**GUIDELINES FOR GRIT BLASTING TO SA 2.5 STANDARDS FOLLOWED BY PAINT APPLICATION IN TANKS AND BILGES OF IN SHIPS**

**NOTE:**

1. All firms to be provide the above details considering use of Diesel operated Hydro jetting machine only.
2. The firm should be able to muster minimum 02 grit blasting machines (hoppers) with ownership documents and resources for their simultaneous utilisation.

1. **Surface preparation:-**
   
   (a) Undertake SW washing followed by through de-greasing of the existing paint surface to remove all traces of oil or grease followed by Fresh water washing (if required) to remove all contaminants.
   
   (b) Undertake Grit blasting top achieve SA 2.5 surface cleanliness standard. The grit size for the work would be steel grit of Gr 12-14. Grit used shall be composed of clean, sound, hard particles free from foreign substances such as dirt, oil, grease, toxic substances, paint, organic matter and water soluble salts. It is pertinent to mention that the technical requirement of surface preparation is to produce a surface profile of 50-75 microns.
   
   (c) In inaccessible areas where grit blasting is not practically feasible, the firm must seek permission from User department to prepare surface to ST 3 standard through mechanical / power tooling.

2. **Painting:-**
   
   (a) Undertake application of primer using brush / airless spray within 02 hours of completion of grit blasting post QC and OEM inspection. The subsequent paint coats are to be applied after stage wise inspection by QC and OEM. Care must be taken to remove all traces of blasting debris, dirt and any other contaminant from the compartment using vacuum cleaners.
   
   (b) Firm must have equipments for weighting of the paint and mixing. Paint has to be applied with good quality brush and to be cleaned properly before use. Dehumidifiers are to be employed continuously during application of paint to maintain required atmospheric conditions.
   
   (c) Undertake touch up in all locations post QC and OEM inspection of paint application Care must be taken to avoid any paint spillage or overcoat, holidays or sagging on the surface. The firm to maintain conducive painting conditions of temperature and humidity as per paint data sheet by using blowers and dehumidifiers.
   
   (d) The firm is responsible to ensure the DFT of the complete paint system is in accordance with the recommended paint scheme. The firm must undertake application of additional coats if the requisite DFT is not achieved and the same observed by MQC (H) and OEM during various stage inspections.
   
   (e) The firm to ensure no contamination in the form of oil/grease/mill scale exists on the primer firm prior to handing over the compartment to MDDHP.

3. **General Points:-**
(a) The following amenities are liability of the firm:-
   (i) Provision of Ty lights
   (ii) Provision of staging/scaffolding required for blasting and painting
   (iii) Regular cleaning of blast slurry generated and disposal outside the dock / ship / pontoon to the allocated place on jetty on a daily basis.
   (iv) Placing requisitions for QC and OEM inspection and crane assistance.
   (v) Preparatory works like chipping surface for Grit blasting.

(b) Provision of sufficient blowers, de-humidifiers and stand–by compressors for continuous operation of blasting machinery. The following amenities will be provided by the yard:-
   (i) Crane assistance for lowering/shifting of machines and accessories during working hours.
   (ii) Supply of paints.
   (iii) Electricity, however, the compressor is to be diesel operated.

(c) The firm must ensure all safety norms as per Dockyard safety Policy are adhered during work. The firm must provide adequate and suitable protective gears to all its personnel. The firm should intimate the personnel working in the vicinity of the location of grit blasting before commencing the job and ensure due care to avoid any hindrance or safety hazards to any dockyard / ship personnel

(d) The firm must undertake regular maintenance and upkeep of its equipments to ensure safety in their operation. All compressors to be provided with covers, all electrical wirings must be periodically inspected for proper insulation. The firm is liable to be barred from continuation of work if found not adhering to the safety norms.

(e) The firm must ensure no environmental pollution is caused due to its practices.

(f) The firm must be able to achieve a minimum production rate of 15 sqm per machine per day (one shift) of grit blasting.

(g) The firm should be able to muster minimum of 02 grit blasting machine.

GUIDELINES FOR CHIPPING OF SEA TUBES, SEA CHESTS AND U/W HULL AREA
FOLLOWED BY PAINT APPLICATION OF IN SHIPS
4. **CHIPPING OF SEA TUBES, SEA CHESTS AND U/W HULL AREA.**

4.1 Indicated surface of sea tubes/sea chests is to be manually/mechanically chipped to bare metal (ST-2), in preparation for survey/painting, from inside and outside the hull.

     **OR**

4.2 Power tooling to achieve ST-3 standards in preparation for survey/painting, from inside and outside the hull.

4.3 Surfaces are to be cleaned, after preparation, with vacuum cleaner/dry compressed air/clean brush and offered for inspection prior to painting.

4.4 Erection of necessary staging for the work and clearing the debris generated from the work site of on daily basis, will be contractor’s liability.

4.5 A minimum rate of 5 Sqm per day of surface chipped to bare metal, without any trace of protective coatings applied, is to be guaranteed by the contractor.

5. **APPLICATION OF COATING SYSTEM:**

5.1 The recommended paint scheme is to be applied directly to ST3 prepared surface in accordance relevant product data sheets.

5.2 The first coat of the system must be followed by spray application of the subsequent coat.

5.3 Each coat of the system must be inspected before application of subsequent coat.

5.4 Each coat of the system must be closed film and free from over spray, curtaining, sags, holiday, grit, oil and dirt inclusion. Any such defects are to be repaired prior to the application of the next coat of the system and within the over coating limits of the paint.

5.5 The time interval between applications of the various coats of the system and their dry film thicknesses must be held in strict accordance with the system/product data sheets.

5.6 As far as possible full coats are to be applied with spray. Where spray application is constrained brush application is acceptable.

6. **INSPECTIONS**

6.1 The following stage inspections shall be carried out rep of SMQC (H), ND (MB) with paint company’s representative:-
(I) Inspection after ST3 standards and cleaning.
(II) Inspection after primer application.
(II) Inspection after application of each coat.
(IV) Final inspection after completion of painting.

6.2 Work completion certificate will be issued by DDHP Department, Naval Dockyard Mumbai.
NAVAL DOCKYARD, MUMBAI
QUALITY ASSURANCE PLAN

DEPT : QC (HULL) QAP No QC H 7 4 Q A P 1 0 2 8
REV. NO : 01 QAP DATE : 15 SEP 2015 PAGE : 056 of 01

SHIP: IN Ships / Yard Centre

Job Title: GRIT BLASTING TO SA 2.5 STANDARDS AND PAINT APPLICATION IN TANKS AND BILGES AND CHIPPING OF SEA TUBES, SEA CHESTS & U/W HULL TO ST-3 STANDARDS OF IN SHIPS

Reference Documents
Technical Specification, SA 2.5 STD, NO 20/03 And Safety orders as per SOW..

GRIT BLASTING TO SA 2.5 STANDARDS AND PAINT APPLICATION IN TANKS AND BILGES AND CHIPPING OF SEA TUBES, SEA CHESTS & U/W HULL TO ST-3 STANDARDS OF IN SHIPS

Legend
(A) 'P'- Perform, 'R'- Review, 'W'- Witness, 'H'- Hold Point,
(B) 1 -Contractor/Firm, 2 -DDHP, 3 -QC, 4 -Safety, 5 –Ship Staff

<table>
<thead>
<tr>
<th>S No</th>
<th>ACTIVITY DESCRIPTION</th>
<th>INSPECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>P</td>
</tr>
<tr>
<td>1.</td>
<td>Check area as per SOW</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>Salt water cleaning (salt water is yard supply).</td>
<td>1</td>
</tr>
<tr>
<td>3.</td>
<td>Use of safety gears - Helmets, shoes, safety lines / nets, gloves etc. during Surface Preparation / painting stages.</td>
<td>1,4</td>
</tr>
<tr>
<td>4.</td>
<td>Fresh water cleaning.</td>
<td>1</td>
</tr>
<tr>
<td>5.</td>
<td>Grit blasting to SA 2.5 standards.</td>
<td>1</td>
</tr>
<tr>
<td>6.</td>
<td>Surface preparation to ST3</td>
<td>1</td>
</tr>
<tr>
<td>7.</td>
<td>Inspection of surface preparation for removal of paint, rust and other foreign particles</td>
<td>3</td>
</tr>
<tr>
<td>8.</td>
<td>Surface to be cleaned thoroughly by compressed air</td>
<td>1</td>
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<tr>
<td>9.</td>
<td>Inspection post cleaning</td>
<td>3</td>
</tr>
<tr>
<td>10.</td>
<td>Application of primer (primer is yard supply)</td>
<td>1</td>
</tr>
<tr>
<td>11.</td>
<td>Inspection post painting &amp; DFT measurement (DFT 30-40 µ)</td>
<td>3</td>
</tr>
<tr>
<td>12.</td>
<td>Cleaning of area for foreign material (like oil, grease etc) prior application of paint scheme</td>
<td>1</td>
</tr>
<tr>
<td>13.</td>
<td>Inspection post cleaning and before application of each coat</td>
<td>3</td>
</tr>
<tr>
<td>14.</td>
<td>Application of paint (paint is yard supply).</td>
<td>1</td>
</tr>
<tr>
<td>15.</td>
<td>Inspection post painting &amp; DFT measurement</td>
<td>2,3</td>
</tr>
<tr>
<td>16.</td>
<td>Final Inspection note</td>
<td>3</td>
</tr>
<tr>
<td>17.</td>
<td>Issue of Work Completion certificate</td>
<td>2</td>
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</tbody>
</table>
### MODE OF QUOTATION

(To be strictly adhered to. Non-adherence to this format may result in disqualification)

1. Price Bid Format (For L-I determination):

The Price Bid Format in general is given below and Bidders are required to fill this up correctly with full details, as required under Part-II of RFP. This format should be filled up with items / requirements as mentioned in Part-II of RFP):

**RATE CONTRACT FOR GRIT BLASTING TO SA 2.5 STANDARDS FOLLOWED BY PAINT APPLICATION IN TANKS AND BILGES AND CHIPPING OF SEA TUBES, SEA CHESTS AND UNDER WATER HULL TO ST-3 STD WITH APPLICATION OF PAINT OF IN SHIPS FOR THREE YEARS.**

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Description of Work</th>
<th>Unit</th>
<th>Qty (For Three Years)</th>
<th>Unit Rate (in Rs)</th>
<th>Total cost Material + Services (in Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Salt water cleaning of tanks and bilges (salt water is yard supply).</td>
<td>Sq mtrs</td>
<td>19500</td>
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<td>Sq mtrs</td>
<td>1950</td>
<td></td>
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<td>5</td>
<td>Primer application in tanks and bilges (<strong>Primer is yard supply</strong>)</td>
<td>Sq mtrs</td>
<td>19500</td>
<td></td>
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<td>6</td>
<td>Paint application in tanks and bilges (<strong>Paint is yard supply</strong>).</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Unit</td>
<td>Quantity</td>
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<td>Sq mtrs</td>
<td>7500</td>
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<td></td>
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</tbody>
</table>

10 Accessories
11 Installation / Commissioning
12 Training
13 Technical Literature
14 Tools
15 Freight
16 Insurance
17 Packaging & Forwarding
18 AMC
19 Any Other Requirement

**Grand Total**

*(Highlighted portion in grey shade should not be quoted)*
2. Additional information in Price Bid on Taxes and Duties (Not in scope of L-I determination):

a. Is Excise Duty extra? -- No

b. If Yes, Mention the following:

   i) Total value of items on which Excise Duty is leviable
   ii) Rate of Excise duty (item-wise if different ED is applicable)
   iii) Surcharge on Excise duty, if applicable
   iv) Total value of excise duty payable

c. Is Excise Duty Exemption (EDE) required -- No

d. If Yes, then mention and enclose the following:

   i. Excise notification number under which EDE can be given

e. Is VAT extra - NA

f. If Yes, then mention the following:

   i) Total value on which VAT is leviable
   ii) Rate of VAT
   iii) Total value of VAT leviable

g. Is Service Tax extra – No exempted as per Government notification.

h. If Yes, then mention the following:

   i) Total value of Services on which Service Tax is leviable
   ii) Rate of Service Tax leviable
   iii) Total value of Service Tax leviable

j. Is Custom Duty Exemption (CDE) required -- No

k. If Yes, then mention the following:
i) Custom notification number under which CDE can be given (enclose a copy)
ii) CIF value of stores to be imported
III) Rate of Customs Duty payable
IV) Total amount of Customs Duty payable

I. Octroi / Entry taxes - NA

m. Any other Taxes / Duties - NA
Note:

1. "All material and services are to be supplied by the contractor unless specifically mentioned in the SOW." (All requirements of Welding and Brazing will be in scope of supplier)

2. The bidder, while preparing Q-bid, is to strictly adhere to Mode of Quotation (MOQ) format. No deviation from the MOQ format is expected. The Bidder is to avoid making any changes to the MOQ format and in case of any discrepancy, seek clarification during the pre-bid meeting. A soft copy of Quote/MoQ in excel format on a CD is to be submitted in sealed manner along with the ‘Q’Bid. Non adherence to this may render the bid invalid.

3. Bidders must indicate separately the relevant Taxes/Duties likely to be paid in connection with delivery of completed goods specified in RFP. In absence of this, the total cost quoted by them in their bids will be taken into account in the ranking of bids.

4. The evaluation and comparison of responsive bids and finalisation of L-1 Firm shall he done on the prices of the goods offered and other charges such as Packing & Forwarding, Freight and Insurance, AMC, etc, as indicated in the price schedule of the Bid Document but excluding levies, taxes and duties such as excise duty, VAT, Service tax, Octroi/entry tax, etc on final product, which are to be paid extra as per actuals, wherever applicable.

5. In case the Quote runs into more than one page subtotal on each page to be indicated.

6. Bids should be forwarded by Bidders under their original memo / letter pad inter alia furnishing details like TIN number, VAT/CST number, Bank address with EFT Account if applicable, etc and complete postal and e-mail address of their office.

7. Total Number of pages in the Q-bid are to be mentioned on the first page of the Q-bid. Further each page is to be numbered. For example if there are 20 pages in Q bid, first page to be numbered as 1/20 and last page to be numbered as 20/20.

8. Staging, if required, is to be undertaken in accordance with IS 4014 Part I & II (Code of practice for steel tubular scaffolding).

9. **Foreign Exchange Content.** Foreign Exchange content, if any, is to be clearly specified along with the specific items on which customs duty would be applicable clearly indicating the rates of customs duty applicable. In the absence of complete unambiguous details, following actions will be taken:-

   (i) Loading custom duty at the rate of 25% on entire material cost, when ‘Foreign Exchange’ content is not specified in the Q bid.

   (ii) Loading custom duty at the rate of 25% when applicable rate of customs duty is not specified in Q bid.

   (iii) Further, customs duty exemption certificate will be issued only if the above mentioned particulars are provided unambiguously.

10. **Service Tax.** Government of India, Ministry of Finance (Department of Revenue) Notification No. 12/2012 – ‘Service Tax’, dated 17 Mar 2012 exempts ‘Service tax’ for repair of ships or boats or vessels belonging to the Government of India. Therefore the firms are requested not to quote for service tax.