TENDER DOCUMENT

INVITATION OF BIDS IN TWO BID SYSTEM FOR EMPANELMENT OF MANUFACTURERS/SUPPLIERS & RATE CONTRACT FOR INDIGENOUS CSTRI AUTOMATIC SILK REELING MACHINERY PACKAGE TO BE PROVIDED TO THE SELECTED BENEFICIARIES UNDER SILK SAMGRAH SCHEME (EXTENDED PERIOD)

LAST DATE OF SUBMISSION : 31.08.2020
DATE OF OPENING : 01.09.2020
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Note: No Bidder shall contact the purchaser on any matter relating to its bid, from the time of the bid opening to the time the contract is awarded – Please see Instructions to the Bidders.
SECTION – I

LETTER SUBMITTING TENDER

The Director,
CSTRI, Central Silk Board,
1st Floor, CSB Complex,
B T M Layout, Madiwala,
BANGALORE – 560 068.

Sir,

Regarding: Inviting Bids for Empanelment of Manufacturers/Suppliers & Item Rate of various equipments / machineries of Indigenous CSTRI Automatic Silk Reeling Machinery Package (200 & 400 ends) to be provided to the selected beneficiaries.

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1. With reference to the tender notification No.CSB/CSTRI/, I am submitting my lowest rate for the proposed items.

2. I/We agree to supply Machineries and Equipments as per specifications and terms and conditions of Tender Document. For this I/we have quoted rates towards supply of Equipments/machineries to anywhere in India.

3. Our offer is valid for a period of 24 months from date of opening of tender.

4. I/We understand that you are not bound to accept the lowest or any tender that you receive.

Yours faithfully,

(SUPPLIER/MANUFACTURER)

Seal with date

Tender submitted on:…………………………
SECTION – II

CENTRAL SILK TECHNOLOGICAL RESEARCH INSTITUTE

Central Silk Board

Govt. of India – Ministry of Textiles

B.T.M. Layout, Madivala, BANGALORE  560 068

PHONE NO: 26282101, 26282167, 26282325, 26282326, FAX.NO. 080 – 26680435

1. PREAMBLE:

Central Silk Technological Research Institute (CSTRI), Central Silk Board, Bangalore is a Central Government Organization under Ministry of Textiles, Govt. of India engaged in conducting research and development activities in post cocoon technology for the development of silk industry in India. CSTRI has developed various Technologies and machinery for the production of quality raw silk/fabrics.

2. Presently the Central Silk Technological Research Institute [CSTRI], Central Silk Board, Ministry of Textiles, Government of India, Bangalore is implementing various schemes of Post Cocoon Sector under Silk Samagra (extended period). The Automatic silk reeling Technology is the state of Art technology for the large scale production of superior grade raw silk from Bivoltine cocoons consistently. There is a demand for 15~20 Automatic silk reeling machinery packages for the year 2020-21 from the different states of the country and demand will increase in subsequent years also. Under the Silk Samagra schemes, there is a provision to extend subsidy to the identified purchasers of CSTRI Automatic Reeling Machinery Package(200/400 ends capacity) relating to silk reeling sector based on the lowest rates at which such CSTRI Automatic Reeling Machinery Package is purchased. The list of such CSTRI Automatic Reeling Machinery Package and the approximate quantity of requirement is indicated in Schedule of requirement at Section XIV. The CSTRI is in the process of empanelling the competent manufacturers and suppliers of CSTRI Automatic Reeling Machinery Package at the lowest rates in accordance with revised public procurement (Preference to Make in India) order No.P45021/2/2017-PP(BEI) of Ministry of Commerce and Industries, Govt. of India dated 4th June-2020. Once, such eligible manufacturers who are capable and willing to manufacture and supply such of those CSTRI Automatic Reeling Machinery Package listed (Schedule of Requirement) at the lowest competitive rates conforming to the specifications given vide Section XV are identified through this process, such manufacturers and suppliers are empanelled and such empanelment is valid upto 31st March 2022

3. The identified beneficiaries will be provided the empanelled list to select the manufacturer of their choice and to place orders of the required CSTRI Automatic Reeling Machinery Package at the rates accepted by CSTRI with the enlisted manufacturers/suppliers on the terms and conditions separately entered into by the beneficiary with the concerned manufacturer/supplier which is binding on both the parties. Once the CSTRI Automatic Reeling Machinery Package so identified by the beneficiary and placed orders with the empanelled manufacturer/supplier, the latter on manufacturing the same strictly as per the specifications of CSTRI and supplied to the beneficiary and after its successful installation and commissioning, the CSTRI after due inspection and after being satisfied with functioning of the said CSTRI Automatic Reeling Machinery Package shall release the admissible subsidy taking into consideration the lowest rates offered by the contractor and accepted by CSTRI. In order to empanel the contractors (manufacturers/suppliers) and to accept the rates of contract of manufacture and supply of identified CSTRI Automatic Reeling Machinery Package as per the specifications, the CSTRI invites tender through e-procurement portal from the eligible and competent manufacturer/supplier of said CSTRI Automatic Reeling Machinery Package. Accordingly invites bids for empanelment of Manufacturers/ Suppliers & Rate Contract up to 31st March 2022 for fabrication and supply of various of silk reeling machineries and equipments as per specifications to the selected beneficiaries under the said scheme.

Sd/-

DIRECTOR
SECTION – III

TERMS & CONDITIONS:

1. The Tender documents may be downloaded from the CSB web site www.csb.gov.in or from CSTRI website: www.cstri.res.in. Tender documents are also available at www.eprocure.gov.in.

2. The rate quoted should be valid for a period of 24 months from the date of opening tender.

3. The interested manufacturers should submit their bids in TWO BIDS SYSTEM. Manufacturers can quote for all or any one of the equipments/machinery as per the price schedule. While quoting the whole package it is essential to quote prices of all individual equipment / machineries. Please refer for full details at page No.7-9 under Clause No.3.

The last date for receipt of the Bids thru on-line CPP portal will be at 2.00 P.M. on 31.08.2020

The quotations will be opened at 3.00 PM. on 01.09.2020

4. Only one bid has to be submitted by a bidder. In case of multiple bids, all the bids will be rejected summarily.

5. All the pages of the tender document is required to be signed by the bidder.

6. The Director, CSTRI, CSB, Bangalore reserves the right to accept or reject any or all the tenders without any assignment of reasons. However, the bidder is at liberty to seek clarification in respect of bidding conditions, bidding process in writing or through email (email ID: cstristore@gmail.com) of the Institute.

Place: Bangalore-68

Date: Sd/-

DIRECTOR
**SECTION – IV**

**IMPORTANT POINTS TO BE NOTED**

| Last Date and Time of submission of Tender | 31.08.2020 at 2.00 P.M. |
| Date & Time of opening of Tender Document | 01.09.2020 at 3.00 P.M. |
| Address for Submission of Tender Document | The Director, Central Silk Technological Research Institute CSB Complex, 1st floor, BTM Layout, Madiwala, Bangalore-560068. |
| Tender Documents are also available at website. | [www.csb.gov.in](http://www.csb.gov.in) & [www.cstri.res.in](http://www.cstri.res.in) & [www.eprocure.gov.in](http://www.eprocure.gov.in) |
SECTION – V

INSTRUCTIONS TO BIDDERS (ITB)

The Bidder is expected to examine all instructions, forms, terms and particulars of Empanelment of Manufacturers/suppliers & Rate Contract for fabrication and supply of Indigenous CSTRI Automatic Reeling Machinery Packages to the selected beneficiaries in the Bidding Documents. Failure to furnish all information required by the Bidding Documents or submission of a bid not substantially responsive to the Bidding Documents in every respect shall be at the Bidder's risk and shall result in rejection of his bid.

1. Contents of Bidding Documents:

The Indigenous CSTRI Automatic Reeling Machinery Packages are required to be provided to the identified beneficiaries, bidding procedures and Contract Terms and Conditions are indicated in Tender Document. In addition to the invitation for bids, the Tender Documents include:

(a) Instructions to Bidders (ITB)
(b) General Conditions of Contract (GCC)
(c) Bid form (Capacity & Price Schedules) (BFP)
(d) Price Schedule (PS)
(e) Contract Form (CF)
(f) Manufacturer Authorization Form (MAF)
(g) Non-Disclosure Agreement (NDA)
(h) Technical Deviation Statement Form (TDSF)
(i) Bidding Terms Deviation (BTD)
(j) Schedule of Requirements (SOR)
(k) Technical Specifications (TS)

2. Clarification of Bidding Documents

A prospective Bidder requiring any clarification of the Bidding Documents may contact the Director, CSTRI, Bangalore (Competent Authority) in writing or e-Mail (email ID: cstristore@gmail.com) at the Competent Authority's mailing address indicated in the Invitation for Bids.

3. Documents Comprising the Bid (TWO BID SYSTEM)

a) The interested bidders are advised to read carefully the entire tender document before submitting their tender. The tender documents not received online in prescribed format and/or are found incomplete in any respect will be summarily rejected.

b) The Bidders should submit their bids in two bid (Technical Bid & Financial Bid) system in e-procurement portal only. (website www.eprocure.gov.in). The interested vendors should apply online and submit their tender and the bids along with scanned copies of all the relevant certificates, documents, etc. in support of their technical & price bids duly signed. The tender documents also downloaded from our website www.csb.gov.in & www.cstri.res.in
3.1 **Technical bid** should contain the following information with documentary proof. The technical particulars specified in the tender document shall include the following to the extent applicable for a particular equipment/machinery:

a) The Bidder is ready to manufacture and supply the Indigenous CSTRI Automatic Reeling Machinery Package as per the specifications. All the machineries/equipments have to be manufactured indigenously in accordance with revised public procurement (Preference to Make in India) order No P45021/2/2017-PP(BEII) of Ministry of Commerce and Industries, Govt. of India dated 4th June-2020. In this regard the manufacturer should produce the self declaration certificate indicating the percentage of the machinery/equipment manufactured indigenously (In terms of value) and how much percentage of the machinery/equipment outsourced (In terms of value) in non-judicial stamp paper of Rs.200/- which should be attested by Notary.

b) The Bidder must be an original machine/equipment manufacturer or authorized dealer of said original machinery/equipment and provide a list of any kind of machineries (Connected with Silk industry OR other industry) supplied by him in the past 3 years.

c) The bidder shall give proof of financial capacity and shall submit audited statement of accounts of previous 3 years in support of claim.

d) The bidder shall submit details of purchase orders executed successfully in previous 3 years. The bidder should submit certificate of satisfactory performance of equipment supplied from any Central Govt./State Govt. organization or any Central/State Govt. organizations/PSU or quasi Govt. Organization.

c) The Bidder should submit details of infrastructure available with him.

e) The agency/firm should not be blacklisted by any Central/State/PSU in India/abroad

f) Training, technical support, after sales service and annual maintenance contract requirements, if any

h) The Bidder should submit **Technical Deviation Statement Form (TDSF)** on Technical Specifications.

i) The bidder should submit EMD of Rs,10,000/- drawn in favour of “Director, CSTRI, Bangalore” payable at Bangalore in the form of Demand Draft or through online to CSTRI, Bangalore Account No.1123960044, IFSC code CBIN0283975, Central Bank of India, CSB Branch, Bangalore

j) No interest are payable by CSTRI for the EMD amount.

k) In case of non-remittance of EMD along with the Bid and the same will be summarily rejected.
l) The technical bid which does not fulfil the above conditions will be treated technically non-responsive and summarily be rejected.

3.2. **Financial Bid** should contain the following information with documentary proof.

   a) Financial Bids should consist of **UNIT PRICE**, Insurance, Packing & Forwarding, Erection & Commissioning as applicable at the time of delivery. Tender will be finalised based on Unit Price (inclusive of Insurance, Packing & Forwarding, Erection & Commissioning).

   b) Bid Form & Unit Price Schedule should be completed. The price should be quoted in Indian Rupees.

   c) The Unit Prices quoted by the Bidder shall be firm and valid during the Bidder’s performance throughout the contract period and not subject to variation on any account.

   d) A bid submitted with an adjustable Unit price will be rejected.

   e) The bidder should have capacity to provide satisfactory after sales service.

   f) The bidder should submit PAN & GST registration certificate

   g) If the party is a company, the copy of the Registration from the Registrar of Companies, in case it is firm, the Registration from the Competent Authority shall be submitted along with the bids

   h) The Bidder should indicate the delivery schedule

   i) The Bidder should commit that the unit price quoted is valid for a period of **Two years** (24 months) from the date of opening of Tender.

   j) The Bidder should submit **Bidding Terms Deviation Statement form (BTDSF)** on commercial terms and conditions.

   k) The Bidder should agree to give warrantee as per standard terms. The Financial Bid which does not fulfil the above conditions will be treated as financially non-responsive and summarily be rejected.

   l) Manufacturers who are quoting to Automatic Reeling Machinery Package OR only Automatic Reeling machine should have turnover of 75 lakhs and above in any one of the past three years whereas this clause is not applicable to manufacturers who are quoting for other individual components (Machinery/equipment) of the Automatic Reeling Machinery Package

3.3 The EMD shall be forfeited by CSB in the following events.

   a) If the proposal is withdrawn during the validity period OR any extension agreed by the bidder

   b) If the proposal is varied OR modified in the manner not applicable to the CSB after opening of the proposal during the validity period OR any extension thereof.

   c). If the supplier tries to influence the evaluation process
4. Documents Establishing Bidder’s Eligibility and Qualifications

4.1 The Bidder shall furnish as part of its bid documents establishing his eligibility to bid and his qualifications to perform the Contract if his bid is accepted.

4.2 The documentary evidence of the Bidder’s qualifications to perform the Contract if its bid is accepted, shall establish to the Purchaser’s satisfaction.

(a) that, in the case of a Bidder offering to supply Indigenous CSTRI Automatic Reeling Machinery Package under the contract which the Bidder did not manufacture or otherwise produce, the Bidder has been duly authorized by the Machineries/Equipments manufacturer or producer to supply the Machineries/Equipments; and

(b) that the Bidder has the financial, technical and service capability necessary to perform the contract.

5. Document Establishing Machineries/Equipments’ Eligibility and Conformity to Bidding Documents:

5.1 The Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the Bidding Documents of all Machineries/Equipments and services which the bidder proposes to supply under the contract.

5.2 The documentary evidence of the Machineries/Equipments and services’ conformity to the Bidding Documents may be in the form of literature, drawings and data and shall furnish a detailed description of the Machineries/Equipments’ essential technical and performance characteristics;

5.3 The Bidder shall note that standards for workmanship, material and equipment and references to brand names or catalogue numbers and designated by the Purchaser in its Technical Specifications are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names and/or catalogue numbers in its bid, provided that it demonstrates to the Purchaser’s satisfaction that the substitutions are substantially equivalent or superior to those designated in the Technical Specifications.

5.4 The Bids prepared by the bidder shall comprise the following components:

I. TECHNICAL SPECIFICATIONS:

i) Detailed specifications of the Equipments/Machineries as at Section XIII.

ii) The Manufacturers should strictly adhere to the terms and conditions stipulated in the Tender Document.
iii) It is compulsory that all the Indigenous CSTRI Automatic Reeling Machinery Packages to be provided should bear serial number, embossed logo of manufacturer and specifications annexed at Section XIII of the Tender Document.

iv) The Proposed machineries / equipments is the sole property of CSTRI, CSB, Bangalore and patent rights are reserved with CSTRI, CSB, Bangalore and said equipment will be used for propagation of technology in different reeling clusters. The manufacturers who are going to be empanelled should not disclose the specifications of Automatic Silk Reeling machine / equipment to other manufacturers for their commercial exploitation. In case of disclosure of specifications, penalty as demanded by CSTRI, CSB, Bangalore will have to be paid by the defaulted empanelled manufacturers.

II. **FINANCIAL PROPOSAL**

In the financial proposal, the suppliers should quote the **UNIT PRICE**, the Insurance, Packing & Forwarding, Erection & Commissioning charges, & any Taxes extra as applicable at the time of delivery. The Unit rates are “**one and final**”. It may be noted that ambiguous price(s) quoted by the suppliers will disqualify the Bid.

6. **Period of Validity of Bids**

The price quoted by the Bidders should be **valid for a period of 24 months** from the date of opening of the tender. In exceptional circumstances, the Competent Authority may solicit the Bidder’s consent to an extension of the validity period. The request and the responses thereto shall be made in writing.

7. **Deadline for Submission of Bids**

8.1 The Bids must be uploaded in the e-procurement portal not later than 2.00 p.m. on 31.08.2020

8.2 The Competent Authority may, at its discretion, extend the last date for submission of bids.

9. **Opening of Bids**

The Purchase Committee of CSTRI will open the bids through online from e-procurement portal at 3.00 P.M. on 01.09.2020 at Central Silk Technological Research Institute, Central Silk Board, B.T.M Layout, Madivala, Bangalore - 560068.

10. **Clarification of Bids**

To assist in the examination, evaluation and comparison of bids the Competent Authority may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing and no change in the price or substance of the bid shall be sought, offered or permitted.
11. Preliminary Examination

11.1 The Purchase Committee will examine the bids to determine whether they are complete, whether any computational errors have been made, whether the documents have been properly signed, and whether the bids are generally in order. **Bids from agents without proper authorization from the manufacturer, shall be treated as non-responsive.**

11.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total prices shall be corrected. If the Bidder does not accept the correction of errors, its bid will be rejected. If there is a discrepancy between words and figures, the amount, in words will prevail.

11.3 Prior to the detailed evaluation, the Competent Authority will determine the substantial responsiveness of each bid to the Bidding Documents. For this purpose, a substantially responsive bid is one which conforms to all the terms and conditions of the Bidding Documents without material deviations. The determination of the Competent Authority of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

11.4 A bid determined as not substantially responsive will be rejected by the Competent Authority and may not subsequently be made responsive by the Bidder by correction of the non-conformity.

12. Post-qualification

12.1 The Competent Authority will determine to its satisfaction whether the Bidders who have submitted the lowest Bid have the capacity to perform the Contract fully and satisfactorily during the contract period.

12.2 An affirmative determination will be a prerequisite for award of the Contract to the Bidder. A negative determination will result in rejection of the Bidder's bid, in which event, the Competent Authority will proceed to the next lowest evaluated responsive bid to make a similar determination of that Bidder's capabilities to perform satisfactorily.

13. Award Criteria:

The Competent Authority will propose the lowest unit price or indicative price which is substantively responsive for award of contract. No representations from the suppliers are entertained against the decisions taken by the competent authority under this contract.

14 Evaluation and Comparison of Bids

14.1 The Purchase Committee of CSTRI will evaluate and compare the bids previously determined to be substantially responsive.

14.2 The Competent Authority will determine to its satisfaction whether the lowest evaluated responsive bid is competitive and is at least on par with the
prevailing market price before accepting such an offer. If not, the Competent Authority reserves the right to negotiate the unit price with the Bidder who have offered the lowest evaluated responsive bid, on par with the prevailing market price.

15. Competent Authority's right to accept any bid and to reject any or all bids

The Competent Authority reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform that affected Bidder or Bidders of the grounds for the action of the Competent Authority.

16. Contacting the Competent Authority

16.1 No Bidder shall contact the Competent Authority/Purchase Committee on any matter relating to his bid, from the time of the bid opening to the time the contract is awarded.

16.2 Any effort by a Bidder to influence the Competent Authority/Purchase Committee in the bid evaluation, bid comparison or awarding the contract, it may result in the rejection of the Bidder's bid.

17. Conclusion of Empanelment & Rate Contract including Parallel Empanelment & Rate Contract

The rate contract will be awarded to the lowest responsive bidder (L1) identified in accordance with revised public procurement (Preference to Make in India) order No. P45021/2/2017-PP(BEI) of Ministry of Commerce and Industries, Govt. of India dated 4th June-2020. However, depending on the anticipated demand of the item, location of the users, capacity of the responsive bidders, reasonableness of the prices quoted by the responsive bidders, etc. it may become necessary to Empanel more Manufacturers/Suppliers and enter into Rate Contract with the finalized L1 for the same Indigenous CSTRI Automatic Reeling Machinery Package. In this regard parallel empanelment and Rate Contract of manufacturers/suppliers located in different parts of the country will be selected as far as possible.

18. Parallel Empanelment & Rate Contract

The Competent Authority reserves right to empanel and enter into Rate Contract with more than one manufacturer/Supplier for the same Indigenous CSTRI Automatic Reeling Machinery Package in case it is observed that a single bidder does not have enough capacity to cater to the entire demand of an item which is known as Parallel Empanelment and Rate Contract. The Competent Authority is also at liberty to select manufacturers/suppliers who meet all the requirements of being empanelled and to empanel them.

19. Text of Contract
The Text of Contract means placement of contract with unambiguous and transparent terms & conditions, which have already been agreed to by both the purchaser and the supplier in black & white.

20. Amendment to Contract - Any request from the suppliers for amendment to Contract on modifications, change in terms or for any other reasons, the Competent Authority shall examine the same and take action. Any amendment to contract terms requested by the supplier have, *inter alia*, financial impact and/or technical impact and/or legal impact, the request of the supplier, shall be scrutinized on its merits to ensure that the requested amendment will not have any adverse effect on the Institute/contract terms.

21. Period of Empanelment & Rate Contract

The period of Empanelment and Rate Contract shall be for a period of **2 (Two) years** from the date of entering into Contract.

22. Contract Effective Date

The date of commencement of the obligations under the contract on the parties to a contract is referred as the contract effective date from the date of signing the contract.

23. Renewal of Empanelment & Rate Contract

The Empanelment shall be renewed with the mutual consent of both buyer and supplier for a further period of 3 months with the same terms and conditions from the date of expiry of the contract.

24. Notification of selection and award of Empanelment & Rate Contract

Prior to the expiration of the period of empanelment and Rate Contract, the Competent authority will notify the Bidders in writing by registered letter or by fax, the accepted unit price for the machines. In case of unforeseen delay in notification, the Bid validity period will be extended, which shall be acceptable to the Bidder(s). The actual supply order at the unit price selected / negotiated shall be placed though out the contract period till the last day of the contract to the approved/registered contractors by the identified beneficiaries for supply of machinery / equipment.

25. Signing of Contract:

At the same time all the successful bidders require to sign the Empanelment and Rate Contract Agreement with the accepted terms and conditions as per the Contract Form provided in the Bidding Documents, incorporating all agreements between the parties. Within 10 days of receipt of the Contract form, the successful Bidder shall sign the contract and return to the Director, CSTRI. Bangalore. If the successful bidder does not sign the contract form and Non-Disclosure Agreement provided in the Bidding documents within the stipulated date, EMD submitted by the bidder will be forfeited.
26. Changes in terms of a concluded Empanelment & Rate Contract

No variation in the terms of a concluded contract can be made without the consent of the contract holders. While granting extensions or making any other variation, the consent of the contractor shall be taken. While extensions are to be granted on an application of the contractor, the letter and spirit of the application shall be taken into consideration.

26.1 Once the names of contractors who are short-listed and empanelled along with the rates offered and accepted in respect of each Indigenous CSTRI Automatic Reeling Machinery Package along with other details will remain valid for 2 years (24 months) and same will be furnished to the identified beneficiaries/purchasers of Indigenous CSTRI Automatic Reeling Machinery Package to enable them to place orders for manufacture and supply of Indigenous CSTRI Automatic Reeling Machinery Package at the agreed rates on the terms and conditions separately entered into between the purchaser and the empanelled manufacturer identified by the supplier which is binding on both the parties.

26.2. Empanelment does not carry assured supply order. It is open to the identified purchaser to select any contractor from the empanelled list.

26.3. The contractor/manufacturer shall indemnify CSB against any third party claim arising on account of acts or omission of the manufacturer/contractor under these presents.

26.4. If the empanelled contractor fails to honour the supply orders placed by the beneficiaries and/or fail to adhere to the said rates and/or violates any of the tender terms or the terms of contract or commits any acts of omission or commission, then such contractor/manufacturer shall be informed of his acts of breach/omission/commission and will be given 15 days notice for setting right the things. If he fails to respond/fails to set right the breach, he shall be de-empanelled and de-listed who shall have no further claim against CSTRI/CSB.

27. Transportation of Equipments / Machineries through the Registered Common Carriers.

In terms of Govt. of India's instructions, the Rate Contract Holders should transport the contracted material / supplies only through registered common carriers to the final destinations of the beneficiaries as indicated in the supply order. It may please be noted that Transportation of contracted material / supplies through un-registered common carriers is construed as illegal.

28. Free Maintenance Service for Equipments & Machineries during warranty period:

The Rate Contract holders should provide free maintenance service at the places where Equipments & Machineries were installed / erected at his own cost during the period of warranty and no any additional amount will be entertained in this regard.
29. **Mode of Payment**

The identified beneficiaries shall place supply order to the manufacturers/suppliers by opening a ESCROW Account in the Nationalised Banks along with their share. The CSB/DOS share will be transferred to the ESCROW Account of Beneficiary with instructions to the Bank to freeze the amount and release the payment to the supplier as per the terms of LC.

25% beneficiary share will be released to the manufacturer within 10 days from the date of receipt of purchase order. After supply of machinery / equipments to the beneficiary, 45% CSB/DOS subsidy share will be released to the supplier through escrow account after physical inspection of all the machinery/equipments of the Automatic Reeling package at beneficiary premises by the designated inspection team. Remaining 30% payment will be released only after satisfactory running of the machinery and post dispatch inspection by the designated inspection team within two months.

30. **Providing of Serial No, Manufacturing Year and address of the supplier etc.:**

The supplier should provide Serial No. of Equipments / Machineries indicating the Name of the Machine, Month & Year of manufacture, Complete Addresses with Phone No. of manufactures etc; on the top of the machine clearly for identification purpose.

31. **Delivery Points:**

The Rate Contract Holders should supply the ordered machineries/Equipments within the stipulated time limit to the beneficiaries address indicated in the supply orders. (CIF Any where in India).
**SECTION –VI**

**GENERAL CONDITIONS OF CONTRACT (GCC)**

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<td>1</td>
<td>Application</td>
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<td>Performance Security</td>
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<td>3</td>
<td>Inspection and Tests</td>
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<td>4</td>
<td>Packing, Forwarding &amp; Delivery of Goods/Documents at the Destinations</td>
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<td>Acceptance Certificate</td>
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<td>23</td>
<td>Applicable Law</td>
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<tr>
<td>24</td>
<td>Taxes and Duties</td>
<td>23</td>
</tr>
</tbody>
</table>
GENERAL CONDITION OF CONTRACT

1. In this Contract, the following terms shall be interpreted as indicated

a. “The Contract means the agreement entered into between the Purchaser and Supplier, as recorded in the contract Form signed by the parties, including all attachments and thereto and all documents incorporated by reference therein.

b. “The Contract Price” means the price payable to the Supplier under the contract for the full and proper performance of its contractual obligations.

c. “The Goods” means all of the equipments, machinery, and/or other materials which the Supplier is required to supply to the Purchaser under the contract;

d. “Services” means services ancillary to the supply of the Goods, and or repair, operation and maintenance of the specified equipment's/installations, transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training and other such obligations of the Supplier covered under the contract;

e. “The Purchaser” means the Organization purchasing the Goods; shall mean and include The Director, CSTRI, Central Silk Board, Bangalore; &

f. “The Supplier/Contractor” means the individual or firm supplying the Goods and services under this contract.

Application:

These General Conditions shall apply to the extent that they are not superseded by provisions in other parts of the contract.

1.2 Standards:

The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and if no applicable standard is mentioned, to the authoritative standard appropriate to the Good’s and such standards shall be the latest issued by the concerned institutions.

2. Performance Security :-

Performance security should be submitted within 10 days of the receipt of notification of award from the Purchaser, the successful Bidder shall furnish the performance Security equivalent to 5% of the total Contract value, in the form of Bank Guarantee. The bank guarantee issued by any Nationalized or Foreign bank located in India shall be accepted by the Purchaser and shall be valid till three months after the expiry of the warranty period; The Bank Guarantee towards the performance security shall be drawn in favour of “Beneficiary”.

2.1 The proceeds of the performance security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier’s failure to complete his obligations under the Contract;

2.2 The Earnest Money Deposit (EMD) will be discharged within 30 days, after signing the contract form.
2.3 Failure of the successful Bidder to furnish Performance Security within the prescribed time shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event, the Purchaser may make the award to the next lowest evaluated bidder or call for new bids.

2.4 The Performance security will be discharged by the Purchaser and returned to the Supplier after three months of completion of the supply obligations, including any warranty obligations under the contract.

3. Inspection and Tests :

3.1 The Purchaser or his authorized representatives shall have the right to inspect and/or to test the Goods/services to confirm their conformity to the Contract.

3.2 The inspections and tests may be conducted at good’s final destination and/or service points specifically indicated.

3.3 Should any inspected or tested goods/services fail to conform to the specifications, the purchaser may reject them and the supplier shall either replace the rejected goods or make all alterations necessary to meet the specification requirements or services free of cost to the purchaser.

3.4 The purchasers’ right to inspect, test, where necessary reject the goods after the goods arrival at site shall in no way be limited or waived by reason of the goods having previously been inspected, tested and passed by the purchaser or its representative prior to the good’s shipment.

4. Packing, Forwarding & Delivery of Goods / Documents at the Destinations:

4.1 The Supplier shall provide packing of the Goods in such a way as to prevent their damage or deterioration during transit to their final destination of the beneficiary.

4.2 The Supplier shall ensure that the goods supplied under the contract are fully insured against loss or damage during transit upto the final destination.

4.3 Transportation of the Goods upto the final destination as specified in the Schedule of requirement shall be the responsibility of the Supplier.

4.4 Upon delivery of the goods, the Supplier shall notify the Purchaser with full details of dispatch including contract number, description of the goods supplied supported with copy of Supplier’s Invoice, Delivery Note, Railway / Transport Way-bill, Insurance certificate etc.

5. Spares:

5.1 See spare parts list for a particular machine enclosed with specification.

6. Warranty:

6.1 The Supplier warrants that the Goods supplied under the Contract are new, unused of the most recent or current models and incorporate all recent improvements in design and materials unless provided otherwise in the contract. The Supplier further warrants that the Goods supplied under this Contract shall have no defect arising from design, materials or workmanship (except insofar as the design or material is required by the Purchaser’s Specifications) or from any act or omission of the supplier, that may develop under normal use of the supplied Goods in the conditions obtaining in the country of final destination.
6.2 This warranty shall remain valid for **12 months** after the Goods, or any portion thereof as the case may be, have been delivered and commissioned to the final destination indicated in the Contract.

6.3 The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty.

6.4 Upon receipt of such notice, the Supplier shall, with all reasonable speed, repair or replace the defective Goods or parts thereof, without costs to the Purchaser.

6.5 If the Supplier, having been notified, fails to remedy the defect(s) within a reasonable period, the Purchaser may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

6.6 All replacement and repairs that the Purchaser shall call upon the Supplier to deliver or perform under this warranty shall be delivered and performed by the Supplier within 1 (one) month promptly and satisfactorily. In cases where such replacement, repair, execution and/or installation takes place during the warranty period the provision of this warranty clause shall apply to that portion to replace or renew until the expiry of 12 (twelve) months from the date of such replacement, repair, execution and/or installation. This extended period shall herein after be referred to **"Extended Warranty Period"**.

6.7 If, any defect is not remedied satisfactorily within the above mentioned 1 (one) month, the Purchaser may proceed to do the work at Supplier's risk and cost and also without prejudices to any other rights of the Supplier under this contract.

7. **Acceptance Certificate:**
7.1 On successful completion of supply and after the Purchaser is satisfied with the quality/working of the equipments, the acceptance certificate signed by both the supplier and the representative of the Purchaser shall be issued.

7.2 The date on which such certificate is signed shall be deemed to be the date of successful supply/installation of the system.

8. **Payment :**
8.1 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and services performed, and other documents, submitted and upon fulfilment of other obligations stipulated in the Contract.

8.2 Payment shall be made promptly by the Purchaser within a month of submission of an invoice/claim by the Supplier.

9. **Maintenance Service :**
9.1 Free maintenance service shall be provided by the supplier during the period of warranty.

10. **Prices**
Prices charged by the supplier for the goods delivered and service performed under the contract shall not vary from the prices quoted by the supplier in its bid.

11. **Change Order**
Purchaser may at any time by a written Order given the supplier make changes within the general scope of the contract in any one or more of the following:

   (a) drawings, designs, or specifications where goods to be furnished under the contract or to be specifically manufactured for the purchaser

   (b) the method of shipment or packing
(c) the place of deliveries

(d) the services to be supplied by the supplier.

(e) if any such change, causes an increase or decrease in the cost of, or the time required for, the supplier's performance or any part of the work under the contract whether changed or not changed by the order, an equitable adjustment shall be made in the contract price or delivery schedule or both, and the contract shall accordingly be amended. Any claims by the supplier for adjustment under this clause must be asserted within 30 days from the date of supplier's receipt of the purchaser's change order.

12. Contract Amendments

Subject to the above clause, no variation in/or modification of the terms of the contract shall be made except by written amendment signed by the parties.

13. Assignment

The Supplier shall not assign, in own or in part, its obligation to perform under the contract, except with the purchaser's prior written consent.

14. Sub-Contract

The supplier shall notify the purchaser in writing of all sub-contracts awarded under the contract, if not already specified in his bid. Such notification in his original bid or later shall not relieve the supplier from any liability or obligations under the contract.

15. Delays in the Supplier's Performance

15.1 Delivery of the Goods and/or performance of Services shall be made by the Supplier in accordance with the time schedule specified by the Purchaser in the schedule of requirements.

15.2 An unexcused delay by the Supplier in the performance of its delivery/service obligations shall render the Supplier liable to any or all the following sanction; forfeiture of its performance security, imposition of liquidated damages and/or termination of the Contract for default.

15.3 If at any time during performance of the contract, the supplier or its sub-contractor(s) should encounter the conditions, impeding timely delivery of the goods and performance of service, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration and its cause(s) as soon as practicable after receipt of supplier's notice, purchaser shall evaluate the situation and may at its discretion extend the supplier's time and performance, in which case, the extension shall be ratified by the parties by amendment of the contract.

16. Liquidated Damages:-

16.1 Subject to Force majeure, if the Supplier fails to deliver any or all of the Goods or within the time period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to 0.5% of the delivered price of the delayed Goods or unperformed Services for each week of delay until actual delivery or performance, up to a maximum deduction of 10% of the delayed Goods or Services from the contract price. Once the maximum is reached, the Purchaser may consider termination of the Contract.

17. Termination for default:-

17.1 The Purchaser may, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, terminate the Contract in whole or in part.
(a) If the Supplier fails to deliver any or all the Goods/services within the time period(s) specified in the Contract, or any extension thereof granted by the Purchaser.

(b) If the Supplier fails to perform any other obligations(s) under the Contract.

17.2 In the event the Purchaser terminates the Contract in whole or in part, pursuant to above, the Purchaser may procure, such terms and in such manner as it deems appropriate, Goods/services similar to those undelivered, and the Supplier shall be liable to the Purchaser for any excess costs for such similar Goods/services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

18. **Force Majeure**

18.1 Notwithstanding the provisions of “Delays in the Supplier’s performance, Liquidated damages, Termination for Default”, the Supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

18.2 For purposes of this clause, “Force Majeure” means an event beyond the control of the Supplier and not involving the Supplier’s fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of the Purchaser either in its sovereign or Contractual capacity, or revolutions, Acts of God, i.e., earthquake, fires, floods, epidemics, quarantine restrictions and freight embargoes.

18.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform his obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

19. **Termination for Insolvency:**

19.1 The Purchaser may at any time terminate the contract by giving written notice to the supplier, without compensation to the Supplier, if the Supplier becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Purchaser.

20. **Termination for Convenience:**

20.1 The Purchaser, may by written notice sent to the Supplier, terminate the contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser’s convenience, the extent to which performance of work under the contract is terminated, the date upon which such termination becomes effective.

20.2 The Goods that are complete and ready for shipment within 20 days after the Supplier’s receipt of notice of termination shall be purchased by the Purchaser at the contract terms and prices. For the remaining Goods, the Purchaser may elect:

(a) To have any portion completed and delivered at the Contract terms and prices, and/or

(c) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and for materials and parts previously procured by the Supplier.
21. **Resolution of Disputes:**

21.1 The Purchaser and the Supplier shall make every effort to resolve all the disputes amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

21.2 If even after thirty (30) days from the commencement of such informal negotiations, the Purchaser and the Supplier have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution, the same can be referred to a common arbitrator acceptable to both the parties.

22. **Notices:**

22.1 Any notice given by one party to the other pursuant to the Contract shall be sent in writing or by telegram or fax and confirmed in writing to the address specified for that purpose.

22.2 A notice shall be effective when delivered or on the notice’s effective date, whichever is later.

22.3 For the purpose of all notices, the following shall be the address of the Purchaser and Supplier:

   **Purchaser:** The selected beneficiary

   **Supplier:** (To be filled-in at the time of Contract signature)

23. **Applicable Law:**

23.1 The Contract shall be interpreted in accordance with the Indian Law.

24. **Taxes and Duties:**

24.1 The Supplier shall be entirely responsible for all taxes, etc, incurred until delivery of the Contracted goods/service to the Purchaser.
SECTION – VII

BID FORM

CAPACITY AND PRICE SCHEDULES

CONTRACT NO.: CSB/CSTRI/ DATE

To:

The Director,
Central Silk Technological Research Institute,
Central Silk Board,
B.T.M Layout, Madivala,
Bangalore - 560 068

Sir,

Having examined the Bidding Documents including Addenda Nos. CONTRACT NO.: CSB/CSTRI/ , the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply the machineries to the destinations indicated in the schedule of requirements in conformity with the said Bidding Documents for the sum of (Total Bid Amount in Words and Figures) or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this bid.

We undertake, if our bid is accepted, to commence delivery within (Number) days and to complete delivery of all the items specified in the Contract within (Number) days calculated from the date of receipt of your Notification of Award/Letter of Credit.

If our bid is accepted, we will obtain the guarantee of a bank for a sum of _________ of the Contract Price for the due performance of the Contract.

We agree to abide by this bid for a period of _______ days from the date fixed for bid opening under Clause 15 of the Instructions to Bidders and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal contract is prepared and executed, this bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us. We certify that we have the following capacities per annum in our firm.

1.

2.

We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this___________ day of________________________ 2018

Signature (In the Capacity of )

Duly Authorized to sign the bid for and on behalf of
### SECTION –VIII

**Price Schedule for the items to be supplied under Rate Contract**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item Description</th>
<th>Qty</th>
<th>Price for Each unit</th>
<th>TOTAL PRICE (a+b+c+d)</th>
<th>Details of GST</th>
<th>Custom Excise Duty</th>
<th>GRAND TOTAL (5+7)</th>
</tr>
</thead>
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</tbody>
</table>

- **Ex-factory /Ex-warehouse/Ex-showroom off the shelf**
- **Packing & Forwarding**
- **Insurance**
- **Errection & Commissioning**
- **(a)**
- **(b)**
- **(c)**
- **(d)**

**PLEASE SEE THE DETAILS OF MACHINERY / EQUIPMENT IN PAGE NO.31 & 50**

Total bid price should be in Indian Rupees

Note:

1) In case of discrepancy, between unit price & total price, the unit price would be considered

2) In addition to the above, all bidders, must also provide in the bid the item wise cost breakup with reference to items as given in the technical specification, with sufficient details

Place:
Date:

Signature of the bidder
Business address

Manufacturers can quote for all or any one of the equipments/machinery as per the price schedule. While quoting the whole package it is essential to quote prices of all individual equipment / machineries.
SECTION – IX

CONTRACT FORM

NAME OF THE BIDDERS ________________________

This Agreement made on this ____________ day of ____________ _____ 20____ Between the (Name and address of the Purchaser) of (hereinafter called "the Purchaser") of the one part and (Name and address of Supplier) of (hereinafter called “the Supplier”) of the other part:

WHEREAS the Purchaser is desirous that certain Goods and ancillary Services should be provided by the Supplier, viz, (Brief Description of Goods and Services) and has accepted a bid submitted by the Supplier for the supply of those Goods and Services in the sum of (Contract Price in Words and Figures) (hereinafter called “the Contract Price”)

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS :

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.

2. The following documents shall be deemed to form and be read and construed as a part of this Agreement, viz. :
   (a) the bid Form and the Price Schedule submitted by the Bidder ;
   (b) the schedule of Requirements ;
   (c) the technical specifications ;
   (d) the General Conditions of the Contract ;
   (e) the Purchaser’s Notification of Award

3. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Purchaser hereby covenants to pay the Supplier in consideration of the provisions of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

5. Brief particulars of the Goods and Services which shall be provided by the supplier are as under:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Brief Description of Goods/Services</th>
<th>Quantity to be supplied</th>
<th>Unit Price</th>
<th>Delivery Terms (CIF/CFR/FOB/FCA/ETC.)</th>
</tr>
</thead>
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<tr>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Value :

Delivery Schedule :

IN WITNESS whereof the parties hereto have made this Agreement to be executed in accordance with their respective laws the day, month and year first above written.

Signed, Sealed and Delivered by the said ________________________ (For the Purchaser)in the presence of : ______ Signed, Sealed and Delivered by the said _
SECTION – X

MANUFACTURERS’ AUTHORIZATION FORM (MAF)

No. Date:

To

Dear Sir, BID NO.

We, ………………………………… who are established and reputable manufacturers of …………… having factories at ……………………… and ……………………… do hereby authorize M/s………………………….to bid, negotiate and conclude the contract with you against the above Bid.

We hereby extend our full guarantee and warranty as per clause 7 of the General Conditions of Contract for the Equipments/Goods and services offered against this invitation for bid by the above form.

Yours faithfully

For and on behalf of

Note: This letter of authority should be on the letter head of the manufacturing concern and should be signed by a person competent and having the power of attorney to bind the manufacturer.
SECTION – X1

NON-DISCLOSURE AGREEMENT TO BE SIGNED BY THE BIDDER (NDC)

To…………………………………….(Name of Purchaser) ………………………………………

WHEREAS …………………………………….(Name of supplier……………………………………
Herein after called “the Supplier” has undertaken, in pursuance of Contract No.
……………………….. Dated ……………………….. to supply (Description of goods and services)
hereinafter called “the Contract”.

AND WHEREAS it has been stipulated by you in the said Contract that the
Supplier shall furnish you with a Non-disclosure Agreement for compliance by the
Supplier in accordance with the contract.

AND WHEREAS we agreed to sign the Non-disclosure Agreement :

THEREFORE, WE hereby affirm that we read and understood all the terms and
conditions of the Tender Document for fabrication and supply of Indigenous
CSTRI Automatic Reeling Machinery Package. We shall fabricate the said
Indigenous CSTRI Automatic Reeling Machinery Package as per your technical
specifications and suggestions. We confirm that the proposed Machineries /
equipments is the sole property of CSTRI, CSB, Bangalore and Patent Rights
are reserved with CSTRI, CSB, Bengaluru and the said equipment will be used
for propagation of technology in the different reeling clusters. We shall not
disclose the specifications of Silk Reeling Machine /equipment to other
manufacturers for their commercial exploitation.

This Agreement is valid until the ……………………………. Day of
……………………………….. 20____

Signature and Seal of Supplier DIRECTOR

…………………………………………………….. CSTRI, Bangalore

……………………………………………………..

In presence of

1.
2.

SECTION – XII

TECHNICAL DEVIATION STATEMENT FORM (TDSF)

1. The following are the particulars of deviations from the requirements of the tendered specification.

<table>
<thead>
<tr>
<th>Clause</th>
<th>Deviation</th>
<th>Remarks (Including Justification)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

furnished in the bidding document shall prevail over those of any other document forming a part of our bid, except only to the extent of deviations furnished in this statement.

[Signature and Seal of the Manufacturer/Bidder]

Date :

Note : Where there is no deviation the statement should be returned duly signed with an endorsement indicating "No Deviations".
1. The following are the particulars of deviations from the requirements of the tender specifications:

<table>
<thead>
<tr>
<th>Clause</th>
<th>Deviation</th>
<th>Remarks (Including Justification)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[Signature and Seal of the Manufacturer/Bidder]

Date:

Note: Where there is no deviation the statement should be returned duly signed with an endorsement indicating “No Deviations”.
SECTION XIV
SCHEDULE OF REQUIREMENT UNDER SILK SAMGRAH PLAN PERIOD
(YEAR 2017-2021)
CSTRI Automatic silk reeling machinery package (400 ends)

<table>
<thead>
<tr>
<th>#</th>
<th>Components required for each package</th>
<th>Quantity in Nos / Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Conveyor hot air drier with hot air generator- 2000 Kg per day</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Cocoon Deflossing machine (Peeling machine)</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Vacuum permeation pre-treatment equipment for cocoon cooking (Vacuum permeating machine)</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Conveyor cocoon cooking machine (80 Cages)</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Automatic silk reeling machine 400 ends capacity with two mechanical brushing units.</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Automatic reel permeation chamber (Silk Humidifier)</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Closed type re-reeling machine 40 window capacity - 1 No. Or 20 window capacity 2 no.</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Accessories</td>
<td>1 set</td>
</tr>
<tr>
<td>9</td>
<td>Tools of Automatic reeling machine</td>
<td>1 set</td>
</tr>
<tr>
<td>10</td>
<td>Special tools</td>
<td>1 set</td>
</tr>
<tr>
<td>11</td>
<td>Spare parts for 2 years</td>
<td>1 set</td>
</tr>
<tr>
<td>12</td>
<td>Bale press</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>Skein winder</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>Pelade waste sheet making and pupae separation machine</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>Hydro extractor (45 Kg capacity)</td>
<td>1</td>
</tr>
<tr>
<td>16</td>
<td>Reel carrier</td>
<td>4</td>
</tr>
<tr>
<td>17</td>
<td>Generator (50 KVA capacity)</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>Water softening plant 20000 litres / 8hour</td>
<td>1</td>
</tr>
<tr>
<td>19</td>
<td>IBR Boiler of 1000 Kg steam output per hour</td>
<td>1</td>
</tr>
</tbody>
</table>
SECTION – XV TECHNICAL SPECIFICATION

Automatic silk reeling machinery package (400 ends)
1. SPECIFICATIONS FOR CONVEYOR HOT AIR DRIER WITH HOT AIR GENERATOR (2000 Kg/Day) – 1 No.

Automatic conveyor hot air drier having capacity to dry 2000 Kg cocoons per day (24 hours) shall be supplied. Automatic conveyor hot air drier consists of two parts viz., Hot air generator and Conveyor drying chamber having four bands.

The hot air generator made up of MS material consisting of forced draught fan, induced draught fan, chimney for exhaust and dust collector. The hot air is generated by burning firewood / charcoal / briquettes as fuel.

The conveyor-drying chamber shall be constructed using L angles and MS channels. Powder coated GI sheet/ CR sheets with heat resistance aluminum coating shall be used for manufacturing the drier. The drier shall be insulated for thermal loss using glass / mineral wool or any other insulating suitable material.

The conveyor hot air drier consists of four bands having facility to maintain different temperatures uniformly in the four bands. The drier consists of feeding part for feeding the cocoons uniformly (1 to 2 layer thickness depending upon the requirement) and automatic delivery part to collect the dry cocoons in bags. The maximum temperature in the top band of the drier shall be 120°C to 130°C. Further, 105°C to 115°C, 90°C to 100°C and 70°C to 80°C temperatures are to be maintained in the second, third and fourth bands (from top to bottom of the drier) respectively. Conveyor drier shall be attached with speed controller to regulate the drying duration and thermo couples to regulate the temperatures.

Both conveyor drier and hot air generator shall have controls to operate the machine and to set the required temperatures in the drier. Suitable safety measures should be provided wherever it is essential.

The motors provided for the drier shall be of ISI make.

It is to be noted that since the machine is manufactured for the first time in the country, CSTRI reserve the rights to do the minor modifications in the specifications in the process of fabrication of machine without affecting the cost of equipment.
The detailed specifications and drawings of the drier are as follows:

**TECHNICAL SPECIFICATIONS OF CONVEYOR COCOON DRIER**

<table>
<thead>
<tr>
<th>SI No.</th>
<th>DESCRIPTION</th>
<th>SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. GENERAL SPECIFICATION:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Raw materials to be Dried</td>
<td>Silk worm cocoons</td>
</tr>
<tr>
<td>2</td>
<td>Feeding rate</td>
<td>2000 kg green cocoons per day (24 Hr)</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Moisture Removal</td>
<td>1200 Kg per day</td>
</tr>
<tr>
<td>5</td>
<td>Type of Dryer</td>
<td>Continuous (Conveyor) type – 4 Band Conveyor</td>
</tr>
<tr>
<td>6</td>
<td>Size of the conveyor Dryer (including cocoon feeding part) (Following figure)</td>
<td>13m (Length) X 3m (Width) X 2.5m (Height)</td>
</tr>
<tr>
<td>7</td>
<td>Drying Period</td>
<td>4-5 hours@ conveyor speed of 0.12 m/min</td>
</tr>
<tr>
<td>8</td>
<td>Max. Air Temperature</td>
<td>130° C</td>
</tr>
<tr>
<td>9</td>
<td>Ambient temperature considered</td>
<td>30° C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. DRYING CHAMBER:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Chamber Size (Following figure)</td>
<td>8m (Length) X 3m (Width) X 2.5m (Height) With Feeding part 5.0 m(length) with inclination (As shown in the drawing)</td>
</tr>
<tr>
<td>11</td>
<td>Chamber Construction</td>
<td>20 SWG G.I Sheet - Double Walled construction. Further powder coated GI sheet / CR sheet with heat resistance Aluminium coating shall be used for chamber construction. Structure is fabricated using L angle of 60 X60 X 5mm and MS channel of 75 X 40 X 6mm.</td>
</tr>
<tr>
<td>12</td>
<td>Thermal Insulation</td>
<td>40mm thickness Mineral wool</td>
</tr>
<tr>
<td>13</td>
<td>Insulated door</td>
<td>4 Nos. to be provided</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. HEATING SYSTEM (Hot Air Generator) :</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Hot air generator for Heating System (Figure 1)</td>
<td>The hot air generator made up of MS material consisting of forced draught fan, induced draught fan, chimney for exhaust and dust collector. Hot Air Generator using Wood (Fired) as a fuel, The dimensions of the hot air generator are as shown in drawings.</td>
</tr>
<tr>
<td>15</td>
<td>Forced Draught Fan</td>
<td>15.0 HP, Air output capacity of 7500</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>16</td>
<td>Induced Draught Fan</td>
<td>3.00 HP, Air output capacity of 3000 CFM (Cubic feet per minute)</td>
</tr>
<tr>
<td>17</td>
<td>Hot air Distribution</td>
<td>Through Ducts and Dampers controller</td>
</tr>
<tr>
<td>18</td>
<td>Temperature measurement</td>
<td>Thermocouple sensor - 4 Nos.</td>
</tr>
<tr>
<td>19</td>
<td>Cyclone Dust collector</td>
<td>To be provided</td>
</tr>
</tbody>
</table>

4. CONVEYOR:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Conveyor Length</td>
<td>80 meter (4 Band), Conveyor belt is made up of 6mm x 6mm, square woven having SS wire diameter of 0.5 mm</td>
</tr>
<tr>
<td>21</td>
<td>Loading conveyor</td>
<td>5m (Length) x 2m (width)</td>
</tr>
<tr>
<td>22</td>
<td>MOC of Conveyor belt</td>
<td>Stainless steel wire Mesh, 6mm X 6mm square woven having wire diameter of 0.5 mm.</td>
</tr>
<tr>
<td>23</td>
<td>Exhaust Blower (with damper arrangement) for sucking the moisture from drier and throwing it out. (Figure 2).</td>
<td>3.00 HP, Air suction capacity of 2000 CFM (Cubic feet per minute)</td>
</tr>
<tr>
<td>24</td>
<td>Conveyor speed</td>
<td>0.12 m/min</td>
</tr>
<tr>
<td>25</td>
<td>Conveyor drive</td>
<td>1.5 HP geared motor with 0.25 m/min max output – 2 Nos. 3 HP</td>
</tr>
<tr>
<td>26</td>
<td>Delivery drive</td>
<td>2 HP geared motor with 0.25 m/min max output</td>
</tr>
<tr>
<td>27</td>
<td>Speed Adjustment</td>
<td>By VFD drive</td>
</tr>
</tbody>
</table>

5. UTILITIES:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>Total Space Required</td>
<td>17m (Length) X 5m (Width) X 2.5m (Height)</td>
</tr>
<tr>
<td>29</td>
<td>Electric Power</td>
<td>415 V, 50 Hz, 3Phase</td>
</tr>
<tr>
<td>30</td>
<td>Fuel</td>
<td>Wood Fired</td>
</tr>
<tr>
<td>31</td>
<td>Total power requirement</td>
<td>26 HP (Forced Draught Fan - 15 HP + Induced draught fan -3 HP + Exhaust Fan -3 HP + Conveyor Drive 3 HP + Delivery -2HP)</td>
</tr>
</tbody>
</table>

6. ELECTRICAL CONTROL PANEL:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>The control panels will have controls for blower motors, Exhaust motor and Conveyor drive motors and temperature inside the drier.</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Temperature indicating meters to be mounted on this panel with digital display.</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Suitable safety measures should be provided wherever it is essential.</td>
<td></td>
</tr>
</tbody>
</table>
Fig. 1. Hot air generator for automatic conveyor hot air drier
Fig. 2. Assembly drawing of Automatic conveyor hot air drier

CONVEYOR HOT AIR DRIER WITH HOT AIR GENERATOR (2000 Kg)
2. SPECIFICATIONS FOR DEFLOSSING MACHINE – 1 No.
The machine is used for peeling off floss from cocoon outer layer.

Main Specification:
Linear speed of peeling belt: 3.8m/s

Motor power: 1.5 KW (1450 rpm)

Dimension (L*W*H): 850*700*1250mm

Weight: 200 kg (around)

Capacity: 40-60 kg/hour

Peeling ratio: Approximately 95% for spring cocoons, approximately 91% for summer or autumn cocoons.
3. SPECIFICATIONS FOR VACUUM PERMEATING MACHINE- 1 No.

The vacuum permeating machine is pre-treatment equipment for cooking cocoons; it makes cocoons absorb moisture fully by vacuum permeating. The machine is an important complete set for cocoon cooking machine with uniform permeating, full absorption, low sericin dissolution, low dropping ends and low thread fault.

Main Specification:
Capacity of vacuum barrel: 20 kg dry per time (spring cocoon
16 kg per time (summer or autumn cocoon)
Inner diameter of vacuum barrel: 950 mm
Power of two vacuum pumps: 5.5 KW,3.0 KW
Speed of vacuum pump: 70 L/s
Every treatment time: 3-10 min.
Volume of steam and water separator: 0.3 m³
Control model of water level: Ball valve

COCOON VACUUM PERMEATING MACHINE
4. SPECIFICATIONS OF COCOON COOKING MACHINE (80 CAGES) – 1 No

The specifications of CSTRI conveyor cooking machine are as follows:
The conveyor cooking machine consisting of 80 cages capacity shall consist of eight zones and each zone is maintained at following temperature profiles.

<table>
<thead>
<tr>
<th>Cooking Zone</th>
<th>Temp.(°C)</th>
<th>Cooking Zone</th>
<th>Temp.(°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Zone (Water)</td>
<td>40°C – 50°C</td>
<td>5th Zone (Steam)</td>
<td>94°C – 98°C</td>
</tr>
<tr>
<td>2nd Zone (Water)</td>
<td>40°C – 50°C</td>
<td>6th Zone (Water)</td>
<td>60°C – 70°C</td>
</tr>
<tr>
<td>3rd Zone (Steam)</td>
<td>98°C – 100°C</td>
<td>7th Zone (Water)</td>
<td>45°C – 55°C</td>
</tr>
<tr>
<td>4th Zone (Water)</td>
<td>98°C – 100°C</td>
<td>8th Zone (Water)</td>
<td>40°C – 45°C</td>
</tr>
</tbody>
</table>

Main Specifications:

Stainless steel cocoon cooking machine is cooking equipment suitable for automatic silk reeling machine. Cocoons are permeated outside and cooked inside the machine.

1. It should have large technology adjustment scope.
2. The twin cages should increase cocoon capacity by 20%.
3. It should adjust difference in temperature manually. Main Specification:
   No. of cages: 80
   Model of cages: twin cages
   Width: in internal slot : 640 mm
   Drive mechanism: Double-chain back and forth transmission with reduction gear.
   Motor power: 1.1Kw step less variable drive
   Capacity of cooked cocoon: 34 - 80 (dry cocoons) Kg/hour
   Overall dimension (L*W*H): 9810 x1100 x1750 mm
   Weight: 2.2 Tones
5. SPECIFICATION OF AUTOMATIC SILK REELING MACHINE (400 Ends) - 1 No.

Automatic silk reeling machine is used for reeling bivoltine white cocoons, the following denier of the silk 16/18 to 28/32 denier raw silk.

Fabrication of Automatic Silk Reeling Machine of 400 ends (Double deck-10 basins/deck) capacity with two mechanical brushing units attached to the machine.

The proposed Automatic silk reeling machine consists of
i. 20 ends per basin and Appropriate thread passage.
ii. Tension loaded effective individual reel stop motion, which works in synchronization with reeling buttons and denier detector.
iii. Automatic denier detecting and Mechanical correction mechanism consists of
a. Denier indicator for continuous detecting the denier and denier correction mechanism by Mechanical casting of cocoons.
b. Simultaneous denier adjustment apparatus for performing the function of adjusting the friction between the denier indicator and raw silk in order to meet the targeted average denier whenever there is a change in cocoon filament denier, cooking conditions, reeling speeds etc.,
iv. Variable speed drive for maintaining the required reeling speed
v. Planetary gear type threads distribution system
vi. Suitable to produce finer and medium denier raw silk
vii. Machine can produce 140 ~ 150 gm of raw silk per end per shift of eight hours depending on denier of raw silk produced.

Main specification:
Raw materials: length of non-broken cocoon filament 500 m

Size: 20/22D (23.3dtex)

Silk production capacity: 18 g/end/hour

Weight: 15 Tones (around)

Dimensions (mm): 400 ends, 27936 x 3326 x 1816 mm

The quality of the machine and materials should be such that the life of the machine shall be minimum 10 years.

The whole automatic reeling machine package should be capable of producing raw silk up to 4A grade with good quality bivoltine hybrid cocoons.
6. SPECIFICATIONS OF SMALL REEL PERMEATION
CHAMBER (REELED SILK HUMIDIFIER) – 1 No.

The small reel permeation chamber (reeled silk humidifier) is used for humidifying raw silk under vacuum condition to ensure silk in even humidifying, low breakage, high re- reeling capacity and good silk shape.

Main specification:
Model: 12
strings
Drum holding capacity: 120 reels/ 12
strings Model of reel feed: string feed
separately Drum inner diameter: 1200 mm
for 12 strings Drum depth: 1400 mm

Liquid level: 1200 mm
Drum cover opening mechanism: screw mechanism

Motor Power: 3.2 KW

Overall dimension: high 5150 mm diameter 1600 mm

Weight: 0.75T

SMALL REEL PERMEATION CHAMBER (REELED SILK HUMIDIFIER)
7. SPECIFICATION OF RE-REELING MACHINE (40 WINDOWS) – 1 No. Or 20 WINDOWS – 2 Nos.
Re-reeling machine is mechanical equipment drying the silk from the reel and re-reeling it into the grand reel with certain specification (1.5 meter circumference)
Main Specification:
Layout: Bilateral, horizontal reel with 40 units/set, 5 end per unit, the unit length is 850 mm, and the gauge of ends is 110 mm
Grand reel speed: 140 – 200 rpm
Reed width: 70 - 90mm
Production capacity per unit (20/22D): 250 to 300 gm/end/8 hrs. No. of operators (40 units): 1 person
Motor power: 2.2 KW
Overall dimension (L*W*H): 18200*1350*1250 mm
Weight: 3600 kg (around)

RE-REELING MACHINE

8. ACCESSORIES- 1 Set
All required accessories for the entire Automatic silk reeling machinery package shall be provided for effective running of the machinery.
9. TOOLS FOR ARM MACHINE- 1 Set

10. SPECIAL TOOLS- 1 Set
11. SPARES FOR ARM MACHINERY PACKAGE – 1
Set
All required spare parts for the entire Automatic silk reeling machinery packages, which may be worn out frequently and required for continuous running of the machinery package for a period of 2 years shall be provided.

12. SPECIFICATION OF BALE PRESS - 1
No.
Bale Press for silk yarn is a specialized equipment for the silk reeling industry, it packs the long skeins with regular No. and in good order under the press.
Main specification:
Motor power:
3Kw Speed:
1420 rpm
Lifting and falling motion: screw rod
T40x8

Speed of lifting rod: 21mm/s (with load) 23 mm/s (without load) Height of lifting rod: 135 mm (with load) 180 mm (without load) Box structure: Inner width: 130 mm Inner length: 656 mm

Height before pressure: 240± 2mm
Height after pressure (with load): 115±1mm
Opening the cover: by hand
Capacity: 4 bundles/hour (5.00 kg bundles)

13. SPECIFICATION OF SKEIN WINDER- 1 No.
It is used for winding the skein before baling.
14. SPECIFICATION OF SHEET MAKING AND PUPAE SEPARATION MACHINE- 1 No.,

The sheet making machine is used to produce silk sheet from the pelade layers of the reeled out cocoons and separate the pelade waste. The machine consists of SS drum of 83” circumference (26.5” diameter) and length of 31”. The surface of the drum shall be rough to pick the silk filaments from the pelade layer cocoons. The SS drum is run by a motor of 3 phase, 440 volts, 4 KW.

The dimensions of the machine are length 36” x depth 36” and 41” height. The chemical is sprayed through the water jet having 1’ diameter pipe with perforations through chemical treated water tank placed at a height of 15’ with suitable arrangements on the roof having 200 litres capacity.

The production capacity of the machine is 30 – 50 sheets/8 hour and each sheet weight shall be 900 g to 1 kg.
15. SPECIFICATIONS OF HYDROEXTRACTOR - 1 No.
It is used for removing water from by-products (such as silk waste, pelade waste, pupa un-reelable cocoons and so on).
The diameter is from 800 to 1500 mm, it has nice appearance and high efficiency.
Main specification:
Diameter of inner: 600 mm
Height of inner: 300 mm
Speed of inner: 960 r/min. Motor power: 2.2 Kw Capacity: 45 kg.
Overall dimension (L*W*H): 1250*1250*700 mm
Weight: 450 kg.

16. SPECIFICATION OF REEL CARRIER- 4 Nos.
It is used for carrying the reels with full skein to vacuum reeled silk humidifier

![Image of Reel Carrier]

17. SPECIFICATIONS FOR GENERATOR
50 KVA Capacity, 3-phase, 440 Volts, 50 cycles Power Generator with Double contactor Automatic mains failure panel with Microprocessor control.
Generator shall have in built standard safety features and generator shall plied with Acoustic enclosure and Silencer. Generator shall meet the latest Central Pollution Control Board emission norms. This Generator is to be supplied for 400 ends capacity Automatic silk reeling machinery package.
18. SPECIFICATIONS FOR WATER SOFTENING PLANT OF 20000 LITER PER EIGHT HOUR CAPACITY

Water softener to soften the water capable of softening 20000 litres per 8 hour. The water should be softened from 800 ppm to less than 10 ppm hardness. The water softener shall be recharged every 80,000 litres.

1 HP motorized pump with starter shall be provided along with the softener.

19. IBR BOILER 1000 Kg CAPACITY:

The semi automatic horizontal fire tube coal / wood fired boiler having steam output of 1000 Kg/hr and maximum operating pressure of 10.50 Kg/cm² as per Indian Boiler Regulations –1950 and its latest amendments. Evaporation from and at 100° C.

**SPECIFICATION**

S:

- EVAPORATION CAPACITY = 1000 Kg / Hour steam output
- WORKING STEAM PRESSURE = 10.5 Kg / cm²

The boiler design, Material used for manufacturing of the boiler and safety measures shall be as per the Indian Boiler Regulations –1950 and its latest amendments.

**SCOPE OF SUPPLY:**

Main parts of the boiler consists of

- Pressure chamber-Steam generator with internal furnace
- Smoke box front & rear
- ID fan with motor
- Mobrey with control panel & pressure switch

The main equipment shall be made in three compartments namely smoke box front, steam generator with internal furnace and smoke box rear with provision for fixing ID fan & hood. The smoke boxes are provided at the both ends of the steam generator. These smoke boxes are factory refractory lined and welded to the pressure chamber. An internal furnace is provided in the pressure chamber, which is lined with fire bars over which the firewood / briquettes are loaded for firing. The steam generator is provided with nozzles for fixing boiler mountings.

The boiler shall be a two pass dry back design with an ID fan provided at the rear side to ensure optimum draft in the boiler. A damper is provided at the stack for controlling the flow of the exhaust gases.

A pre-wired control panel with automatic water level controller (mobrey) shall be provided as standard accessory along with pressure switch to control the level of water and the pressure in the boiler. The pressure switch regulates the ID fan through the control panel where the required pressure for the boiler will be preset.
The boiler shall be insulated with rock wool & finished with aluminium cladding to avoid heat loss and save on the fuel consumption.

A pressure reducing station of standard make is included as part of standard accessories.

### STANDARD ACCESSORIES

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>DESCRIPTION</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vertical multistage feed water pump coupled with motor mounted on base frame</td>
<td>2Nos.</td>
</tr>
<tr>
<td>2</td>
<td>Feed check valve with feed pipe</td>
<td>2Nos</td>
</tr>
<tr>
<td>3</td>
<td>Water level indicator with drain cock and gauge</td>
<td>2 Set</td>
</tr>
<tr>
<td>4</td>
<td>Blow down valve with pipe</td>
<td>1 No</td>
</tr>
<tr>
<td>5</td>
<td>Spring loaded safety valve single post</td>
<td>2 Nos</td>
</tr>
<tr>
<td>6</td>
<td>Pressure gauge with siphon</td>
<td>1 No</td>
</tr>
<tr>
<td>7</td>
<td>Main steam stop valve</td>
<td>1 No</td>
</tr>
<tr>
<td>8</td>
<td>Fusible plug</td>
<td>1 No</td>
</tr>
<tr>
<td>9</td>
<td>Air vent valve</td>
<td>1 No</td>
</tr>
<tr>
<td>10</td>
<td>Ladder and platform</td>
<td>1 Set</td>
</tr>
<tr>
<td>11</td>
<td>Fire bars and Support bars</td>
<td>1 Set</td>
</tr>
<tr>
<td>12</td>
<td>ID fan with motor</td>
<td>1 No</td>
</tr>
<tr>
<td>13</td>
<td>Pressure switch for high pressure cut off</td>
<td>1 No</td>
</tr>
<tr>
<td>14</td>
<td>Electrical Control Panel</td>
<td>1 No</td>
</tr>
<tr>
<td>15</td>
<td>IBR approved mobrey controller</td>
<td>1 No</td>
</tr>
<tr>
<td>16</td>
<td>Pressure reducing station</td>
<td>1 Set</td>
</tr>
<tr>
<td>17</td>
<td>Chimney 400mm Dia &amp; 40ft length</td>
<td>1 Set</td>
</tr>
<tr>
<td>18</td>
<td>Rock wool Insulation with Aluminium cladding</td>
<td>1 Set</td>
</tr>
<tr>
<td>19</td>
<td>Duct connection from boiler to ID fan to chimney</td>
<td>6 mtr</td>
</tr>
</tbody>
</table>

### MATERIAL OF CONSTRUCTION:

The boiler shall be manufactured as per the IBR approved drawing. The pressure chamber shall be manufactured from boiler quality plates confirming to SA516 Grade-70 and tubes confirming to BS3059 1987 part -IWR320. The shell & furnace shall be fabricated out of 10mm thick IBR plates and tube plates out of 16mm thick plates. The tubes are 3.66 mm thick. All bought out components shall be of reputed make with IBR approvals where ever applicable.

The fire box & smoke box shall be fabricated out of MS plates and factory lined with refractory to reduce work on site and enable the boiler to be installed in the minimum time.

The chimney shall be fabricated from 5mm thick MS plates in sections of 10ft with flanges and rungs for climbing. The chimney shall be sand blasted and painted with high temperature resistance paint for longer life.

### IBR FORMALITIES FOR MANUFACTURER

- Boiler manufacturing license (copy) from Department of Boilers to be provided.
- Every boiler to be accompanied by an IBR folder prepared in the format prescribed by Department of Boilers & counter signed by the Director of Boilers.
- The IBR folder to contain all material certificates endorsed by the Department of Boilers.
- Every boiler should be embossed with the license number & seal of Department of Boilers.
BATTERY LIMITS:
WATER
Suction of feed water pump
Blow down valve
Gauge glass drain cock
Automatic water level controller
POWER
Pump motor, terminal point
STEAM
Steam stop valve
Safety valve to atmosphere
EXCLUSIONS:
The following job / supply is excluded from our scope.
1. Any civil work or structural inside the boiler house.
2. Supply or erection of water or fuel storage tanks.
3. Water, steam and power connections from and to our battery limits.
4. Dust Collection System.
5. Duct connections from ID fan to Chimney exceeding our standard supply.
6. Any other work not specifically mentioned in our scope of supply.
7. Transportation, unloading, shifting to boiler house, erection on the foundation.
8. All IBR formalities at buyers end.

Suitable safety measures should be taken wherever necessary.

NOTE:
For any clarifications connected with technical specifications and design of proposed Automatic silk reeling machinery package you are requested to contact Director, Central Silk Technological Research Institute, CSB, BTM layout, Madiwala, Bangalore-560068.

It is to be noted that since the Automatic Silk Reeling Machinery package is manufactured for first time in the country, CSTRI reserve the rights to do the minor modifications in the specifications in the process of fabrication of machine without affecting the cost of the equipment.

**********
# Components required for each package | Quantity in Nos / Set
--- | ---
## Support for establishment of CSTRI Automatic Reeling Units – 200 ends
1. CSTRI Conveyor hot air drier with hot air generator 1000 Kg capacity [per day](#) | 1
2. Cocoon Deflossing machine | 1
3. Vacuum permeation pre-treatment equipment | 1
4. Conveyor cocoon cooking machine (40 Cages capacity) | 1
5. Automatic silk reeling machine 200 ends capacity with one mechanical brushing unit | 1
6. Automatic reel permeation chamber | 1
7. Closed type re-reeling machine 20- window capacity OR 10- window capacity-2 Nos. | 1
8. Accessories and tools & spare parts suitable for 200 ends ARM | 1 set each
9. Bale press | 1
10. Skein winder | 1
11. Reel carrier | 2
12. Generator (30 KVA capacity) | 1
13. Water softening plant 12000 litres / 8 hour | 1
14. Pelade waste sheet making and pupae separation machine | 1
15. Hydro extractor (10 Kg capacity) | 1
16. IBR Boiler -500 Kg Steam output per hour | 1
SECTION – XV

TECHNICAL SPECIFICATION

Automatic silk reeling machinery package (200 ends)

1. SPECIFICATIONS FOR CONVEYOR HOT AIR DRIER

WITH HOT AIR GENERATOR (1000 Kg/ Day) – 1 No.

Automatic conveyor hot air drier having capacity to dry 1000 Kg cocoons per day (24 hours) shall be supplied. Automatic conveyor hot air drier consists of two parts viz., Hot air generator and Conveyor drying chamber having four bands.

The hot air generator made up of MS material consisting of forced draught fan, induced draught fan, chimney for exhaust and dust collector. The hot air is generated by burning firewood / charcoal / briquettes as fuel.

The conveyor-drying chamber shall be constructed using L angles and MS channels. Powder coated GI sheet / CR sheets with heat resistance aluminium coating shall be used for manufacturing the drier. The drier shall be insulated for thermal loss using glass / mineral wool or any other insulating suitable material.

The conveyor hot air drier consists of four bands having facility to maintain different temperatures uniformly in the four bands. The drier consists of feeding part for feeding the cocoons uniformly (1 to 2 layer thickness depending upon the requirement) and automatic delivery part to collect the dry cocoons in bags. The maximum temperature in the top band of the drier shall be 120°C to 130°C. Further, 105°C to 115°C, 90°C to 100°C and 70°C to 80°C temperatures are to be maintained in the second, third and fourth bands (from top to bottom of the drier) respectively. Conveyor drier shall be attached with speed controller to regulate the drying duration and thermo couples to regulate the temperatures.

Both conveyor drier and hot air generator shall have control panels to operate the machine and to set the required temperatures in the drier. Suitable safety measures should be provided wherever it is essential.

The motors provided for the drier shall be of ISI make.

It is to be noted that since the machine is manufactured for the first time in the country, CSTRI reserve the rights to do the minor
modifications in the specifications in the process of fabrication of machine without affecting the cost of equipment.

For any further clarifications please contact Director, CSTRI, CSB, Bangalore

The detailed specifications and drawings of the drier are as follows;

<table>
<thead>
<tr>
<th>Sl No.</th>
<th>DESCRIPTION</th>
<th>SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. GENERAL SPECIFICATION:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Raw materials to be Dried</td>
<td>Silk worm cocoons</td>
</tr>
<tr>
<td>2</td>
<td>Feeding rate</td>
<td>1000 kg green cocoons per day (24 hours)</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Moisture Removal</td>
<td>600 Kg per day</td>
</tr>
<tr>
<td>5</td>
<td>Type of Dryer</td>
<td>Continuous (Conveyor) type – 4 Band Conveyor</td>
</tr>
<tr>
<td>6</td>
<td>Size of the conveyor Dryer (including cocoon feeding part) (Figure 2)</td>
<td>13m (Length) X 2m (Width) X 2.5m (Height)</td>
</tr>
<tr>
<td>7</td>
<td>Drying Period</td>
<td>4-5 hours @ conveyor speed of 0.12 m/min</td>
</tr>
<tr>
<td>8</td>
<td>Max. Air Temperature</td>
<td>130° C</td>
</tr>
<tr>
<td>9</td>
<td>Ambient temperature considered</td>
<td>30° C</td>
</tr>
<tr>
<td><strong>2. DRYING CHAMBER:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Chamber Size (Figure-2)</td>
<td>8m (Length) X 2m (Width) X 2.5m (Height) With Feeding part 5.0 m (length) with inclination (As shown in the drawing)</td>
</tr>
<tr>
<td>11</td>
<td>Chamber Construction</td>
<td>20 SWG G.I Sheet - Double Walled construction. Further powder coated G.I sheet / CR sheet with heat resistance aluminium coating shall be used for chamber construction. Structure is fabricated using L angle of 60 X 60 X 5mm and MS channel of 75 X 40 X 6mm.</td>
</tr>
<tr>
<td>12</td>
<td>Thermal Insulation</td>
<td>25mm thickness Mineral wool</td>
</tr>
<tr>
<td>13</td>
<td>Insulated door</td>
<td>4 Nos. to be provided</td>
</tr>
<tr>
<td><strong>3. HEATING SYSTEM (Hot Air Generator):</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Hot air generator for Heating System (Figure 1)</td>
<td>The hot air generator made up of MS material consisting of forced draught fan, induced draught fan, chimney for exhaust and dust collector. Hot Air Generator using Wood (Fired) as a fuel, The dimensions of the hot air generator are as shown in drawings.</td>
</tr>
<tr>
<td>15</td>
<td>Forced Draught Fan</td>
<td>10 .0 HP, Air output capacity of 7500 CFM (Cubic feet per minute)</td>
</tr>
<tr>
<td>16</td>
<td>Induced Draught Fan</td>
<td>3.00 HP, Air output capacity of 2000 CFM (Cubic feet per minute)</td>
</tr>
<tr>
<td>17</td>
<td>Hot air Distribution</td>
<td>Through Ducts and Dampers controller</td>
</tr>
<tr>
<td>18</td>
<td>Temperature measurement</td>
<td>Thermocouple sensor - 4 Nos.</td>
</tr>
<tr>
<td>19</td>
<td>Cyclone Dust collector</td>
<td>To be provided</td>
</tr>
<tr>
<td><strong>4. CONVEYOR:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Conveyor Length</td>
<td>80 meter (4 Band),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>21</strong></td>
<td>Loading conveyor</td>
<td>5m (Length) x 2m (width)</td>
</tr>
<tr>
<td><strong>22</strong></td>
<td>MOC of Conveyor belt</td>
<td>MS galvanized wire Mesh, 6mm X 6mm square woven having wire diameter of 0.5mm.</td>
</tr>
<tr>
<td><strong>23</strong></td>
<td>Exhaust Blower (with damper arrangement) for sucking the moisture from drier and throwing it out. <em>(Figure 2).</em></td>
<td>3.00 HP, Air suction capacity of 200CFM (Cubic feet per minute)</td>
</tr>
<tr>
<td><strong>24</strong></td>
<td>Conveyor speed</td>
<td>0.12 m/min</td>
</tr>
<tr>
<td><strong>25</strong></td>
<td>Conveyor drive</td>
<td>3 HP motor, 1400rpm with reduction gear unit</td>
</tr>
<tr>
<td><strong>26</strong></td>
<td>Delivery drive</td>
<td>2 HP motor</td>
</tr>
<tr>
<td><strong>27</strong></td>
<td>Speed Adjustment</td>
<td>By VFD drive</td>
</tr>
</tbody>
</table>

**5. UTILITIES:**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>28</strong></td>
<td>Total Space Required</td>
<td>17m (Length) X 4m (Width) X 2.5m (Height)</td>
</tr>
<tr>
<td><strong>29</strong></td>
<td>Electric Power</td>
<td>415 V, 50 Hz, 3Phase</td>
</tr>
<tr>
<td><strong>30</strong></td>
<td>Fuel</td>
<td>Fire wood</td>
</tr>
<tr>
<td><strong>31</strong></td>
<td>Total Power Requirement</td>
<td>21 HP (Forced Draught Fan - 10 HP + Induced draught fan -3 HP + Exhaust Fan -3 HP + Conveyor Drive 3 HP + Delivery -2HP)</td>
</tr>
</tbody>
</table>

**6. ELECTRICAL CONTROL PANEL:**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>32</strong></td>
<td>The control panels will have controls for blower motors, Exhaust motor and Conveyor drive motors and temperature inside the drier.</td>
<td></td>
</tr>
<tr>
<td><strong>33</strong></td>
<td>Temperature indicating meters to be mounted on this panel with digital display.</td>
<td></td>
</tr>
<tr>
<td><strong>34</strong></td>
<td>Suitable safety measures should be provided wherever it is essential.</td>
<td></td>
</tr>
</tbody>
</table>
Fig. 1. Hot air generator for automatic conveyor hot air drier
Fig. 2: Assembly drawing of Automatic conveyor hot air drier
CONVEYOR HOT AIR DRIER WITH HOT AIR GENERATOR (1000 Kg)

2. SPECIFICATIONS FOR DEFLOSSING MACHINE – 1 No.
The machine is used for peeling off floss from cocoon outer layer.
Main Specification:
Linear speed of peeling belt: 3.8m/s
Motor power: 1.5 KW (1450 rpm)
Dimension
(L*W*H): 850*700*1250mm Weight:
200 kg (around)
Capacity: 40-60 kg/hour
Peeling ratio: Approximately 95% for spring cocoons, approximately 91% for summer or autumn cocoons.
3. SPECIFICATIONS FOR VACUUM PERMEATING MACHINE- 1 No.

The vacuum permeating machine is pre-treatment equipment for cooking cocoons; it makes cocoons absorb moisture fully by vacuum permeating. The machine is an important complete set for cocoon cooking machine with uniform permeating, full absorption, low sericin dissolution, low dropping ends and low thread fault.

Main Specification:
Capacity of vacuum barrel: 20 kg dry per time (spring cocoon
16 kg per time (summer or autumn cocoon)
Inner diameter of vacuum barrel: 950 mm
Power of two vacuum pumps: 5.5 KW, 3.0 KW
Speed of vacuum pump: 70 L/s
Every treatment time: 3-10 min.
Volume of steam and water separator: 0.3 m³
Control model of water level: Ball valve

COCOON VACUUM PERMEATING MACHINE
4. **SPECIFICATIONS OF COCOON COOKING MACHINE (40 CAGES) – 1 No**

The specifications of CSTRI conveyor cooking machine are as follows:

- The conveyor cooking machine of 40 cooking baskets capacity shall consists of eight zones and each zone is maintained at following temperature profiles.

<table>
<thead>
<tr>
<th>Cooking Zone</th>
<th>Temp.(°C)</th>
<th>Cooking Zone</th>
<th>Temp.(°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Zone (Water)</td>
<td>40°C – 50°C</td>
<td>5th Zone (Steam)</td>
<td>94°C – 98°C</td>
</tr>
<tr>
<td>2nd Zone (Water)</td>
<td>40°C – 50°C</td>
<td>6th Zone (Water)</td>
<td>60°C – 70°C</td>
</tr>
<tr>
<td>3rd Zone (Steam)</td>
<td>98°C – 100°C</td>
<td>7th Zone (Water)</td>
<td>45°C – 55°C</td>
</tr>
<tr>
<td>4th Zone (Water)</td>
<td>98°C – 100°C</td>
<td>8th Zone (Water)</td>
<td>40°C – 45°C</td>
</tr>
</tbody>
</table>

- The conveyor cooking machine consists of continuous tank (U shape) made of 10 swg / 3mm thickness stainless steel sheets having overall dimensions of 8400mm x 1300mm x 1750mm.

- The tanks are mounted on U channel base having specifications of 3” x 1.5” x 0.25” thickness size and placed at 39” above the ground level, (Customer will provide foundation for the machine). Six channels to be provided on either side of the machine for mounting the machine.

- The machine is driven with suitable, variable speed driving arrangements so that the machine can be worked at 5 minutes for one rotation of the basket in all chambers to 20 minutes per rotation. The motor has 1.5 Kw / 3 phase / 1440 rpm and with the suitable speed reduction gear box & driving unit to adjust the convenient speed reduction for satisfactory cocoon cooking.

- The cooking tanks are covered with 10swg stainless steel sheet in the top and is insulated with 50 mm thickness glass wool on all sides including the top covers where the insulation are mounted on separate sheets of 20swg at the top.

- The cooking baskets shall have twin compartments and are made of stainless steel mesh and shall have suitable hinges, locking arrangements. The baskets are mounted on a single stainless steel chain with guide rollers to provide movement to the baskets in different cooking chambers. Suitable rails are provided to guide the rollers to all the cooking chambers. Size of the cooking tray shall be 9” x 9 “ x 3” having 1/8” or ¼” gap and made out of 24 swg SS wire mesh having two compartments which can hold 125 g cocoons.

- Suitable chain adjustment gears are provided to make the cooking baskets to operate with proper tension without any slippage. Gear / Sprocket shall be 12” diameter with Chain 2” pitch having ½” SS rollers and side plates.

- Inspection windows are provided to inspect the cooking process when the baskets are moving in the cooking chambers with cocoons. 8 Nos. inspection windows (dismantling type with self locking system) on each side.
of the machine shall be provided.

- The conveyor-cooking machine is provided with steam, water valves, water level indicators, thermostat with steam controls, thermometers and pressure gauges to control the cooking process.
- Control panel is provided to control the temperature in six different cooking chambers automatically during the cooking process as per the requirement.
- Each chamber in conveyor cooking machine is provided with outlet connections to remove the water from the chambers.
- The machine is provided with heating systems by steam for all the zones along with mechanical thermometer to measure temperatures at entry and exit levels.
- Excess water (level) flow out system is provided to each zone to throughout excess water.
- The complete trays are moved using SS chain of 2” pitch with 1” width over the brass teeth Chain Sprocket at the centre.
- Water sprinkling arrangement shall be provided at exit level to control temperature between 40° to 50° C.
- The trays are provided with self locking at feeding zone and self releasing at exit zone.
- Steaming zone is provided with hood of 4” x 4” x 36” height with baffle plate at the centre of the cooking zone to through away the steam from the top and from the middle of the chamber where 4” diameter pipe is provided over the steam cooking zone.
- Insulating wooden planks are provided at the top of the machine in retting zone and over the cooking zone at the bottom of the machine for 6’ length and also wooden planks are placed over the cooking zone with special seating arrangements.
- The drive gear system is heavy and rigid to drive the complete mechanism and is provided rear side of the machine.
- The baskets are provided and moving on the guide rails of ¼ “ x 1” L angle support during the process with SS guide pulleys on either side and at the centre of cooking zone to immerse the trays into the water.
- Steam control values and water control valves are provided for effective control of temperatures for satisfactory cooking.
- The chain aligning friction pulleys are provided at rear side to set the moment and lock.
- The machine is divided into 3 zones. At the top side of the machine is pre treatment before cooking, cooking treatment zone at the bottom and in the centre followed by adjustment zone at bottom front side. Further windows are provided to observe the working of machine at the centre.
- Cooking machine start with dwelling zone, as soon as it reaches wooden plank retting zone starts in which 3” depth tank is provided for water holding
and steam & water connections are provided.

- In this zone cocoons are heated with wet steam and cocoons will not dip into water. This zone is provided with steam outlet hood and water outlet. In the dwell point of the cooking machine one water outlet is provided.

- Retting zone 2: This zone is followed by retting zone 1 in which cocoons dipped into water at 60° ~ 80°C and this zone is provided with one steam connection, one dial thermometer and one water sprinkler from the height and an outlet to clean the chamber (Bifurcation 1).

- Steam cooking zone: Steam cooking zone and retting zone are bifurcated with partition plate, over which baskets move up and pass through steaming zone. We have to maintain 2 temperatures initially 98°C – 100°C, followed by 99°C – 100°C. 2 separate dial thermometers and one inspection window (round type) are provided. For steam connections throughout the steam cooking zone, steam pipes are provided in 2 rows, start with 2 steam inlet in which one pipe is direct inlet and second steam valve is connected to bottom steam heating pipe and has steam outlet pipe in the middle of the chamber. These steam connections are provided, out of 3 connections second pipe is bottom line of ¾ " having a steam outlet and 1st and 3rd pipes are connected to top rows of steam pipes (1/2") having direct outlet with holes in the chamber. The zone is also provided 3 water outlets.

- Adjustment zone: Steam cooking zone and water adjustment zone are bifurcated with partition. The adjustment zone is maintained with three temperatures having 3" dial thermometer. The temperature is maintained at 94° ~ 98°C followed by 76° ~ 80°C and 60° ~ 65°C. The whole adjustment zone works with water media. Two steam pipe lines are provided at beginning of the zone in which one is direct and another one is indirect connected with steam pipes and outlet. At the middle and the rear end two direct steam inlet pipes are provided. The whole adjustment zone having 1” water inlet at the bottom and another 1” direct water pipe at the top of the adjustment zone. In addition to this one water sprinkler is provided at the beginning of the adjustment zone and another at the end of adjustment zone having ½” perforated pipes. The whole adjustment zone is having three water overflow systems which are internally connected with water pipe connection, further three water outlet pipes are provided to the adjustment zone tank.

- Finishing zone: there is a bifurcation between adjustment zone and finishing zone. The finishing zone is maintained at temperature of 40° ~ 55°C also provided with 3” dial thermometer. One water inlet and one water outlet is provided to the finishing zone. At the rear side end of finishing zone one water sprinkler is provided above the trays at on height.
The steam and water pipes specifications are as follows: Main steam line ½” diameter
Connecting steam line ¾’ & ½’ diameter Direct heating ¹⁄₂” diameter
Indirect heating ³⁄₄” diameter Water line 1 ½” diameter
Connecting & adjusting water lines ½” diameter Sprinkler ½’ diameter
Water connection to the tank 1’ diameter
Water connection to the adjustment zone 1” diameter

Fig. 3 Conveyor cocoon cooking machine

Fig. 4 Conveyor cocoon cooking machine
Fig. 5 Conveyor cocoon cooking machine
5. SPECIFICATION OF AUTOMATIC SILK REELING MACHINE (200 Ends) - 1 No.

Automatic silk reeling machine is used for reeling bivoltine white cocoons, the following denier of the silk 16/18 to 28/32 denier raw silk. Fabrication of Automatic Silk Reeling Machine of 200 ends (Double deck-10 basins/deck) capacity with one mechanical brushing unit attached to the machine.

The proposed Automatic silk reeling machine consists of
i. 20 ends per basin and Appropriate thread passage.

ii. Tension loaded effective individual reel stop motion, which works in synchronization with reeling buttons and denier detector.

iii. Automatic denier detecting and Mechanical correction mechanism consists of
a.. Denier indicator for continuous detecting the denier and denier correction mechanism by Mechanical casting of cocoons.

b. Simultaneous denier adjustment apparatus for performing the function of adjusting the friction between the denier indicator and raw silk in order to meet the targeted average denier whenever there is a change in cocoon filament denier, cooking conditions, reeling speeds etc.,

iv. Variable speed drive for maintaining the required reeling speed

v. Planetary gear type threads distribution system

vi. Suitable to produce finer and medium denier raw silk

vii. Machine can produce 140 ~ 150 gm of raw silk per end per shift of eight hours depending on denier of raw silk produced.

Main specification:
Raw materials: length of non-broken cocoon filament 500 m
Size: 20/22D (23.3dtex)
Silk production capacity: 18 g/end/hour
Weight: 10 Tones (around)

The quality of the machine and materials should be such that the life of the machine shall be minimum 10 years.
The whole automatic reeling machine package should be capable of producing raw silk up to 4A grade with good quality bivoltine hybrid cocoons.
AUTOMATIC SILK REELING MACHINE 200 ENDS
SPECIFICATIONS OF SMALL REEL PERMEATION CHMABER
(REELED SILK HUMIDIFIER) – 1 No.
The small reel permeation chamber (reeled silk humidifier) is used for humidifying raw silk under vacuum condition to ensure silk in even humidifying, low breakage, high re- reeling capacity and good silk shape.
SMALL REEL PERMEATION CHMABER (REELED SILK HUMIDIFIER)
Main specification: Model: 12 strings
Drum holding capacity: 120 reels/ 12 strings Model of reel feed: string feed separately
Drum inner diameter: 1200 mm for 12 strings
Drum depth: 1400 mm
Liquid level: 1200 mm
Drum cover opening mechanism: screw mechanism
Motor Power: 3.2 KW
Overall dimension: high 5150 mm diameter 1600 mm
Weight: 0.75T
7. SPECIFICATION OF RE-REELING MACHINE - 20 WINDOWS
   – 1 No. Or 10 WINDOWS – 2 Nos.

Re-reeling machine is mechanical equipment drying the silk from the reel and re-reeling it into the grand reel with certain specification (1.5 meter circumference)

Main Specification:
Layout: Bilateral, horizontal reel with 40 units/set, 5 end per unit, the unit length is 850 mm, and the gauge of ends is 110 mm
Grand reel speed: 140 – 200 rpm
Reed width: 70 - 90mm
Production capacity per unit (20/22D):250 to 300 gm/end/8 hrs. No. of operators (40 units): 1 person
Motor power: 2.2 KW

RE-REELING MACHINE
SPARES FOR SILK RE-REELING MACHINE

<table>
<thead>
<tr>
<th>Sl no.</th>
<th>Items</th>
<th>Quantity in Nos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5mm Ring Hooks</td>
<td>12</td>
</tr>
<tr>
<td>2.</td>
<td>Traverse distributor Nylon square bush /Nylon roller</td>
<td>8</td>
</tr>
<tr>
<td>3.</td>
<td>Thread guide hooks</td>
<td>200</td>
</tr>
<tr>
<td>4.</td>
<td>Traverse connecting set</td>
<td>4</td>
</tr>
<tr>
<td>5.</td>
<td>Nylon Traverse Bevel gear set</td>
<td>8</td>
</tr>
<tr>
<td>6.</td>
<td>Teak wood Battens</td>
<td>20</td>
</tr>
<tr>
<td>7.</td>
<td>Friction wheel</td>
<td>8</td>
</tr>
<tr>
<td>8.</td>
<td>Brake, Nylon Disc</td>
<td>4</td>
</tr>
</tbody>
</table>

8. ACCESSORIES AND TOOLS & SPARE PARTS SUITABLE FOR 200 ENDS ARM

<table>
<thead>
<tr>
<th>Sl no.</th>
<th>Items</th>
<th>Quantity in Nos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Denier indicator</td>
<td>200</td>
</tr>
<tr>
<td>2.</td>
<td>Nylon Button clip set</td>
<td>100</td>
</tr>
<tr>
<td>3.</td>
<td>Ceramic/porcelain Button</td>
<td>100</td>
</tr>
<tr>
<td>4.</td>
<td>Plastic Croissure pulley</td>
<td>400</td>
</tr>
<tr>
<td>5.</td>
<td>Jetteboutte set with axel</td>
<td>20</td>
</tr>
<tr>
<td>6.</td>
<td>1 3/8” jockey pulley set</td>
<td>20</td>
</tr>
<tr>
<td>7.</td>
<td>2 ¼” jockey pulley set</td>
<td>12</td>
</tr>
<tr>
<td>8.</td>
<td>5mm dia P.U Jetteboutte Belts (meters)</td>
<td>20</td>
</tr>
<tr>
<td>9.</td>
<td>Reel Bar Nylon Gear</td>
<td>10</td>
</tr>
<tr>
<td>10.</td>
<td>Nylon Reels</td>
<td>50</td>
</tr>
<tr>
<td>11.</td>
<td>Porcelain Thread Guide set</td>
<td>50</td>
</tr>
<tr>
<td>12.</td>
<td>Reel Break Nylon/ S S arm</td>
<td>25</td>
</tr>
<tr>
<td>13.</td>
<td>1” Rubber for Brake</td>
<td>20</td>
</tr>
<tr>
<td>13.</td>
<td>Plastic Drain cock</td>
<td>20</td>
</tr>
</tbody>
</table>

SPECIAL TOOLS- 1 Set

ONE SET OF TOOLS FOR SILK REELING MACHINERY MAINTENANCE

1. One set of set spanner (approximate) -- 14 Nos.
2. 12” Screw spanner ---- 1 No.
3. Holland key set (spanner) (approximate) ---- 1 set
4. 18” Pipe wrench -- 1 No.
   Each
5. 8” Cutting pliers -- 1 No.
6. 6” Nose Pliers -- 1 No.
7. Screw Driver one set of 10”-8”-6” -- 1 set of 3 Nos.
8. Hammer 0.5 kg. -- 1 No.
9. Oil can 250ml size -- 1 No.
10. Grease Gun 1/2kg. -- 1 No.
11. Croissure pulley cleaning knife -- 1 No
12. Jetteboutte pulley cleaning knife -- 1 No

Apart from these required spare parts/accessories for the entire Automatic silk reeling machinery package, additional spare parts / accessories which may
worn out frequently and required for continuous running of the automatic silk reeling machine effectively for two years shall be provided.

9. SPECIFICATION OF BALE PRESS - 1 No.
Bale Press for silk yarn is a specialized equipment for the silk reeling industry, it packs the long skeins with regular No. and in good order under the press.
Main specification: Motor power: 3Kw Speed: 1420 rpm
Lifting and falling motion: screw rod T40x8
Speed of lifting rod: 21mm/s (with load) 23 mm/s (without load) Height of lifting rod: 135 mm (with load) 180 mm (without load) Box structure: Inner width: 130 mm
Inner length: 656 mm
Height before pressure: 240± 2mm
Height after pressure (with load): 115±1mm
Opening the cover: by hand
Capacity: 4 bundles/hour (5.00 kg bundles)

10. SPECIFICATION OF SKEIN WINDER- 1 No.
It is used for winding the skein before baling.
11 - SPECIFICATION OF SHEET MAKING AND PUPAE SEPARATION MACHINE - 1 No.
The sheet making machine is used to produce silk sheet from the pelade layers of the reeled out cocoons and separate the pelade waste.
The machine consists of SS drum of 83” circumference (26.5” diameter) and length of 31”. The surface of the drum shall be rough to pick the silk filaments from the pelade layer cocoons.
The SS drum is run by a motor of 3 phase, 440 volts, 4 KW.
The dimensions of the machine are length 36” x depth 36” and 41” height.
The chemical is sprayed through the water jet having 1’ diameter pipe with perforations through chemical treated water tank placed at a height of 15’ with suitable arrangements on the roof having 200 litres capacity.
The production capacity of the machine is 30 – 50 sheets/8 hour and each sheet weight shall be 900 g to 1 kg.
12. SPECIFICATIONS OF HYDROEXTRACTOR - 1 No.
It is used for removing water from by-products (such as silk waste, pelade waste, pupa un-reelable cocoons and so on). Stainless steel closed type Hydro extractor 10 kg capacity. 10 kg of silk waste should be loaded per batch. Mounted on the spring-loaded shock absorbers for smooth running. Inner perforated stainless steel cage should be smooth without burrs. Motor Capacity: 1HP, 1440 rpm, 440 V and starter should of BIS standard. Suitable braking system has to be provided for stopping the machine.

13. SPECIFICATION OF REEL CARRIER- 2 Nos.
It is used for carrying the reels with full skein to vacuum reeled silk humidifier

![REEL CARRIER](image)

14. SPECIFICATIONS FOR GENERATOR
30 KVA Capacity, 3-phase, 440 Volts, 50 cycles Power Generator. Generator shall have in built standard safety features and generator shall be supplied with Acoustic enclosure and Silencer. Generator shall meet the latest Central Pollution Control Board emission norms. This Generator is to be supplied for 200 ends capacity Automatic silk reeling machinery package.
15. **SPECIFICATIONS FOR WATER SOFTENING PLANT OF 12000 LITER PER EIGHT HOUR CAPACITY**

Water softener to soften the water capable of softening 12000 litres per 8 hour. The water should be softened from 800 ppm to less than 10 ppm hardness. The water softener shall be recharged every 50,000 litres.

1. HP motorized pump with starter shall be provided along with the softener.

16. **IBR BOILER 500 Kg STEAM OUTPUT PER HOUR:**

The semi automatic horizontal fire tube coal / wood fired boiler having steam output of 500 Kg/hr and maximum operating pressure of 10.50 Kg/cm² as per Indian Boiler Regulations –1950 and its latest amendments. Evaporation from and at 100° C.

**SPECIFICATIONS:**

- **EVAPORATION CAPACITY** = 500 Kg / Hour steam output
- **WORKING STEAM PRESSURE** = 10.5 Kg / cm²

The boiler design, Material used for manufacturing of the boiler and safety measures shall be as per the Indian Boiler Regulations –1950 and its latest amendments.

**SCOPE OF SUPPLY:**

Main parts of the boiler consists of:
- Pressure chamber- Steam generator with internal furnace
- Smoke box front & rear
- ID fan with motor
- Mobrey with control panel & pressure switch

The main equipment shall be made in three compartments namely smoke box front, steam generator with internal furnace and smoke box rear with provision for fixing ID fan & hood. The smoke boxes are provided at the both ends of the steam generator. These smoke boxes are factory refractory lined and welded to the pressure chamber. An internal furnace is provided in the pressure chamber, which is lined with fire bars over which the firewood / briquettes are loaded for firing. The steam generator is provided with nozzles for fixing boiler mountings.

The boiler shall be a two pass dry back design with an ID fan provided at the rear side to ensure optimum draft in the boiler. A damper is provided at the stack for controlling the flow of the exhaust gases.

A pre-wired control panel with automatic water level controller (mobrey) shall be provided as standard accessory along with pressure switch to control the level of water and the pressure in the boiler. The pressure switch regulates the ID fan through the control panel where the required pressure for the boiler will be preset.

The boiler shall be insulated with rock wool & finished with aluminium cladding to avoid heat loss and save on the fuel consumption.

A pressure reducing station of standard make is included as part of standard accessories.
### STANDARD ACCESSORIES

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>DESCRIPTION</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vertical multistage feed water pump coupled with motor mounted on base frame</td>
<td>2Nos.</td>
</tr>
<tr>
<td>2</td>
<td>Feed check valve with feed pipe</td>
<td>2Nos.</td>
</tr>
<tr>
<td>3</td>
<td>Water level indicator with drain cock and gauge glass tube</td>
<td>2 Set</td>
</tr>
<tr>
<td>4</td>
<td>Blow down valve with pipe</td>
<td>1 No</td>
</tr>
<tr>
<td>5</td>
<td>Spring loaded safety valve single post</td>
<td>2 Nos</td>
</tr>
<tr>
<td>6</td>
<td>Pressure gauge with siphon</td>
<td>1 No</td>
</tr>
<tr>
<td>7</td>
<td>Main steam stop valve</td>
<td>1 No</td>
</tr>
<tr>
<td>8</td>
<td>Fusible plug</td>
<td>1 No</td>
</tr>
<tr>
<td>9</td>
<td>Air vent valve</td>
<td>1 No</td>
</tr>
<tr>
<td>10</td>
<td>Ladder and platform</td>
<td>1 Set</td>
</tr>
<tr>
<td>11</td>
<td>Fire bars and Support bars</td>
<td>1 Set</td>
</tr>
<tr>
<td>12</td>
<td>ID fan with motor</td>
<td>1 No.</td>
</tr>
<tr>
<td>13</td>
<td>Pressure switch for high pressure cut off</td>
<td>1 No.</td>
</tr>
<tr>
<td>14</td>
<td>Electrical Control Panel</td>
<td>1 No.</td>
</tr>
<tr>
<td>15</td>
<td>IBR approved mobrey controller.</td>
<td>1 No.</td>
</tr>
<tr>
<td>16</td>
<td>Pressure reducing station</td>
<td>1 Set</td>
</tr>
<tr>
<td>17</td>
<td>Chimney 400mm Dia &amp; 40ft length</td>
<td>1 Set</td>
</tr>
<tr>
<td>18</td>
<td>Rock wool Insulation with Aluminum cladding</td>
<td>1 Set</td>
</tr>
<tr>
<td>19</td>
<td>Duct connection from boiler to ID fan to chimney</td>
<td>6 mtr</td>
</tr>
</tbody>
</table>

### MATERIAL OF CONSTRUCTION:

The boiler shall be manufactured as per the IBR approved drawing. The pressure chamber shall be manufactured from boiler quality plates confirming to SA 516 Grade -70 and tubes confirming to BS 3059 1987 part -I ERW 320. The shell & furnace shall be fabricated out of 10 mm thick IBR plates and tube plates out of 16mm thick plates. The tubes are 3.66 mm thick. All bought out components shall be of reputed make with IBR approvals where ever applicable.

The fire box & smoke box shall be fabricated out of MS plates and factory lined with refractory to reduce work on site and enable the boiler to be installed in the minimum time. The chimney shall be fabricated from 5mm thick MS plates in sections of 10ft with flanges and rungs for climbing. The chimney shall be sand blasted and painted with high temperature resistance paint for longer life.

### IBR FORMALITIES FOR MANUFACTURER

- Boiler manufacturing license (copy) from Department of Boilers to be provided.
- Every boiler to be accompanied by an IBR folder prepared in the format prescribed by Department of Boilers & counter signed by the Director of Boilers.
- The IBR folder to contain all material certificates endorsed by the Department of Boilers.
  - Every boiler should be embossed with the license number & seal of Department of Boilers.
BATTERY LIMITS:

WATER
Suction of feed water pump Blow down valve
Gauge glass drain cock Automatic water level controller

POWER
Pump motor, terminal point

STEAM
Steam stop valve
Safety valve to atmosphere EXCLUSIONS:
The following job / supply is excluded from our scope.
1. Any civil work or structural inside the boiler house.
2. Supply or erection of water or fuel storage tanks.
3. Water, steam and power connections from and to our battery limits.
4. Dust Collection System.
5. Duct connections from ID fan to Chimney exceeding our standard supply.
6. Any other work not specifically mentioned in our scope of supply.
7. Transportation, unloading, shifting to boiler erection on the foundation house.
8. All IBR formalities at buyers end.

Suitable safety measures should be taken wherever necessary.

NOTE:
For any clarifications connected with technical specifications and design of proposed Automatic silk reeling machinery package you are requested to contact Director, Central Silk Technological Research Institute, CSB, BTM layout, Madiwala, Bangalore-560068.

It is to be noted that since the Automatic Silk Reeling Machinery package is manufactured for first time in the country, CSTRI reserve the rights to do the minor modifications in the specifications in the process of fabrication of machine without affecting the cost of the equipment.

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To

All Central Ministries/Departments/CPSUs/All concerned

ORDER

Subject: Public Procurement (Preference to Make in India), Order 2017 - Revision; regarding.

Department for Promotion of Industry and Internal Trade, in partial modification [Paras 2, 3, 5, 9(a), 9(b) and 10(b) modified and Para 3A added] of Order No.P-45021/2/2017-B.E.-II dated 15.6.2017 as amended by Order No.P-45021/2/2017-B.E.-II dated 28.05.2018 and Order No.P-45021/2/2017-B.E.-II dated 29.05.2019, hereby issues the revised 'Public Procurement (Preference to Make in India), Order 2017' dated 04.06.2020 effective with immediate effect.

Whereas it is the policy of the Government of India to encourage 'Make in India' and promote manufacturing and production of goods and services in India with a view to enhancing income and employment, and

Whereas procurement by the Government is substantial in amount and can contribute towards this policy objective, and

Whereas local content can be increased through partnerships, cooperation with local companies, establishing production units in India or Joint Ventures (JV) with Indian suppliers, increasing the participation of local employees in services and training them,

Now therefore the following Order is issued:

1. This Order is issued pursuant to Rule 153 (iii) of the General Financial Rules 2017.

2. Definitions. For the purposes of this Order:

'Local content' means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.

'Class-I local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%, as defined under this Order.

'Class-II local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%, as defined under this Order.

... Contd. p/2
'Non - Local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than or equal to 20%, as defined under this Order.

'L1' means the lowest tender or lowest bid or the lowest quotation received in a tender, bidding process or other procurement solicitation as adjudged in the evaluation process as per the tender or other procurement solicitation.

'Margin of purchase preference' means the maximum extent to which the price quoted by a "Class-I local supplier" may be above the L1 for the purpose of purchase preference.

'Nodal Ministry' means the Ministry or Department identified pursuant to this order in respect of a particular item of goods or services or works.

'Procuring entity' means a Ministry or department or attached or subordinate office of, or autonomous body controlled by, the Government of India and includes Government companies as defined in the Companies Act.

'Works' means all works as per Rule 130 of GFR- 2017, and will also include 'turnkey works'.

3. Eligibility of 'Class-I local supplier' / 'Class-II local supplier' / 'Non-local suppliers' for different types of procurement

(a) In procurement of all goods, services or works in respect of which the Nodal Ministry / Department has communicated that there is sufficient local capacity and local competition, only 'Class-I local supplier', as defined under the Order, shall be eligible to bid irrespective of purchase value.

(b) In procurement of all goods, services or works, not covered by sub-para 3(a) above, and with estimated value of purchases less than Rs. 200 Crore, in accordance with Rule 161(iv) of GFR, 2017, Global tender enquiry shall not be issued except with the approval of competent authority designated by Department of Expenditure. Only 'Class-I local supplier' and 'Class-II local supplier', as defined under the Order, shall be eligible to bid in procurements undertaken by procuring entities, except when Global tender enquiry has been issued. In global tender enquiries, 'Non-local suppliers' shall also be eligible to bid along with 'Class-I local suppliers' and 'Class-II local suppliers'.

(c) For the purpose of this Order, works includes Engineering, Procurement and Construction (EPC) contracts and services include System Integrator (SI) contracts.

3A. Purchase Preference

(a) Subject to the provisions of this Order and to any specific instructions issued by the Nodal Ministry or in pursuance of this Order, purchase preference shall be given to 'Class-I local supplier' in procurements undertaken by procuring entities in the manner specified here under.
In the procurements of goods or works, which are covered by para 3(b) above and which are divisible in nature, the ‘Class-I local supplier’ shall get purchase preference over ‘Class-II local supplier’ as well as ‘Non-local supplier’, as per following procedure:

i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is ‘Class-I local supplier’, the contract for full quantity will be awarded to L1.

ii. If L1 bid is not a ‘Class-I local supplier’, 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the ‘Class-I local supplier’ will be invited to match the L1 price for the remaining 50% quantity subject to the Class-I local supplier’s quoted price falling within the margin of purchase preference, and contract for that quantity shall be awarded to such ‘Class-I local supplier’ subject to matching the L1 price. In case such lowest eligible ‘Class-I local supplier’ fails to match the L1 price or accepts less than the offered quantity, the next higher ‘Class-I local supplier’ within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is still left uncovered on Class-I local suppliers, then such balance quantity may also be ordered on the L1 bidder.

In the procurements of goods or works, which are covered by para 3(b) above and which are not divisible in nature, and in procurement of services where the bid is evaluated on price alone, the ‘Class-I local supplier’ shall get purchase preference over ‘Class-II local supplier’ as well as ‘Non-local supplier’, as per following procedure:

i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is ‘Class-I local supplier’, the contract will be awarded to L1.

ii. If L1 is not ‘Class-I local supplier’, the lowest bidder among the ‘Class-I local supplier’ will be invited to match the L1 price subject to Class-I local supplier’s quoted price falling within the margin of purchase preference, and the contract shall be awarded to such ‘Class-I local supplier’ subject to matching the L1 price.

iii. In case such lowest eligible ‘Class-I local supplier’ fails to match the L1 price, the ‘Class-I local supplier’ with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the ‘Class-I local supplier’ within the margin of purchase preference matches the L1 price, the contract may be awarded to the L1 bidder.

‘Class-II local supplier’ will not get purchase preference in any procurement, undertaken by procuring entities.

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4. Exemption of small purchases: Notwithstanding anything contained in paragraph 3, procurements where the estimated value to be procured is less than Rs. 5 lakhs shall be exempt from this Order. However, it shall be ensured by procuring entities that procurement is not split for the purpose of avoiding the provisions of this Order.

5. Minimum local content: The local content requirement to categorize a supplier as 'Class-I local supplier' / 'Class-II local supplier' / 'Non-local supplier' shall be as defined in the Para "2" of the Order. No change is permissible on this account. However, if any nodal Ministry/ Department finds that for any particular item, pertaining to their nodal ministry/department, the definition of Local Content, as defined in the Order, is not workable/ has limitations, it may notify alternate suitable mechanism for calculation of local content for that particular item.

6. Margin of Purchase Preference: The margin of purchase preference shall be 20%.

7. Requirement for specification in advance: The minimum local content, the margin of purchase preference and the procedure for preference to Make in India shall be specified in the notice inviting tenders or other form of procurement solicitation and shall not be varied during a particular procurement transaction.

8. Government E-marketplace: In respect of procurement through the Government E-marketplace (GeM) shall, as far as possible, specifically mark the items which meet the minimum local content while registering the item for display, and shall, wherever feasible, make provision for automated comparison with purchase preference and without purchase preference and for obtaining consent of the local supplier in those cases where purchase preference is to be exercised.

9. Verification of local content:
   a. The 'Class-I local supplier' / 'Class-II local supplier' at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class-I local supplier' / 'Class-II local supplier', as the case may be. They shall also give details of the location(s) at which the local value addition is made.

   b. In cases of procurement for a value in excess of Rs. 10 crores, the 'Class-I local supplier' / 'Class-II local supplier' shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

   c. Decisions on complaints relating to implementation of this Order shall be taken by the competent authority which is empowered to look into procurement-related complaints relating to the procuring entity.
d. Nodal Ministries may constitute committees with internal and external experts for independent verification of self-declarations and auditor's/ accountant's certificates on random basis and in the case of complaints.

e. Nodal Ministries and procuring entities may prescribe fees for such complaints.

f. False declarations will be in breach of the Code of Integrity under Rule 176(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

g. A supplier who has been debarred by any procuring entity for violation of this Order shall not be eligible for preference under this Order for procurement by any other procuring entity for the duration of the debarment. The debarment for such other procuring entities shall take effect prospectively from the date on which it comes to the notice of other procurement entities, in the manner prescribed under paragraph 9h below.

h. The Department of Expenditure shall issue suitable instructions for the effective and smooth operation of this process, so that:

i. The fact and duration of debarment for violation of this Order by any procuring entity are promptly brought to the notice of the Member-Convenor of the Standing Committee and the Department of Expenditure through the concerned Ministry/Department or in some other manner;

ii. on a periodical basis such cases are consolidated and a centralized list or decentralized lists of such suppliers with the period of debarment is maintained and displayed on website(s);

iii. in respect of procuring entities other than the one which has carried out the debarment, the debarment takes effect prospectively from the date of uploading on the website(s) in the manner that ongoing procurements are not disrupted.

10. Specifications in Tenders and other procurement solicitations:

a. Every procuring entity shall ensure that the eligibility conditions in respect of previous experience fixed in any tender or solicitation do not require proof of supply in other countries or proof of exports.

b. Procuring entities shall endeavour to see that eligibility conditions, including on matters like turnover, production capability and financial strength do not result in unreasonable exclusion of 'Class-I local supplier' / 'Class-II local supplier' who would otherwise be eligible, beyond what is essential for ensuring quality or creditworthiness of the supplier.

c. Procuring entities shall, within 2 months of the issue of this Order review all existing eligibility norms and conditions with reference to sub-paragraphs 'a' and 'b' above.
d. If a Nodal Ministry is satisfied that Indian suppliers of an item are not allowed to participate and/or compete in procurement by any foreign government, it may, if it deems appropriate, restrict or exclude bidders from that country from eligibility for procurement of that item and/or other items relating to that Nodal Ministry. A copy of every instruction or decision taken in this regard shall be sent to the Chairman of the Standing Committee.

e. For the purpose of sub-paragraph 10 d above, a supplier or bidder shall be considered to be from a country if (i) the entity is incorporated in that country, or (ii) a majority of its shareholding or effective control of the entity is exercised from that country, or (iii) more than 50% of the value of the item being supplied has been added in that country. Indian suppliers shall mean those entities which meet any of these tests with respect to India.*

10A. Action for non-compliance of the Provisions of the Order: In case restrictive or discriminatory conditions against domestic suppliers are included in bid documents, an inquiry shall be conducted by the Administrative Department undertaking the procurement (including procurement by any entity under its administrative control) to fix responsibility for the same. Thereafter, appropriate action, administrative or otherwise, shall be taken against erring officials of procurement entities under relevant provisions. Intimation on all such actions shall be sent to the Standing Committee.

11. Assessment of supply base by Nodal Ministries: The Nodal Ministry shall keep in view the domestic manufacturing/supply base and assess the available capacity and the extent of local competition while identifying items and prescribing minimum local content or the manner of its calculation, with a view to avoiding cost increase from the operation of this Order.

12. Increase in minimum local content: The Nodal Ministry may annually review the local content requirements with a view to increasing them, subject to availability of sufficient local competition with adequate quality.

13. Manufacture under license/technology collaboration agreements with phased indigenization: While notifying the minimum local content, Nodal Ministries may make special provisions for exempting suppliers from meeting the stipulated local content if the product is being manufactured in India under a license from a foreign manufacturer who holds intellectual property rights and where there is a technology collaboration agreement/transfer of technology agreement for indigenous manufacture of a product developed abroad with clear phasing of increase in local content.

14. Powers to grant exemption and to reduce minimum local content: The administrative Department undertaking the procurement (including procurement by any entity under its administrative control), with the approval of their Minister-in-charge, may by written order, for reasons to be recorded in writing,

a. reduce the minimum local content below the prescribed level; or
b. reduce the margin of purchase preference below 20%; or

....Contd. p/7
c. exempt any particular item or supplying entities from the operation of this Order or any part of the Order.

A copy of every such order shall be provided to the Standing Committee and concerned Nodal Ministry / Department. The Nodal Ministry / Department concerned will continue to have the power to vary its notification on Minimum Local Content.

15. Directions to Government companies: In respect of Government companies and other procuring entities not governed by the General Financial Rules, the administrative Ministry or Department shall issue policy directions requiring compliance with this Order.

16. Standing Committee: A standing committee is hereby constituted with the following membership:

- Secretary, Department for Promotion of Industry and Internal Trade—Chairman
- Secretary, Commerce—Member
- Secretary, Ministry of Electronics and Information Technology—Member
- Joint Secretary (Public Procurement), Department of Expenditure—Member
- Joint Secretary (DPIIT)—Member-Convenor

The Secretary of the Department concerned with a particular item shall be a member in respect of issues relating to such item. The Chairman of the Committee may co-opt technical experts as relevant to any issue or class of issues under its consideration.

17. Functions of the Standing Committee: The Standing Committee shall meet as often as necessary, but not less than once in six months. The Committee
a. shall oversee the implementation of this order and issues arising therefrom, and make recommendations to Nodal Ministries and procuring entities.

b. shall annually assess and periodically monitor compliance with this Order.

c. shall identify Nodal Ministries and the allocation of items among them for issue of notifications on minimum local content.

d. may require furnishing of details or returns regarding compliance with this Order and related matters.

e. may, during the annual review or otherwise, assess issues, if any, where it is felt that the manner of implementation of the order results in any restrictive practices, cartelization or increase in public expenditure and suggest remedial measures.

f. may examine cases covered by paragraph 13 above relating to manufacture under license/technology transfer agreements with a view to satisfying itself that adequate mechanisms exist for enforcement of such agreements and for attaining the underlying objective of progressive indigenization.

g. may consider any other issue relating to this Order which may arise.

18. Removal of difficulties: Ministries /Departments and the Boards of Directors of Government companies may issue such clarifications and instructions as may be necessary for the removal of any difficulties arising in the implementation of this Order.

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19. Ministries having existing policies: Where any Ministry or Department has its own policy for preference to local content approved by the Cabinet after 1st January 2015, such policies will prevail over the provisions of this Order. All other existing orders on preference to local content shall be reviewed by the Nodal Ministries and revised as needed to conform to this Order, within two months of the issue of this Order.

20. Transitional provision: This Order shall not apply to any tender or procurement for which notice inviting tender or other form of procurement solicitation has been issued before the issue of this Order.

(Rajesh Gupta)
Director
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