

SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25



A Maharatna Company
ISO 9001 Company
ISO 50001 Company

भारत हेवी इलेक्ट्रिकल्स लिमिटेड

Bharat Heavy Electricals Limited

(A Government of India Enterprise)
Tiruchirappalli – 620 014

WORKS CONTRACTS MANAGEMENT

NOTICE INVITING e-TENDER

Dear Sir/ Ma'am,

Ref : **Tender No. 9472200104 dt.15.12.2022**

Subject : Two-part **e-Tender** inviting techno-commercial and price bids for **SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25.**

Kindly submit your competitive offer for the above subject work as per the tender terms and conditions given in the tender document through e-procurement portal <https://eprocurebhel.co.in> only.

1.	Scope of work	Scope of work and technical terms and conditions as per Techno-Commercial Part-I bid.
2.	Location of work	Vendors' Works.
3.	Period of contract	Two (02) Years
4.	CRITERIA FOR AWARD OF WORK (% of splitting of contract)	Schedule wise-L1 (lowest bidder)
5.	Last date/ time for receipt of tender	12:00 Hrs on dt. 26.12.2022
6.	Date/ time of opening of Techno-commercial bids	16:00 Hrs on dt. 26.12.2022 Change in opening date, if any, will be intimated later.
7.	Date of price bid opening	The date/ time of price bid opening will be intimated to the techno-commercial qualified tenderer separately.
8.	Total EMD amount	Schedule-I: 1,31,870/- (One Lakh, Thirty-One Thousand, Eight Hundred Seventy Rupees) Schedule-II: 1,45,650/- (One Lakh, Forty-Five Thousand, Six Hundred Fifty Rupees) (Separate EMD to be submitted for each schedules if vendor is submitting response for more than one schedule)
9.	Contact details for queries related to tender	Sathese M, Dy. Manager/ WCM 0431 257 5438; e-mail: msathese@bhel.in
10.	Working Area Contact details	S Vijay Murugan, Dy Manager/Plant Lab. e-mail : vijaymurugan@bhel.in / Ph: 0431 257 4283

Authorized Digital Signature

This two-part e-tender consists of the following:

Part – I (A) :: Pre-qualification Bid

1. Earnest Money Deposit (EMD)

Part – I (B) :: Techno-Commercial Bid

2. Qualifying criteria for the contract
3. Scope of work and technical terms & conditions for Specimen Preparation Contract-I
4. PQC for Contract-I
5. Scope of work and technical terms & conditions for Specimen Preparation contract-II
6. PQC for Contract-II
7. General terms & conditions of the contract
8. Integrity Pact

Part – II :: Price Bid (Vendor to quote the price in e-procurement portal as per reference price bid format enclosed as Annexure-III)

List of drawings for Schedule-I is attached as Annexure-IV

List of drawings for Schedule-I is attached as Annexure-V

Special Instructions to the bidders:

- EMD should be submitted as per Part-I(A)/Prequalification Bid/EMD (including EMD waiver, if any). Techno-commercial bid will be considered only, if the Part-I(A)/Prequalification Bid/EMD is valid. EMD in any other form and tender without EMD will be summarily rejected.
- In case of offline payments, the hardcopies of Earnest Money Deposit (EMD) document/ DD submitted to WCM/BHEL and the soft-copies uploaded at the time of online bid submission should be the same, otherwise the tender will be summarily rejected.
- Bidder should arrange for the EMD as specified in the tender. The original should be posted/couriered/given in person in a sealed cover super scribing 'Tender number/date/Part-I(A)/EMD' to the Tender Inviting Authority, within the bid submission date and time for the tender.
- Any deviation to this tender terms & conditions, and schedules of this tender will lead to total rejection of the offer submitted.
- Should a tenderer find discrepancies or omissions in the tender documents, or should there be any doubt as to their meaning, he should at once address the authority inviting the tender, for clarification well before the due date, so as to submit his tender in time. No extension of time shall be given for submission of the tender on any account.
- Rates should be quoted as per the Work / Rate schedule (Price bid/Part –II). Rates quoted in any other form will not be accepted, and will be rejected.
- The tender must be signed separately and legibly by Partner/ Director of the Firm or by the person holding the Power of Attorney on behalf of the Firm concerned. In the latter case, a copy of Power of Attorney, duly attested by a Notary Public must accompany the tender.
- If a tenderer deliberately gives wrong information in his tender or creates conditions favourable for the acceptance of his tender, the BHEL will reject such tender at any stage.
- Words imparting singular number shall be deemed to include plural number and vice-versa where the context so requires.
- Canvassing in any form in connection with tenders is strictly prohibited and the tenders submitted by the Contractors who resort to canvassing will be liable for rejection.
- Should a Tenderer's or a Contractor's or in the case of a firm or company of contractors/any of its shareholder's or shareholder's relative is employed in BHEL, the authority inviting the tenders shall be informed in writing of this fact at the time of submission of the tender, failing which the tender may be disqualified, or if such fact subsequently comes to light, the contract may be cancelled.
- The tender schedule, and the tender shall be deemed to form an integral part of the contract to be entered into for this work.



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- Tenderer shall sign the tender documents for having accepted the conditions and upload in e-procurement portal.
- Tender can be cancelled at any stage due to unavoidable circumstances.
- Kindly ensure that the total size of the scanned documents to be uploaded remains minimum. If required, documents may be scanned at lower resolutions say at 150 dpi. However, it shall be sole responsibility of bidder that the uploaded documents remain legible.
- Bidder are advised not to wait till the last minutes or last few seconds w.r.t tender closing time to submit their offer to avoid complications related with internet connectivity / network problem/ power failure etc.
- Bidders are advised take due care while quoting the technical and price bids forms in the e-procurement system. Bidders, those who tampers with tendering procedure affecting ordering process **or** misusing the technical information of the tender document **or** withdrawing their offer after price bid opening, will be penalized as per BHEL guidelines on suspension of business dealings with suppliers/ contractors. Abridged version of the guideline is available in www.bhel.com.
- It is advised that all the documents to be submitted are kept scanned or converted to PDF format in a separate folder on your computer before starting online submission.
- The bidder has to upload the scanned copy of all the mentioned original documents (in colour) during online bid-submission.
- In case you are not in a position to submit the offer, please send letter suitably specifying the reasons thereof.

Thanking you,

For **Bharat Heavy Electricals Limited**

M Sathese

Dy. Manager / Works Contracts Management,

3rd floor, 24 Building,

B.H.E.L., Tiruchirappalli – 620 014, Tamilnadu.

Phone: 0431-2575438,

Email: msathese@bhel.in

PART – I (A)

PRE-QUALIFICATION / EMD

1 EARNEST MONEY DEPOSIT (EMD)

1.1 EMD AMOUNT: Refer page 1 of this tender document

1.1.1 EMD given by all unsuccessful tenderers will be refunded after award of contract.

1.1.2 EMD shall not carry any interest.

1.1.3 EMD of successful tenderer will be retained as part of Security Deposit.

1.2 EMD WAIVER DOCUMENTS (Documents shall be notarized/ attested by gazetted officer)

1.2.1 EMD is waived off for MSE (Micro and Small Enterprises only) vendor by submitting only **Udyam Registration certificate** or Medium Enterprises, graduated from its original category (Micro/Small) within the period of 03 years from the date of graduation.

1.3 MODES OF DEPOSIT OF EMD AMOUNT:

The EMD may be accepted only in the following forms:

1.3.1 Electronic Fund Transfer credited in BHEL account (before tender opening) - Online Payment procedure for EMD and SD amount attached (Annexure – I) for vendors' reference.

1.3.2 Demand draft, in favour of BHEL, Trichy-14 payable at Trichy (along with offer).

1.3.3 Fixed Deposit Receipt (FDR) issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL)

1.3.4 In addition to above, the EMD amount in excess of ₹2 lakhs (TWO LAKHS) will also be accepted in form of Bank Guarantee from scheduled bank, provided the Bank Guarantee is valid for at least six months from the due date of tender submission. For instance, if EMD amount is ₹2,50,000/-, BG can be submitted for ₹50,000/- and rest ₹2,00,000/- to be submitted through other modes mentioned above.

1.4 FORFEITURE OF EMD:

EMD by the tenderer will be forfeited along with applicable GST as per tender documents if:

1.4.1 After opening the tender and within the offer validity period, the tenderer revokes his tender or makes any modification in his tender which is not acceptable to BHEL.

1.4.2 The Contractor fails to deposit the required Security deposit or commence the work within 15 days of LOI/ WO/ Contract.

1.4.3 EMD by the tenderer shall be withheld in case any action on the tenderer is envisaged under the provisions of extant "Guidelines on Suspension of business dealings with suppliers/ contractors" and forfeited/ released based on the action as determined under these guidelines. Abridged version of the guideline is available in www.bhel.com.

PART – I (B) TECHNO-COMMERCIAL BID (QUALIFYING CRITERIA FOR THE CONTRACT)

S. N	CATEGORY	DETAILS
2.1	EARNEST MONEY DEPOSIT (EMD) EMD AMOUNT: <u>Refer page 1 of this tender document</u>	Refer Part-I (A)
2.2	<u>STATUS OF THE COMPANY</u> - Proprietorship: PAN card on owner name - For partnership firms: PAN card <u>and</u> PARTNERSHIP DEED - For others: PAN card in the name of company / firm / business <u>and</u> CERTIFICATE OF INCORPORATION / MOA <u>and</u> AOA.	copy to be uploaded in eprocurebhel.co.in portal
2.3	GST Registration certificate (If applicable)	
2.4	PRE-QUALIFICATION CRITERIA (SPECIMEN PREPARATION) requirements for Schedule-I are as detailed in PQC for Schedule-I	PQC sheet to be filled with seal & Signed and uploaded with supporting documents for required cases.
2.5	PRE-QUALIFICATION CRITERIA (SPECIMEN PREPARATION) requirements for Schedule-II are as detailed in PQC for Schedule-II	PQC sheet to be filled with seal & Signed and uploaded with supporting documents for required cases.
2.6	Seal and Sign INTEGRITY PACT (IP) with witness sign, Name and address	To be submitted along with offer
2.7	No Deviation Declaration	To be agreed in Technical Bid Form

Note:

- At any stage, BHEL may ask for original documents and contractor has to submit the same.
- If at any stage, the document(s) submitted by contractor is/are found incorrect/ false/ manipulated, the necessary action will be taken by BHEL against contractor and business dealing with BHEL may be suspended.

3 SCOPE OF WORK, TECHNICAL TERMS & CONDITIONS and DRAWINGS AS PER SPECIMEN PREPARATION CONTRACT-Schedule-I SCOPE OF WORK.

1. MATERIAL COLLECTION:

- 1.1. All the test coupons like raw material, welded plates, castings or forgings etc. are to be collected by the vendor from different issuing departments in BHEL Trichy premises, at vendor's cost through non-returnable gate pass at BHEL works.
- 1.2. This is not a one-time award and one-time execution contract. The activity requires collection of test coupon on short notice, even on the same day of intimation, for meeting urgent production requirement.
- 1.3. However, in case of regular testing requests, test coupon collection from issuing departments shall be carried out within 3 days from the time of intimation. Decision on regular/urgent testing requirement lies with Plant Lab In-charge.
- 1.4. Based on the size of test coupon, collection needs to be done either by hand or with a vehicle (with a minimum load carrying capacity of 750 kg).
- 1.5. Vehicle for test coupon collection needs to be arranged two times per week compulsorily (week consists of 6 BHEL working days).
- 1.6. In case of material collection with a vehicle, a representative of the vendor, other than the driver, has to accompany the vehicle and ensure proper collection of test coupon from issuing departments along with the respective enquiry / work order for each test coupon.

2. TEST COUPON VERIFICATION:

- 2.1. Vendor representative visiting BHEL for collection and delivery of material shall have knowledge of specimen machining and be able to interpret drawings provided by BHEL. It is required to employ a person with a minimum qualification of ITI.
- 2.2. While collecting test coupon from BHEL, vendor representative shall check-up the size, specification and quantity as per entry in the non-returnable gate pass.
- 2.3. If any damage is noticed in the test coupon, the same shall be communicated to Plant Lab In-charge immediately. The test coupon shall be collected only based on the assurance from Plant Lab In-charge that the damage will not affect the specimen to be machined.
- 2.4. If the test coupon is not sufficient to prepare specimens as required in the enquiry / work order, the same is to be immediately reported to Plant Lab In-charge before coupon collection, for resolving the matter suitably.
- 2.5. It is vendor's responsibility to ensure safety of man, material & vehicle during the time, any activity pertaining to the contract is being carried out inside / outside BHEL premises.

3. TEST COUPON CUTTING, MARKING & TPI SEAL TRANSFER:

- 3.1. The test coupon received from issuing departments in BHEL will have lab reference marked on them. Marking shall be done on the coupon, for specimens as required in enquiry / work order.
- 3.2. Before proceeding with cutting, lab ref no shall be marked on the space marked for test specimen. Lab ref no shall be punched with metal punch, in the balance portion of test coupon.
- 3.3. Vendor shall take adequate care to ensure preparation of specimens from the respective test coupons issued by BHEL. Mix-up of test specimens from other test coupon and improper transfer of identification to final test specimen will be viewed seriously.

- 3.4. The various types of test specimen, in different quantities, as required under each enquiry / work order, are to be cut and machined from the test coupon.
- 3.5. Cutting is to be done by any type of band saw cutting machine with adequate coolant supply. However, there is a special case of ring machining (in carbon & low alloy steel category) wherein tubes are required to be cut without coolant supply. Vendor shall adhere to the instructions specific to each work order.
- 3.6. No thermal cutting is permitted.
- 3.7. Cutting of test coupon with motorized saw or cutting wheel without coolant application is not permitted.
- 3.8. If in any special case, the size of test coupon requires to be cut down to smaller size without affecting any weld and the location from where specimen is to be extracted, thermal cutting may be employed for the same with prior approval from Plant Lab In-charge.
- 3.9. For test coupon cutting, refer the respective details against each enquiry / work order.
- 3.10. For test coupon identified with third party inspector (TPI) seal, ensure that all the test specimen machined out of the test coupon is bearing the TPI seal.
- 3.11. Intermediate stage seal transfer after first stage of cutting is required to ensure availability of TPI seal in the finished test specimen. Inspection call for intermediate stage seal transfer shall be given by vendor to Plant Lab In-charge. Based on the decision by Lab In-charge, either vendor shall bring the cut test coupon to issuing department in BHEL or TPI will visit vendor premises with BHEL personnel for seal transfer. Vendor has to accommodate BHEL personnel and TPI at their works during the seal transfer activity.

4. MACHINING OF TEST SPECIMEN:

- 4.1. Vendor shall have the capability to prepare all types of specimen specified in the tender as per the list of drawings, within the applicable dimensional tolerance.
- 4.2. Drawings will be revised from time to time, in line with revision in standards. Vendor should ensure availability of all drawing / sampling plan provided by BHEL.
- 4.3. After machining of test specimen, the lab ref no and specimen ID as required in enquiry / work order shall be punched with metal punch in each specimen.
- 4.4. Punching shall be done in both ends in case of tensile, impact & bend specimen.

5. INSPECTION:

- 5.1. Inspection of the prepared specimen has to be carried out by vendor at their works.
- 5.2. An inspection report (IR) shall be made individually for each enquiry / work order.
- 5.3. The inspection report shall contain enquiry / work order no, Plant lab registration ref no, identification of each specimen and drawing number issued by BHEL for the respective specimen, along with dimensions of specimen as specified in drawing.
- 5.4. The required dimensional tolerances should also be mentioned in the report.
- 5.5. After delivering the specimen to Plant Lab, dimension of test specimen will be verified by plant lab personnel for acceptance.
- 5.6. Deviation from the dimensional requirement of drawing will deem the specimen as rejected. Payment cannot be claimed for any rejected specimen. Vendor shall prepare a replacement test specimen from the balance test coupon to compensate for the rejected specimen. In case of acceptance of the replacement specimen, payment can be claimed only for the accepted test specimen.

5.7. Periodic / Surprise inspection of test coupon and machined test specimen may be carried out by BHEL and/or TPI at the vendor works. Recorded results, if any, during the visit shall be maintained in a register.

6. DELIVERY:

- 6.1. Machined specimen and balance test coupon material identified with Plant lab registration ref no are to be dispatched to Plant Laboratory with delivery challan and respective inspection reports, at vendor's cost.
- 6.2. Delivery of machined test specimen and balance test coupon can be done either by hand or with a vehicle.
- 6.3. In case of material dispatch with a vehicle, a representative of the vendor, other than the driver, has to accompany the vehicle and ensure proper delivery of specimen to different sections of Plant Lab, BHEL.
- 6.4. Vendor representative visiting BHEL for collection and delivery of material shall have knowledge of specimen machining and be able to interpret drawings provided by BHEL. It is required to employ a person with a minimum qualification of ITI.
- 6.5. Delivery target for specimen preparation is specified in Table 1.

Table 1 – Target days

No of test specimen	Target time* (in hours)	Due date for dispatch of specimen from the date of intimation for test coupon collection	
		for non-critical specimen (collection time + machining time + dispatch time) (in days)	for critical specimen (collection time + machining time + dispatch time) (in days)
10 & under	8	3+1+1	1+1+1
11 - 15	16	3+1+1	1+1+1
16 - 25	32	3+2+1	1+2+1
26 - 50	48	3+3+1	1+3+1
51 - 100	64	3+4+1	1+4+1
101 - 150	80	3+5+1	1+5+1
151 - 200	96	3+6+1	1+6+1
For every additional 50 specimen	Additional 16 hrs	3 days collection time & 1 day dispatch time	3 days collection time & 1 day dispatch time

6.6. As already specified in clause under material collection, the maximum time for collection of regular test coupon is 3 days and for critical test coupon is 1 day from date of intimation.

- 6.7. Considering the difficulty in cutting & machining stainless steel, nickel base alloy & titanium test coupons, an additional time factor of 50% shall be included to the target time.
- 6.8. Also, considering the extra time involved in cutting & machining high thickness plates ($t > 60\text{mm}$), pipes ($t > 40\text{mm}$) & higher diameter rods ($\text{dia} > 60\text{mm}$), an additional time factor of 30% shall be included to the target time of carbon & low alloy steel coupons. However, for stainless steel, nickel base alloy & titanium test coupons with larger section area, the additional time factor shall be 60%.
- 6.9. To understand the table, say, if 6 carbon steel (thickness 50mm) & 4 stainless steel (thickness 80mm) test coupons are collected from BHEL on a day, and from the 10 coupons, 120 specimens (80 carbon steel & 40 stainless steel specimen) need to be machined in total, the target time for completing machining of 80 carbon steel specimens is 64 hrs and for completing 40 stainless steel specimens is 77 hours. i.e. 9 days in total. Delivery of these 120 specimens to Plant Lab shall be made within the 10th day from collection, in a staggered manner, depending on the order of priority given for the 10 test coupons. However, if both the conditions as mentioned in clause 6.7 and 6.8 is applicable, the additional time factor of higher percentage shall prevail.

Table 2 – Calculation of target time

Sl.No	Material specification	Coupon thickness (mm)	Specimen qty	Target as per TABLE 1 (in hrs)	Additional time factor w.r.to matl. type	Additional time factor w.r.to thickness	Applicable additional time factor	Target (in hrs)	Target (in days)
1	Carbon steel	50	80	64	-NA-	-NA-	-NA-	64	4
2	Stainless steel / Nickel alloy	80	40	48	50%	60%	60%	76.8	5
3	Carbon steel	85	90	64	-NA-	30%	30%	83.2	6
4	Stainless steel / Nickel alloy	45	32	48	50%	-NA-	50%	72	5

Calculation of target time w.r.t the text mentioned above is illustrated in table. 16 Hrs of target time will be calculated as one day. Above 16 Hrs will be counted as two days and so on with multiples of 16.

- 6.10. The target specified as above is to be followed at all times. However, as and when required, based on urgent requirement, target time for any of the test coupons shall be arrived at by mutual agreement with the vendor.

7. SPECIAL INSTRUCTIONS TO THIS ENQUIRY:

- 7.1. The responsibility of providing the necessary safety equipment to vendor representative / vehicle driver lies with the vendor. BHEL shall not be held accountable for any accidents inside / outside

BHEL premises, arising due to negligence or ignorance of safety guidelines by an employee / representative of vendor.

- 7.2. Any claims made by the vendor, regarding the education qualification of their employees, must be supported by submitting valid proof (from Govt. institution/institutions affiliated to Govt.) while submitting application for entry pass.

SPECIMEN PREPARATION CONTRACT-I
TECHNICAL TERMS & CONDITIONS

8 PRE-AWARD ASSESSMENT:

- 8.1 Technical evaluation would be completed at vendor works, after verification of details provided by the vendor in the tender. Any discrepancies observed during the evaluation may lead to disqualification of vendor.
- 8.2 To assess the performance of vendor in terms of quality, timely delivery and competence in execution of contract, an assessment would be carried out as part of technical evaluation.
- 8.3 The assessment may also involve preparation of specimen from a test coupon as per given sampling plan. Vendor has to collect the test coupon from Plant Lab, BHEL, prepare specimen as per the sampling plan and drawings at the time of vendor evaluation by BHEL team at their works.
- 8.4 Details of assessment would be disclosed only after opening technical bid. Assessment would be started only after verifying the authenticity of details provided in technical evaluation.
- 8.5 Vendors who qualify the assessment would be treated as technically qualified and price bids of those qualified vendors would be considered for evaluation.

9 GAUGES AND MEASURING INSTRUMENTS:

- 9.1 As a minimum requirement, vendor shall have the instruments as per the checklist in PQC.
- 9.2 All standard gauges & measuring instruments used by the vendor shall be duly calibrated by approved agency.
- 9.3 List of all standard gauges & measuring instruments along with its calibration status has to be provided during tendering stage / pre-bid inspection for technical evaluation. In case of finalization of contract, vendor shall provide the status of measuring instruments & gauges during each vendor evaluation (refer clause for "Vendor Evaluation").
- 9.4 Before using gauges / measuring instruments during machining / inspection of the components, it should be ensured that their calibration is not overdue.

10 PROVISION OF ADEQUATE SAFETY MEASURES:

- 10.1 At their works, the vendor shall follow necessary safety practices w.r.to plant, machinery and personnel, as required for execution of the contract.
- 10.2 If any equipment in vendor works is found not complying with proper safety requirements/conditions, BHEL may withhold visit / inspection and can instruct stoppage of work till the desired safety requirements are met.
- 10.3 It is vendor's responsibility to provide proper PPE to employees at their works and for representative entering BHEL premises for collection of test coupon & dispatch of machined test specimen.

11 VENDOR EVALUATION:

11.1 Periodic vendor evaluation will be carried out, either monthly / bimonthly. The following activities with respective weightage as mentioned in Table 2 will be taken into consideration for evaluation.

Table 3 – Vendor evaluation criteria

SI No	Activity	Weightage for vendor evaluation (%)
1	Material collection in time stipulated as per contract scope	20
2	Segregation & storage of material in vendor works enabling easy retrieval.	5
3	Delivery of specimen within the target time as per contract scope	30
4	Quality of machined specimen and inspection report	25
5	Upkeep of minimum required capacity & capability as required in the tender. This includes machinery, man power, measuring instruments with valid calibration etc.	20

11.2 BHEL may cancel / withhold the contract at any point of time during the contract period, if periodic quality deviations are observed or if continuous poor performance is recorded in vendor evaluation.

11.3 Continuous slackness in maintaining the scores in even any one of the criteria, during the course of the contract, may result in termination of the contract.

11.4 Vendor shall acknowledge the evaluation report sent by BHEL and if required by BHEL, should provide suitable course corrective actions for improving the performance.

11.5 BHEL may take back already loaded test coupons, stop loading test coupons to vendor or terminate the contract, if found to deviate from the contract terms or cause damage to test coupons beyond repair or misplace test coupons loaded to them.

12 TERMS OF DELIVERY FOR FINISHED TEST SPECIMENS:

12.1 Machined test specimens and balance test coupon shall be delivered at Plant Laboratory along with the Inspection Report (IR) of the prepared specimens and Delivery Challan(DC) at vendor's cost.

12.2 Three copies of IR and three copies of DC shall accompany each consignment of machined test specimen.

12.3 IR shall be prepared as per clause under Inspection in Scope of Work.

12.4 DC shall contain PO ref no against each specimen type and quantity. Acknowledgement for gate entry shall be obtained from security department, in a copy of DC, while bringing the material inside BHEL premises.

12.5 Without the above documents, test specimens will not be accepted by Plant laboratory, BHEL.

12.6 On acceptance of machined specimen by Plant laboratory personnel, acknowledgement will be given in all 3 copies of DC and 3 copies of IR. The DC & IR copies shall later be submitted along with invoice.

12.7 In case of rejection of machined specimen, the same will be noted by plant lab personnel in both the IR & DC while acknowledging.

13 INVOICE SUBMISSION:

13.1 Vendor shall submit invoice to claim payment for the test specimen accepted by Plant Lab.

13.2 Payment cannot be claimed for test specimen with quality deviation, rejected by Plant Lab.

13.3 Three sets of Invoice shall be submitted along with IR & DC copies acknowledged by Plant Lab personnel.

13.4 The invoice shall be addressed to Manager, Finance, BHEL, Trichy & Plant Laboratory.

14 STORAGE & ACCOUNTAL OF TEST COUPON:

14.1 Vendor works shall have designated places for

- i) Storage of fresh test coupon received from BHEL.
- ii) Storage of in-process test coupon.
- iii) Storage of balance test coupon, from which test specimen as required in enquiry / work order has been delivered to BHEL.

14.2 The test coupon shall also be segregated as per the class of material (i.e. carbon & low alloy steel, stainless steel, Ni base & Ti alloys)

14.3 The balance test coupon needs to be stored in vendor works for a time period when repeat test specimen might be required from them, to account for either

- i) test specimen rejected in Plant lab owing to quality deviations.
- ii) or extra test specimen required by plant lab for testing.

14.4 The balance coupon shall be returned to BHEL when intimated by Plant Lab In-charge.

14.5 Vendor should assume responsibility for the test coupon, from the time of collection from BHEL premises till the delivery of balance coupon to BHEL.

14.6 Vendors are expected to exercise caution while working with certain test coupons which are very expensive and sensitive to certain machining / material handling processes. As the type of materials are known prior to award of contract, it is advised to refrain from any sort of unconventional machining / material handling practices.

15 CONFIDENTIALITY:

15.1 All the documents of BHEL including drawings, quality documents, sampling plans etc., made available to the vendor should be kept in strict confidence and under no circumstances, be made available to others or allow others to make use of that for any other commercial purpose whatsoever.

15.2 All these documents should be returned to Plant Lab, BHEL, after completion of the contract period. This secrecy clause is binding on the employee of vendors too. Any contravention will be viewed seriously.

**SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR
2023-25**

PART III - PRE-QUALIFICATION CRITERIA (SPECIMEN PREPARATION CONTRACT I)

A	COMPLIANCE TO GENERAL TERMS & CONDITIONS	
Sl. no.	Description	Vendor's compliance
1	Compliance to Part I – Scope of work & Part II – Technical terms & conditions of this tender	(Agreed / Not agreed)
2	The test coupons loaded on the vendors are generated from raw materials / welded components / machined components / failed components, which are of very high value and cannot be reproduced. Safe custody of test coupons shall be the sole responsibility of the vendor to whom the test coupons are loaded. The vendor is liable for penalization, in case of loss / damage of coupon, to the extent of reproduction of the coupon handed over to them.	Agreed / Not agreed
3	The test coupon provided for specimen preparation work along with drawings, technical & quality documents are the sole property of BHEL. No information pertaining to the specimen preparation activity shall be shared with any third party. Any violation w.r.to the same will draw legal course of action.	Agreed / Not agreed
4	The time taken for test coupon collection from BHEL, specimen machining and dispatch of machined test specimens shall be as per the contract terms and any short fall will lead to imposition of penalty as per the LD clause in Technical terms & conditions.	Agreed / Not agreed
5	BHEL reserves the right to make a visit to bidder(s) firm / workshop, to assess the capability / capacity, in case it is warranted, prior to qualifying the bidder(s) on technical grounds. BHEL reserves the right to make a visit to the works of vendor, on whom PO is placed after finalization of contract.	Agreed / Not agreed
6	Vendor evaluation will be carried out every month to assess the performance of vendor in five different heads – i) material collection time as per contract scope ii) Segregation & storage of test coupon, balance material and finished specimen in identified places enabling easy retrieval. iii) Delivery within target time. iv) Quality of machined specimen & Inspection report. v) Upkeep of minimum required capacity & capability as required in the tender. Continuous poor performance, even in any one of the criteria, will lead to termination of the contract.	Agreed / Not agreed

Authorized Digital Signature



Tender No.: 9472200104

December 15, 2022

SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25

B	VENDOR DETAILS		
1	Name of Firm / Establishment		
2	Postal address of the Office and Works (including landmarks for easy location)		
3	Name of contact person with contact details [e-mail ID, Landline number and Mobile number(s) for single point contact]		
4	Details of alternate contact person		
C	LOCATION OF MACHINE SHOP / WORKS		
Sl. no	Location of machine shop / works	Vendor's compliance (Yes / No)	Bidder / Vendor response with complete details
1	The machine shop for specimen preparation shall be located in Tamil Nadu.		(Address of machine shop with pin code)

D	LIST OF FACILITIES			
Sl. no	Description	Minimum requirement	Vendor's compliance	Bidder / Vendor response with complete details

SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25

			(Yes / No)	
1	Bi-metallic blade band saw machines with capability to hold test coupon with width up to and including 400mm	3 no's		(Details like technical specification, range of holding capacity, make, year of manufacture etc. to be provided)
2	Conventional / CNC center lathe for turning specimens	3* no's (* - One of the three work centers shall be able to hold job size of diameter 2.50 mm)		(Details like technical specification, range of diameter that can be machined, make, year of manufacture etc. to be provided)
3	Vertical milling machine with clamping attachments	1 no		(Details like technical specification, range of thickness & width that can be machined, make, year of manufacture etc. to be provided)
4	Surface grinding machine for polishing macro, micro, hardness and impact specimens.	1 no		(Details like technical specification, make, year of manufacture etc. to be provided)
Sl. no	Description	Minimum requirement	Vendor's compliance (Yes / No)	Bidder / Vendor response with complete details
5	Capability for preparing impact test specimen within dimensional tolerance specified in 5a	Dimensional report to prove out capability to be attached		(Vendor shall machine an impact specimen with V notch, in their specimen preparation facility, and obtain a dimension certificate report from Calibration Centre, BHEL, Trichy / any other NABL accredited calibration laboratory to prove out their capability)

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5a	Notch Details 4X Scale V-Notch Rectangular Chip			
	ID number	Description	Dimension	Tolerance
	1	Length of specimen	55 mm	+0 / -2.5mm
	2	Centering of notch		±1 mm
	3	Notch length of edge	90°	±2°
	4	Adjacent sides angle	90°	±0.17°
	5	Width	10mm	±0.075mm
	6	Thickness	10mm	±0.075mm
	7V	Ligament length, Type V	8mm	±0.025mm
	8V	Radius of notch, Type V	0.25mm	±0.025mm
9	Angle of notch	45°	±1°	
A	Surface finish requirements	2µm (Ra)	≤	
B	Surface finish requirements	4µm (Ra)	≤	

Sl. no	Description	Minimum requirement	Vendor's compliance (Yes / No)	Bidder / Vendor response with complete details
6	Notch broaching machine with V & U cutters for machining impact specimen.	1 No		(Details like technical specification, make, year of manufacture etc. to be provided)
7	Impact specimen V & U notch cutter	2 No's each for V & U notch cutting		(Share details)

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8	Alpha-Numeric punch set – sizes from 3mm to 10 mm.	3 sets in three different sizes in the range (3-10 mm)		
9	Electric hand engraving tool	1 No		
10	Complete set of measuring instrument with valid calibration			
10a	Vernier caliper (0-150mm)	3 Nos		(Details like range, least count, calibration details etc. to be provided)
10b	Outside micrometer - Flat end (0-25mm)	1 No		(Details like range, least count, calibration details etc. to be provided)
10c	Outside micrometer - Double ball end (0-25mm)	1 No		(Details like range, least count, calibration details etc. to be provided)
10d	Ring gauges – set of GO – NOGO plug gauge for the following thread sizes with valid calibration M8 x 1.25, M10 x 1.5, M12 x 1.75 & M16 x 2	1 set in each of the four sizes		(Calibration details to be provided)
10e	Special micrometer with attachment for measuring V & U notch depth in impact specimen / any other means to measure notch depth	1 No		(Details like range, least count, calibration details etc. to be provided)
Sl. no	Description	Minimum requirement	Vendor's compliance (Yes / No)	Bidder / Vendor response with complete details
10f	Vernier bevel protractor for ensuring square cross section of impact specimen	1 No		(Details like range, least count, calibration details etc. to be provided)
10g	Height measurement gauge with needle attachment / any other instrument to measure back notch depth in drop weight specimen.	1 No		(Details like range, least count, calibration details etc. to be provided)

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11	Suitable chemicals to etch weldment to identify weld and HAZ. The firm should have macro-etching reagents for stainless steel, carbon/low alloy steel and titanium materials.	Ensure availability of the following etching reagents 1. Hydrochloric acid 2. Nitric acid 3. Picric acid 4. Ethanol 5. Methanol 6. Hydrofluoric acid Alternate chemicals can also be used to etch the samples.		
12	Exclusive storage facility for BHEL supplied test coupons, semi-finished specimen, finished specimen and balance material with proper roofing and flooring.	Details of storage management shall be submitted as a procedure		(Provide details about how i) test coupon, specimen and balance material will be segregated and stored ii) coupon identity number will be transferred on to individual specimen and balance material iii) mix-up of materials will be avoided)
Sl. no	Description	Minimum requirement	Vendor's compliance (Yes / No)	Bidder / Vendor response with complete details
13	Alternate specimen preparation facilities in case of emergency / exigencies. (Note: Sub-contracting of specimen preparation shall be carried out only with the approval of BHEL, Trichy in case of exigencies.)			(Brief how BHEL's requirements will be met by an alternate source , in case of unforeseen breakdown of machineries / power outages / skilled manpower shortage etc.)

E	SKILLED MANPOWER & SHIFT OPERATION
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Sl. no	Description	Minimum requirement	Vendor's compliance (Yes / No)	Bidder / Vendor response with complete details
1	Strength of skilled manpower for supervision / inspection / machine Operation / material transportation and contract coordination with BHEL – Proposed deployment to be elaborated.	i) Skilled machine operator - one per each lathe and milling machine. One operator each for cutting & surface grinding activity. This amounts to 6 machine operators per shift. ii) Supervision / Inspection – One person shall supervise the entire preparation activity and bridge communication, technical clarification with BHEL. He/she or another person shall handle inspection of specimen. iii) A representative having knowledge of specimen preparation for coordinating collection of coupon and dispatch of specimen. Personnel for these three activities shall be exclusive and shouldn't overlap.		(Details of the number of operators employed permanently and their qualification with experience to be enclosed)
2	Operating shifts	Vendor should be able to operate two shifts with the minimum required manpower to meet the target delivery time of test coupons collected from Plant Lab, BHEL.		

F	TRANSPORT FACILITY			
Sl. no	Description	Minimum requirement	Vendor's compliance (Yes / No)	Bidder / Vendor response with complete details
1	Transportation to ensure movement of materials between BHEL and the firm at short notice with a safe handling guarantee.	The materials are to be collected from and deposited back to BHEL Plant Laboratory by the Vendor in their own vehicle / hired vehicle with all the statutory requirements. A mini-truck with load carrying capacity of minimum 0.75 ton is required. The vehicle shall have a valid registration and BHEL gate pass shall be obtained/ renewed periodically from security office after award of contract. Cleaner/ Company representative shall accompany the driver at all times of vehicle plying inside BHEL campus. Arrangements shall be available with the vehicle to avoid pilferage / loss of test coupons / samples during transit.		(Details of vehicle to be provided)



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H	PRIOR EXPERIENCE			
Sl. no	Description	Minimum requirement	Vendor's compliance (Yes / No)	Bidder / Vendor response with complete details
1	The intended contract being of prime importance, the BIDDER is requested to provide details of their earlier / previous experience in carrying out mechanical test specimen preparation work in any of the material category (Carbon steel, low alloy steel, stainless steel or titanium). The details must include preparation of tensile specimen and impact specimen.	Purchase Order copy from any reputed institution / organization (preferably government organization), for carrying out similar specimen preparation work in the past 3 years.		

SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25

A. BILL OF QUANTITY (Percentage of allocation on quoted Lump sum Rate-Schedule-I)

SN	Description	Qty. (Unit) Tentative	% allocation on quoted lump sum value
10	Carbon & low alloy-smaller cross section		
10.1	Threaded tensile	900	3.690%
10.2	Rectangular tensile	652	2.670%
10.3	Bend	3,200	10.190%
10.4	Macro / Micro / Hardness / Chemical	5,340	14.580%
10.5	Impact	3,800	6.920%
10.6	Ring machining	800	1.820%
10.7	Flaring / Flattening	563	1.280%
10.8	Pellini drop weight	100	0.230%
10.9	Notch for drop weight	660	0.900%
20	Carbon & low alloy-larger cross section		
20.1	Threaded tensile	400	2.000%
20.2	Rectangular tensile	100	0.500%
20.3	Bend	300	1.360%
20.4	Macro / Micro / Hardness / Chemical	200	0.820%
20.5	Impact	750	2.050%
20.6	Pin for chemical analysis	200	0.360%
20.7	Pellini drop weight	400	1.270%
30	Stainless steel test coupon		
30.1	Threaded tensile	200	1.090%
30.2	Rectangular tensile	200	1.090%
30.3	Bend	100	0.450%
30.4	Macro / Micro / Hardness / Chemical / De	300	1.230%
30.5	Impact	250	0.800%
30.6	Pin for chemical analysis	100	0.180%
30.7	Flaring / Flattening	200	0.730%
30.8	IGCT(E) specimen	100	0.230%
40	IBR welder performance qualification		
40.1	Bend	12,960	17.690%
40.2	Macro	12,240	16.710%
40.3	Tube + fin macro	192	0.350%
50	Titanium tube to tube sheet weld blocks		0.000%
50.1	Micro	2,420	8.810%
			100.000%

The rates will be rounded off to nearest two decimal places only so as to match the total amount or closest to the total amount, quoted by the bidder. Rates so arrived by BHEL will be final and binding on the contractor.

SPECIMEN PREPARATION CONTRACT-Schedule-II

SCOPE OF WORK

1. MATERIAL COLLECTION:

- 1.1 All the test coupons like raw material, welded plates, castings or forgings etc. are to be collected by the vendor from different issuing departments in BHEL Trichy premises, at vendor's cost through non-returnable gate pass at BHEL works.
- 1.2 This is not a one-time award and one-time execution contract. The activity requires collection of test coupon on short notice, even on the same day of intimation, for meeting urgent production requirement.
- 1.3 However, in case of regular testing requests, test coupon collection from issuing departments shall be carried out within 3 days from the time of intimation. Decision on regular/urgent testing requirement lies with Plant Lab In-charge.
- 1.4 Based on the size of test coupon, collection needs to be done either by hand or with a vehicle (with a minimum load carrying capacity of 750 kg).
- 1.5 Vehicle for test coupon collection needs to be arranged two times per week compulsorily (week consists of 6 BHEL working days).
- 1.6 In case of material collection with a vehicle, a representative of the vendor, other than the driver, has to accompany the vehicle and ensure proper collection of test coupon from issuing departments along with the respective enquiry / work order for each test coupon.

2. TEST COUPON VERIFICATION:

- 2.1 Vendor representative visiting BHEL for collection and delivery of material shall have knowledge of specimen machining and be able to interpret drawings provided by BHEL. It is required to employ a person with a minimum qualification of ITI.
- 2.2 While collecting test coupon from BHEL, vendor representative shall check-up the size, specification and quantity as per entry in the non-returnable gate pass.
- 2.3 If any damage is noticed in the test coupon, the same shall be communicated to Plant Lab In-charge immediately. The test coupon shall be collected only based on the assurance from Plant Lab In-charge that the damage will not affect the specimen to be machined.
- 2.4 If the test coupon is not sufficient to prepare specimens as required in the enquiry / work order, the same is to be immediately reported to Plant Lab In-charge before coupon collection, for resolving the matter suitably.
- 2.5 It is vendor's responsibility to ensure safety of man, material & vehicle during the time, any activity pertaining to the contract is being carried out inside / outside BHEL premises.

3. TEST COUPON CUTTING, MARKING & TPI SEAL TRANSFER:

- 3.1 The test coupon received from issuing departments in BHEL will have lab reference marked on them. Marking shall be done on the coupon, for specimens as required in enquiry / work order.
- 3.2 Before proceeding with cutting, lab ref no shall be marked on the space marked for test specimen. Lab ref no shall be punched with metal punch, in the balance portion of test coupon.
- 3.3 Vendor shall take adequate care to ensure preparation of specimens from the respective test coupons issued by BHEL. Mix-up of test specimens from other test coupon and improper transfer of identification to final test specimen will be viewed seriously.
- 3.4 The various types of test specimen, in different quantities, as required under each enquiry / work order, are to be cut and machined from the test coupon.

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- 3.5 Cutting is to be done by any type of band saw cutting machine with adequate coolant supply. However, there is a special case of ring machining (in carbon & low alloy steel category) wherein tubes are required to be cut without coolant supply. Vendor shall adhere to the instructions specific to each work order.
- 3.6 No thermal cutting is permitted.
- 3.7 Cutting of test coupon with motorized saw or cutting wheel without coolant application is not permitted.
- 3.8 If in any special case, the size of test coupon requires to be cut down to smaller size without affecting any weld and the location from where specimen is to be extracted, thermal cutting may be employed for the same with prior approval from Plant Lab In-charge.
- 3.9 For test coupon cutting, refer the respective details against each enquiry / work order.
- 3.10 For test coupon identified with third party inspector (TPI) seal, ensure that all the test specimen machined out of the test coupon is bearing the TPI seal.
- 3.11 Intermediate stage seal transfer after first stage of cutting is required to ensure availability of TPI seal in the finished test specimen. Inspection call for intermediate stage seal transfer shall be given by vendor to Plant Lab In-charge. Based on the decision by Lab In-charge, either vendor shall bring the cut test coupon to issuing department in BHEL or TPI will visit vendor premises with BHEL personnel for seal transfer. Vendor has to accommodate BHEL personnel and TPI at their works during the seal transfer activity.

4. MACHINING OF TEST SPECIMEN:

- 4.1 Vendor shall have the capability to prepare all types of specimen specified in the tender as per the list of drawings, within the applicable dimensional tolerance.
- 4.2 Drawings will be revised from time to time, in line with revision in standards. Vendor should ensure availability of all drawing / sampling plan provided by BHEL.
- 4.3 After machining of test specimen, the lab ref no and specimen ID as required in enquiry / work order shall be punched with metal punch in each specimen.
- 4.4 Punching shall be done in both ends in case of tensile, impact & bend specimen.

5. INSPECTION:

- 5.1 Inspection of the prepared specimen has to be carried out by vendor at their works.
- 5.2 An inspection report (IR) shall be made individually for each enquiry / work order.
- 5.3 The inspection report shall contain enquiry / work order no, Plant lab registration ref no, identification of each specimen and drawing number issued by BHEL for the respective specimen, along with dimensions of specimen as specified in drawing.
- 5.4 The required dimensional tolerances should also be mentioned in the report.
- 5.5 After delivering the specimen to Plant Lab, dimension of test specimen will be verified by plant lab personnel for acceptance.
- 5.6 Deviation from the dimensional requirement of drawing will deem the specimen as rejected. Payment cannot be claimed for any rejected specimen. Vendor shall prepare a replacement test specimen from the balance test coupon to compensate for the rejected specimen. In case of acceptance of the replacement specimen, payment can be claimed only for the accepted test specimen.
- 5.7 Periodic / Surprise inspection of test coupon and machined test specimen may be carried out by BHEL and/or TPI at the vendor works. Recorded results, if any, during the visit shall be maintained in a register.

6. DELIVERY:

- 6.1 Machined specimen and balance test coupon material identified with Plant lab registration ref no are to be dispatched to Plant Laboratory with delivery challan and respective inspection reports, at vendor's cost.
- 6.2 Delivery of machined test specimen and balance test coupon can be done either by hand or with a vehicle.
- 6.3 In case of material dispatch with a vehicle, a representative of the vendor, other than the driver, has to accompany the vehicle and ensure proper delivery of specimen to different sections of Plant Lab, BHEL.
- 6.4 Vendor representative visiting BHEL for collection and delivery of material shall have knowledge of specimen machining and be able to interpret drawings provided by BHEL. It is required to employ a person with a minimum qualification of ITI.
- 6.5 Delivery target for specimen preparation is specified in Table 1.

Table 4 – Target days

No of test specimen	Target time* (in hours)	Due date for dispatch of specimen from the date of intimation for test coupon collection	
		for non-critical specimen (collection time + machining time + dispatch time) (in days)	for critical specimen (collection time + machining time + dispatch time) (in days)
10 & under	8	3+1+1	1+1+1
11 - 15	16	3+1+1	1+1+1
16 - 25	32	3+2+1	1+2+1
26 - 50	48	3+3+1	1+3+1
51 - 100	64	3+4+1	1+4+1
101 - 150	80	3+5+1	1+5+1
151 - 200	96	3+6+1	1+6+1
For every additional 50 specimen	Additional 16 hrs	3 days collection time & 1 day dispatch time	3 days collection time & 1 day dispatch time

- 6.6 As already specified in clause under material collection, the maximum time for collection of regular test coupon is 3 days and for critical test coupon is 1 day from date of intimation.
- 6.7 Considering the difficulty in cutting & machining stainless steel, nickel base alloy & titanium test coupons, an additional time factor of 50% shall be included to the target time.

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- 6.8 Also, considering the extra time involved in cutting & machining high thickness plates ($t > 60\text{mm}$), pipes ($t > 40\text{mm}$) & higher diameter rods ($\text{dia} > 60\text{mm}$), an additional time factor of 30% shall be included to the target time of carbon & low alloy steel coupons. However, for stainless steel, nickel base alloy & titanium test coupons with larger section area, the additional time factor shall be 60%.
- 6.9 To understand the table, say, if 6 carbon steel (thickness 50mm) & 4 stainless steel (thickness 80mm) test coupons are collected from BHEL on a day, and from the 10 coupons, 120 specimens (80 carbon steel & 40 stainless steel specimen) need to be machined in total, the target time for completing machining of 80 carbon steel specimens is 64 hrs and for completing 40 stainless steel specimens is 77 hours. i.e. 9 days in total. Delivery of these 120 specimens to Plant Lab shall be made within the 10th day from collection, in a staggered manner, depending on the order of priority given for the 10 test coupons. However, if both the conditions as mentioned in clause 6.7 and 6.8 is applicable, the additional time factor of higher percentage shall prevail.

Sl.No	Material specification	Coupon thickness (mm)	Specimen qty	Target as per TABLE 1 (in hrs)	Additional time factor w.r.to matl. type	Additional time factor w.r.to thickness	Applicable additional time factor	Target (in hrs)	Target (in days)
1	Carbon steel	50	80	64	-NA-	-NA-	-NA-	64	4
2	Stainless steel / Nickel alloy	80	40	48	50%	60%	60%	76.8	5
3	Carbon steel	85	90	64	-NA-	30%	30%	83.2	6
4	Stainless steel / Nickel alloy	45	32	48	50%	-NA-	50%	72	5

Calculation of target time w.r.t the text mentioned above is illustrated in table. 16 Hrs of target time will be calculated as one day. Above 16 Hrs will be counted as two days and so on with multiples of 16.

- 6.10 The target specified as above is to be followed at all times. However, as and when required, based on urgent requirement, target time for any of the test coupons shall be arrived at by mutual agreement with the vendor.

7. SPECIAL INSTRUCTIONS TO THIS ENQUIRY:

- 7.1 The responsibility of providing the necessary safety equipment to vendor representative / vehicle driver lies with the vendor. BHEL shall not be held accountable for any accidents inside / outside BHEL premises, arising due to negligence or ignorance of safety guidelines by an employee / representative of vendor.
- 7.2 Any claims made by the vendor, regarding the education qualification of their employees, must be supported by submitting valid proof (from Govt. institution/institutions affiliated to Govt.) while submitting application for entry pass.

SPECIMEN PREPARATION CONTRACT-Schedule-II
TECHNICAL TERMS & CONDITIONS

8. PRE-AWARD ASSESSMENT:

- 8.1 Technical evaluation would be completed at vendor works, after verification of details provided by the vendor in the tender. Any discrepancies observed during the evaluation may lead to disqualification of vendor.
- 8.2 To assess the performance of vendor in terms of quality, timely delivery and competence in execution of contract, an assessment would be carried out as part of technical evaluation.
- 8.3 The assessment may also involve preparation of specimen from a test coupon as per given sampling plan. Vendor has to collect the test coupon from Plant Lab, BHEL, prepare specimen as per the sampling plan and drawings at the time of vendor evaluation by BHEL team at their works.
- 8.4 Details of assessment would be disclosed only after opening technical bid. Assessment would be started only after verifying the authenticity of details provided in technical evaluation.
- 8.5 Vendors who qualify the assessment would be treated as technically qualified and price bids of those qualified vendors would be considered for evaluation.

9. GAUGES AND MEASURING INSTRUMENTS:

- 9.1 As a minimum requirement, vendor shall have the instruments as per the checklist in PQC.
- 9.2 All standard gauges & measuring instruments used by the vendor shall be duly calibrated by approved agency.
- 9.3 List of all standard gauges & measuring instruments along with its calibration status has to be provided during tendering stage / pre-bid inspection for technical evaluation. In case of finalization of contract, vendor shall provide the status of measuring instruments & gauges during each vendor evaluation (refer clause for "Vendor Evaluation").
- 9.4 Before using gauges / measuring instruments during machining / inspection of the components, it should be ensured that their calibration is not overdue.

10. PROVISION OF ADEQUATE SAFETY MEASURES:

- 10.1 At their works, the vendor shall follow necessary safety practices w.r.to plant, machinery and personnel, as required for execution of the contract.
- 10.2 If any equipment in vendor works is found not complying with proper safety requirements/conditions, BHEL may withhold visit / inspection and can instruct stoppage of work till the desired safety requirements are met.
- 10.3 It is vendor's responsibility to provide proper PPE to employees at their works and for representative entering BHEL premises for collection of test coupon & dispatch of machined test specimen.

11. VENDOR EVALUATION:

- 11.1 Periodic vendor evaluation will be carried out, either monthly / bimonthly. The following activities with respective weightage as mentioned in Table 2 will be taken into consideration for evaluation.

Table 2 – Vendor evaluation criteria

Sl No	Activity	Weightage for vendor evaluation(%)
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1	Material collection in time stipulated as per contract scope	20
2	Segregation & storage of material in vendor works enabling easy retrieval.	5
3	Delivery of specimen within the target time as per contract scope	30
4	Quality of machined specimen and inspection report	25
5	Upkeep of minimum required capacity & capability as required in the tender. This includes machinery, man power, measuring instruments with valid calibration etc.	20

11.2 In case of tender being finalized with more than one vendor, loading share of test coupon to individual vendor will be based on their performance rating.

11.3 BHEL may cancel / withhold the contract at any point of time during the contract period, if periodic quality deviations are observed or if continuous poor performance is recorded in vendor evaluation.

11.4 Continuous slackness in maintaining the scores in even any one of the criteria, during the course of the contract, may result in termination of the contract.

11.5 Vendor shall acknowledge the evaluation report sent by BHEL and if required by BHEL, should provide suitable course corrective actions for improving the performance.

11.6 BHEL may take back already loaded test coupons, stop loading test coupons to vendor or terminate the contract, if found to deviate from the contract terms or cause damage to test coupons beyond repair or misplace test coupons loaded to them.

12. TERMS OF DELIVERY FOR FINISHED TEST SPECIMENS:

12.1 Machined test specimens and balance test coupon shall be delivered at Plant Laboratory along with the Inspection Report (IR) of the prepared specimens and Delivery Challan(DC) at vendor's cost.

12.2 Three copies of IR and three copies of DC shall accompany each consignment of machined test specimen.

12.3 IR shall be prepared as per clause under Inspection in Scope of Work.

12.4 DC shall contain PO ref no against each specimen type and quantity. Acknowledgement for gate entry shall be obtained from security department, in a copy of DC, while bringing the material inside BHEL premises.

12.5 Without the above documents, test specimens will not be accepted by Plant laboratory, BHEL.

12.6 On acceptance of machined specimen by Plant laboratory personnel, acknowledgement will be given in all 3 copies of DC and 3 copies of IR. The DC & IR copies shall later be submitted along with invoice.

12.7 In case of rejection of machined specimen, the same will be noted by plant lab personnel in both the IR & DC while acknowledging.

13 TERMS OF DELIVERY FOR FINISHED TEST SPECIMENS:

- 13.1 Machined test specimens and balance test coupon shall be delivered at Plant Laboratory along with the Inspection Report (IR) of the prepared specimens and Delivery Challan(DC) at vendor's cost.
- 13.2 Three copies of IR and Three copies of DC shall accompany each consignment of machined test specimen.
- 13.3 IR shall be prepared as per clause under Inspection in Scope of Work.
- 13.4 DC shall contain PO ref no against each specimen type and quantity. Acknowledgement for gate entry shall be obtained from security department, in a copy of DC, while bringing the material inside BHEL premises.
- 13.5 Without the above documents, specimens will not be accepted by Plant laboratory, BHEL.
- 13.6 On acceptance of machined specimen by Plant laboratory personnel, acknowledgement will be given in all 3 copies of DC and 3 copies of IR. The DC & IR copies shall later be submitted along with invoice.
- 13.7 In case of rejection of machined specimen, the same will be noted by plant lab personnel in both the IR & DC while acknowledging.

14 INVOICE SUBMISSION:

- 14.1 Vendor shall submit invoice to claim payment for the test specimen accepted by Plant Lab.
- 14.2 Payment cannot be claimed for test specimen with quality deviation, rejected by Plant Lab.
- 14.3 Three sets of Invoice shall be submitted along with IR & DC copies acknowledged by Plant Lab personnel.
- 14.4 The invoice shall be addressed to Manager, Finance, BHEL, Trichy & Plant Laboratory.

15 STORAGE & ACCOUNTAL OF TEST COUPON:

- 15.1 Vendor works shall have designated places for
- i) Storage of fresh test coupon received from BHEL.
 - ii) Storage of in-process test coupon.
 - iii) Storage of balance test coupon, from which test specimen as required in enquiry / work order has been delivered to BHEL.
- 15.2 The test coupon shall also be segregated as per the class of material (i.e. carbon & low alloy steel, stainless steel, Ni base & Ti alloys)
- 15.3 The balance test coupon needs to be stored in vendor works for a time period when repeat test specimen might be required from them, to account for either
- i) test specimen rejected in Plant lab owing to quality deviations.
 - ii) or extra test specimen required by plant lab for testing.
- 15.4 The balance coupon shall be returned to BHEL when intimated by Plant Lab In-charge.
- 15.5 Vendor should assume responsibility for the test coupon, from the time of collection from BHEL premises till the delivery of balance coupon to BHEL.
- 15.6 Vendors are expected to exercise caution while working with certain test coupons which are very expensive and sensitive to certain machining / material handling processes. As the type of materials are known prior to award of contract, it is advised to refrain from any sort of unconventional machining / material handling practices.



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16 CONFIDENTIALITY:

- 16.1 All the documents of BHEL including drawings, quality documents, sampling plans etc., made available to the vendor should be kept in strict confidence and under no circumstances, be made available to others or allow others to make use of that for any other commercial purpose whatsoever.
- 16.2 All these documents should be returned to Plant Lab, BHEL, after completion of the contract period. This secrecy clause is binding on the employee of vendors too. Any contravention will be viewed seriously.

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2023-25**

PART III - PRE-QUALIFICATION CRITERIA (CONTRACT II)

A	COMPLIANCE TO GENERAL TERMS & CONDITIONS	
Sl. no.	Description	Vendor's compliance
1	Compliance to Part I – Scope of work & Part II – Technical terms & conditions of this tender	(Agreed / Not agreed)
2	The test coupons loaded on the vendors are generated from raw materials / welded components / machined components / failed components, which are of very high value and cannot be reproduced. Safe custody of test coupons shall be the sole responsibility of the vendor to whom the test coupons are loaded. The vendor is liable for penalization, in case of loss / damage of coupon, to the extent of reproduction of the coupon handed over to them.	(Agreed / Not agreed)
3	The test coupon provided for specimen preparation work along with drawings, technical & quality documents are the sole property of BHEL. No information pertaining to the specimen preparation activity shall be shared with any third party. Any violation w.r.to the same will draw legal course of action.	(Agreed / Not agreed)
4	The time taken for test coupon collection from BHEL, specimen machining and dispatch of machined test specimens shall be as per the contract terms and any short fall will lead to imposition of penalty as per the LD clause in Technical terms & conditions.	(Agreed / Not agreed)
5	Vendor evaluation will be carried out every month to assess the performance of vendor in five different heads – i) material collection time as per contract scope ii) Segregation & storage of test coupon, balance material and finished specimen in identified places enabling easy retrieval. iii) Delivery within target time. iv) Quality of machined specimen & Inspection report. v) Upkeep of minimum required capacity & capability as required in the tender. Continuous poor performance, even in any one of the criteria, will lead to termination of the contract.	(Agreed / Not agreed)
6	BHEL reserves the right to make a visit to bidder(s) firm / workshop, to assess the capability / capacity, in case it is warranted, prior to qualifying the bidder(s) on technical grounds. BHEL reserves the right to make a visit to the works of vendor, on whom PO is placed after finalization of contract.	(Agreed / Not agreed)

Authorized Digital Signature



Tender No.: 9472200104

December 15, 2022

SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25

B	VENDOR DETAILS		
1	Name of Firm / Establishment		
2	Postal address of the Office and Works (including landmarks for easy location)		
3	Name of contact person with contact details [e-mail ID, Landline number and Mobile number(s) for single point contact]		
4	Details of alternate contact person		
C	LOCATION OF MACHINE SHOP / WORKS		
Sl. no	Location of machine shop / works	Vendor's compliance (Yes / No)	Bidder / Vendor response with complete details
1	The machine shop for specimen preparation shall be located in Tamil Nadu.		(Address of machine shop with pin code)
D	LIST OF FACILITIES		

SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25

Sl. no	Description	Minimum requirement	Vendor's compliance (Yes / No)	Bidder / Vendor response with complete details
1	Bi-metallic blade band saw machines with capability to hold test coupon with width up to and including 400mm	3 no's		(Details like technical specification, range of holding capacity, make, year of manufacture etc. to be provided)
2	EDM wire cutting machine with capacity to hold coupon with included dimension of 400mm L x 400mm W x 400mm H	1 no		(Details like technical specification, make, year of manufacture etc. to be provided)
3	Conventional / CNC center lathe for turning specimens	4* no's i) One of the four work centers shall be able to hold job size of diameter 2.50 mm ii) One of the four work centers shall be a CNC center)		(Details like technical specification, range of diameter that can be machined, make, year of manufacture etc. to be provided)

Sl. no	Description	Minimum requirement	Vendor's compliance (Yes / No)	Bidder / Vendor response with complete details
4	Vertical milling machine with clamping attachments	2 no's		(Details like technical specification, range of thickness & width that can be machined, make, year of manufacture etc. to be provided)
5	Surface grinding machine for polishing specimens.	1 no		(Details like technical specification, make, year of manufacture etc. to be provided)
6	Capability for preparing impact test specimen within dimensional tolerance specified in 6a	Dimensional report to prove out capability to be attached		(Vendor shall machine an impact specimen with V notch, in their specimen preparation facility, and obtain a dimension certificate report from Calibration Centre, BHEL, Trichy / any other NABL accredited calibration laboratory to prove out their capability)

SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25

6a	Notch Details 4X Scale			<table><thead><tr><th>ID number</th><th>Description</th><th>Dimension</th><th>Tolerance</th></tr></thead><tbody><tr><td>1</td><td>Length of specimen</td><td>55 mm</td><td>+0 / -2.5mm</td></tr><tr><td>2</td><td>Centering of notch</td><td></td><td>±1 mm</td></tr><tr><td>3</td><td>Notch length of edge</td><td>90°</td><td>±2°</td></tr><tr><td>4</td><td>Adjacent sides angle</td><td>90°</td><td>±0.17°</td></tr><tr><td>5</td><td>Width</td><td>10mm</td><td>±0.075mm</td></tr><tr><td>6</td><td>Thickness</td><td>10mm</td><td>±0.075mm</td></tr><tr><td>7V</td><td>Ligament length, Type V</td><td>8mm</td><td>±0.025mm</td></tr><tr><td>8V</td><td>Radius of notch, Type V</td><td>0.25mm</td><td>±0.025mm</td></tr><tr><td>9</td><td>Angle of notch</td><td>45°</td><td>±1°</td></tr><tr><td>A</td><td>Surface finish requirements</td><td>2µm (Ra)</td><td>≤</td></tr><tr><td>B</td><td>Surface finish requirements</td><td>4µm (Ra)</td><td>≤</td></tr></tbody></table>	ID number	Description	Dimension	Tolerance	1	Length of specimen	55 mm	+0 / -2.5mm	2	Centering of notch		±1 mm	3	Notch length of edge	90°	±2°	4	Adjacent sides angle	90°	±0.17°	5	Width	10mm	±0.075mm	6	Thickness	10mm	±0.075mm	7V	Ligament length, Type V	8mm	±0.025mm	8V	Radius of notch, Type V	0.25mm	±0.025mm	9	Angle of notch	45°	±1°	A	Surface finish requirements	2µm (Ra)	≤	B	Surface finish requirements	4µm (Ra)	≤
				ID number	Description	Dimension	Tolerance																																													
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B	Surface finish requirements	4µm (Ra)	≤																																																	
7	Notch broaching machine with V & U cutters for machining impact specimen.	1 no		(Details like technical specification, make, year of manufacture etc. to be provided)																																																
8	Impact specimen V & U notch cutter	2 Nos each for V & U notch cutting		(Share details)																																																
9	Alpha-Numeric punch set – sizes from 3mm to 10 mm.	3 sets in three different sizes in the range (3-10 mm)																																																		

SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25

10	Electric hand engraving tool	1 no		
11	Complete set of measuring instrument with valid calibration			
11a	Vernier caliper (0-150mm)	3		(Details like range, least count, calibration details etc. to be provided)
11b	Outside micrometer - Flat end (0-25mm)	1		(Details like range, least count, calibration details etc. to be provided)
11c	Outside micrometer - Double ball end (0-25mm)	1		(Details like range, least count, calibration details etc. to be provided)
11d	Ring gauges – set of GO – NOGO plug gauge for the following thread sizes with valid calibration M8 x 1.25, M10 x 1.5, M12 x 1.75 & M16 x 2	1 set in each of the four sizes		(Calibration details to be provided)
11e	Special micrometer with attachment for measuring V & U notch depth in impact specimen / any other means to measure notch depth	1		(Details like range, least count, calibration details etc. to be provided)
11f	Vernier bevel protractor for ensuring square cross section of impact specimen	1		(Details like range, least count, calibration details etc. to be provided)
12	Suitable chemicals to etch weldment to identify weld and HAZ. The firm should have macro-etching reagents for stainless steel, carbon/low alloy steel and titanium materials.	Ensure availability of the following etching reagents 1. Hydrochloric acid 2. Nitric acid 3. Picric acid 4. Ethanol 5. Methanol 6. Hydrofluoric acid Alternate chemicals can also be used to etch the samples.		

SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25

13	Exclusive storage facility for BHEL supplied test coupons, semi-finished specimen, finished specimen and balance material with proper roofing and flooring.	Details of storage management shall be submitted as a procedure		(Provide details about how iv) test coupon, specimen and balance material will be segregated and stored v) coupon identity number will be transferred on to individual specimen and balance material vi) mix-up of materials will be avoided)
14	Alternate specimen preparation facilities in case of emergency / exigencies. (Note: Sub-contracting of specimen preparation shall be carried out only with the approval of BHEL, Trichy in case of exigencies.)			(Brief how BHEL's requirements will be met by an alternate source , in case of unforeseen breakdown of machineries / power outages / skilled manpower shortage etc.)

E	SKILLED MANPOWER & SHIFT OPERATION			
Sl. no	Description	Minimum requirement	Vendor's compliance (Yes / No)	Bidder / Vendor response with complete details
1	Strength of skilled manpower for supervision / inspection / machine Operation / material transportation and contract coordination with BHEL – Proposed deployment to be elaborated.	vi) Skilled machine operator - one per each lathe and milling machine. One operator each for cutting & surface grinding activity. This amounts to 8 machine operators per shift. vii) Supervision / Inspection – One person shall supervise the entire preparation activity and bridge communication, technical clarification with BHEL. He/she or another person shall handle inspection of specimen. viii) A representative having knowledge of specimen preparation for coordinating collection of coupon and dispatch of specimen. Personnel for these three activities shall be exclusive and shouldn't overlap.		(Details of the number of operators employed permanently and their qualification with experience to be enclosed)
2	Operating shifts	Vendor should be able to operate two shifts with the minimum required manpower to meet the target delivery time of test coupons collected from Plant Lab, BHEL.		

SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25

F	TRANSPORT FACILITY			
Sl. no	Description	Minimum requirement	Vendor's compliance (Yes / No)	Bidder / Vendor response with complete details
1	Transportation to ensure movement of materials between BHEL and the firm at short notice with a safe handling guarantee.	The materials are to be collected from and deposited back to BHEL Plant Laboratory by the Vendor in their own vehicle / hired vehicle with all the statutory requirements. A mini-truck with load carrying capacity of minimum 0.75 ton is required. The vehicle shall have a valid registration and BHEL gate pass shall be obtained/ renewed periodically from security office after award of contract. Cleaner/ Company representative shall accompany the driver at all times of vehicle plying inside BHEL campus. Arrangements shall be available with the vehicle to avoid pilferage / loss of test coupons / samples during transit.		(Details of vehicle to be provided)

H	PRIOR EXPERIENCE			
Sl. no	Description	Minimum requirement	Vendor's compliance (Yes / No)	Bidder / Vendor response with complete details
1	The intended contract being of prime importance, the BIDDER is requested to provide details of their earlier / previous experience in carrying out mechanical test specimen preparation work in any of the material category (Carbon steel, low alloy steel, stainless steel or titanium). The details must include preparation of tensile specimen and impact specimen.	Purchase Order copy from any reputed institution / organization (preferably government organization), for carrying out similar specimen preparation work in the past 3 years.		

Important note: Vendor can participate in **any one** of or in **both Schedule-I & Schedule-II**. If the vendor is willing to participate in both Schedule-I & Schedule-II, vendor has to meet the cumulative PQC requirement w.r.to machinery and manpower of both the schedules.

SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25

SN	Description	Qty. (Unit) Tentative	% allocation on quoted lump sum value
10	Austenitic cladding over ferritic material		
10.1	Threaded tensile	2,000	12.360%
10.2	Rectangular tensile	25	0.130%
10.3	Bend	1,200	6.920%
10.4	Macro / Micro / Hardness	1,000	5.770%
10.5	Impact	1,050	4.330%
10.6	IGCT(E) specimen	1,000	4.940%
10.7	Delta ferrite	300	1.480%
10.8	Pin for chemical analysis	500	2.060%
10.9	Chemical	3,100	12.770%
20	Non-austenitic special grade material		
20.1	Threaded tensile	400	2.310%
20.2	Rectangular tensile	100	0.540%
20.3	Bend	400	1.980%
20.4	Macro / Micro / Hardness / Chemical	300	1.480%
20.5	Impact	3,200	17.130%
20.6	Pin for chemical analysis	50	0.160%
20.7	Pellini drop weight	160	0.790%
30	Austenitic special grade material		
30.1	Threaded tensile	500	3.300%
30.2	Rectangular tensile	120	0.740%
30.3	Bend	750	4.330%
30.4	Macro / Micro / Hardness / Chemical	620	3.580%
30.5	Impact	1,000	4.120%
30.6	Pin for chemical analysis	50	0.210%
30.7	IGCT(E) specimen	400	1.980%
30.8	Delta ferrite	160	0.790%
40	Titanium special grade material		
40.1	Threaded tensile	50	0.370%
40.2	Rectangular tensile	25	0.180%
40.3	Bend	300	1.980%
40.4	Macro / Micro / Hardness / Chemical	400	2.640%
40.5	Impact	50	0.250%
40.6	Pin for chemical analysis	50	0.250%
40.7	IGCT(E) specimen	25	0.130%
			100.000%

F. PAYMENT TERMS:

1. Payment will be made after completion of work on pro-rata basis based on actual work executed as per BOQ after acceptance and certification of Area in charge (BHEL Executive). Payment shall be made as follows on submission of bill complete in all respect.
 - a. 90 days from Service Entry Sheet for Non MSME
 - b. 60 days from Service Entry Sheet for Medium (UDYAM Certificate to be submitted)
 - c. 45 days from Service Entry Sheet for MSE (for Micro and Small enterprises only- UDYAM Certificate to be submitted). If UDYAM Certificate not submitted substantiating the same, payment will be processed in Non MSME basis
2. No advance may be paid for operational or any other expenses.
3. Goods and Services tax will be payable extra by BHEL at prevailing rates and corresponding TDS will be made as per Government norms.

G. LIQUIDATED DAMAGES:

- a. Machined specimens against a work order delivered beyond the delivery time stipulated in the Scope of Work, are liable for liquidated damages at 0.5% per day of delay of the value of respective specimen in enquiry / work order per day and up to maximum of 10%. In case of any amendment / revision, LD shall be linked to amended / revised PO value.
- b. While machining test specimen from a test coupon, say T1, as per the indicated priority, if the priority for specimen preparation is altered by Plant Lab personnel to cater to the urgent production requirement, vendor shall take up the high priority test coupon immediately. However, in cases where preparation time of T1 specimen exceeds the target time as per tender terms and LD is being calculated, the time incurred for machining the high priority test coupon shall be reduced/ deducted from the total time delay, if both the high priority specimen and T1 require the same work centre for completing the preparation activity.

H. SPLITTING OF CONTRACT:

The contract shall be divided amongst the vendors for both Schedule-I & Schedule-II giving acceptance to counter offered rates as per ranking as proposed below:

Sl No:	No. of vendors agreed for matching their rate to L1 rate (Including L1 Vendor)	% of Contract Value to be awarded to L1	% of Contract Value to be awarded to L2
Case 1:	2	60	40
Case 2:	1	100	NA

H1 bidder will not be considered for counter offering. In case Non MSE bidder is L1 and MSE vendor / vendors offer price is / are within L1+ 15 %, preference will be given to MSE vendor (As per merit amongst MSE vendors) to enable them to get minimum 25 % of awarded value subject to acceptance of L1 rate. The reservation to women and SC/ ST owned MSEs within 25 % of awarded value will be given as per Govt. Notification.

L1 Rate will be counter offered to L2 vendor and if vendor is accepting the L1 rate, 40% of BOQ will be awarded to L2 vendor, in case if the vendor is not accepting the same, will be counter offered to L3 and so-on till H1 (i.e., H1 will not be considered for counter offering). If none of the vendors are accepting L1 rates, 100 % of BOQ will be awarded to L1 vendor only.

4 GENERAL TERMS & CONDITIONS OF THE CONTRACT

4.1 PROVISION FOR MICRO & SMALL ENTERPRISES (MSE) SUPPLIERS AND START-UPS

MSE suppliers can avail the intended benefits only if they submit UDYAM Registration Certificate along with the offer.

4.1.1 Definitions of MSEs owned by Women is under:

- i. In case of proprietorship firm, proprietor must be woman.
- ii. In case of partnership firm, the women partners must be holding at least 51% shares in the unit.
- iii. In case of private limited companies, at least 51% share must be held by women promoters.

4.1.2 Definitions of MSEs owned by SC/ST is under:

- i. In case of proprietorship firm, proprietor must be SC/ST.
- ii. In case of partnership firm, the SC/ST partners must be holding at least 51% shares in the unit.
- iii. In case of private limited companies, at least 51% share must be held by SC/ST promoters.
- iv. Authorized Offices to Issue SC/ST certificate. The caste/Tribe/Community certificate issued by the following authorities in the prescribed form for SCs/STs can be considered.
- v. District Magistrate / Additional District Magistrate / Collector / Deputy commissioner / Additional Deputy commissioner / Deputy collector/ 1st class stipendiary magistrate/ Sub divisional Magistrate/ Taluka Magistrate/ Executive magistrate/ Extra Assistant commissioner.
- vi. Chief Presidency magistrate/ Additional chief presidency magistrate/ Presidency magistrate.
- vii. Revenue Officer not below the rank of tahsildar.
- viii. Sub-Divisional officer of the area where the individual and/ or his family normally resides.
- ix. To avail the benefits of MSE under SC/ST category, the related documents as stated above should be submitted along with tender documents.

4.1.3 If MSEs quoted price is within price band L-1 + 15%, when L1 is non- MSE, the MSEs will be allowed to supply at least 25% of tendered quantity at L-1 rate subject to acceptance by MSEs to L-1 rate. (Minimum of 3% reservation for women owned MSEs and 6.25% for MSEs owned by SC/ST within the above mentioned 25% reservation). In case the contract cannot be split, the full/ complete supply of total tendered value shall be awarded to MSE. The preference to the MSEs will be given in order of their ranking L1, L2, L3, etc.

4.1.4 Start-up companies will be provided benefits and relaxation as per the latest government norms. For availing start-up benefits, relevant certificates issued by Department of Industrial Policy and Promotion shall be submitted along with the tender.

4.2 REGISTRATION WITH STATUTORY BODIES

- 4.2.1 If Company/ Firm/ Agency/ Vendor is not registered with PF, ESI and Labour License (as applicable), they will have to comply with the statutory requirements within 30 days from award of contract, otherwise their bills will not be processed.
- 4.2.2 If Company / Firm is not having valid labour License, they have to get registered immediately after award of contract, in case they are engaging more than 20 workers, and submit the same within 30 days from award of work failing to do so contract will be cancelled and BHEL will entrust the work to any other contractor at the risk and cost of the contract, and the contractor shall be liable to pay the extra expenditure.
- 4.2.3 The contractor shall have separate PF and ESI code, BHEL will not allow the contractor to remit the PF and ESI of his employees through codes of others.
- 4.2.4 Apart from furnishing the above details, self-attested copies of relevant documents/ certificates must be enclosed with the Technical Bid. If at any stage, the document(s) submitted by Contractor is/are found incorrect/false, the necessary action will be taken by BHEL against contractor.
- 4.2.5 BHEL may reject the bid or in case the contract has been awarded, then terminate the contract apart from taking any other suitable action under the contract or applicable legal provisions or BHEL guidelines including Guidelines for suspension of Business Dealings, without any liability for any compensation to the bidder if, BHEL discovers at any time that any statement made by the bidder in the affidavit cum undertaking is false, fraudulent (or) Any document submitted by the bidder was fake and forged (or) If BHEL determines in the sole discretion that any statement was aimed at deliberately misleading BHEL with a view to ensure award of the subject contract to the bidder.

SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25**4.3 GOODS AND SERVICES TAX (GST)**

- 4.3.1 GST will be charged on the EMD / SD amount forfeited from the bidder at the applicable rates. GST tax Invoice will be issued to the vendor on receipt/recovery of GST amount from the vendor.
- 4.3.2 At the time of bill passing, the contractor shall submit the copy of the remitted GST challan of previous month / Quarter as proof of GST remitted to tax authorities and also a Certificate Stating that "GST Collected from BHEL has been remitted to tax authorities".
- 4.3.3 For services / supplies after implementation of New GST Return System i.e. from 01/10/2019, the following conditions will apply and contractor shall fully comply to the below points.
- 4.3.4 Response to Tenders for Indigenous contractor will be entertained only if the vendor has a valid GST registration No (GSTIN) which should be clearly mentioned in the offer. If the dealer is exempted from GST registration, a declaration with due supporting documents need to be furnished for considering the offer. Dealers under composition scheme should declare that he is a composition dealer supported by the screen shot taken from GST portal. The dealer has to submit necessary documents if there is any change in status under GST.
- 4.3.5 Contractor shall mention their GSTIN in all their invoices (incl. credit Notes, Debit Notes) and invoices shall be in the format as specified/prescribed under GST laws. Invoices shall necessarily contain Invoice number (in case of multiple numbering system is being followed for billing like ERP invoice no, commercial invoice no etc., then the Invoice No. which is linked/uploaded in GSTN network shall be clearly indicated), Billed to party (with GSTIN) & Shipped to party details, item description as per PO, Quantity, Rate, Value, applicable taxes with nomenclature (like IGST, SGST, CGST & UTGST) separately, HSN/ SAC Code, Place of Supply etc.
- 4.3.6 All invoices shall bear the HSN Code for each item separately (Harmonized System of Nomenclature)/ SAC code (Services Accounting Code).
- 4.3.7 Invoices will be processed only upon completion of statutory requirement and further subject to following:
- a. Vendor declaring such invoice in Form GST ANX-1
 - b. Receipt of Goods or Services and Tax invoice by BHEL
- 4.3.8 As the continuous uploading of tax invoices in GSTN portal (in GST ANX-1) is available for all (i.e. both Small & Large) tax payers under proposed new GST Return System, all invoices raised on BHEL may be uploaded immediately in GST portal on despatch of material /rendering of services. The supplier shall ensure availability of Invoice in GST portal before submission of invoice to BHEL. Invoices will be admitted by BHEL only if the invoices are available in GSTN portal (in BHEL's GST ANX-2).
- 4.3.9 In case of discrepancy in the data uploaded by the supplier in the GSTN portal or in case of any shortages or rejection in the supply, then BHEL will not be able to avail the tax credit and will notify the supplier of the same. Contractor has to rectify the data discrepancy in the GSTN portal or issue credit note or debit note (details also to be uploaded in GSTN portal) for the shortages or rejections in the supplies or additional claims, within the calendar month informed by BHEL.
- 4.3.10 In cases where invoice details have been uploaded by the vendor but failed to remit the GST amount to GST Department (Form PMT-08 or Form GST RET-01 to be submitted) within stipulated time, then GST paid on the invoices pertaining to the month for which GST return not filed by the vendor will be recovered from the vendor along with the applicable interest (currently 24% p.a) and all subsequent bills of the vendor will not be processed till filing of the GST return by the vendor
- 4.3.11 In case GST credit is denied to BHEL due to non-receipt or delayed receipt of goods and/ or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount claimed in the invoice shall be disallowed to the vendor.
- 4.3.12 Where any GST liability arising on BHEL under Reverse Charge (RCM), the vendor has to submit the invoices to BHEL well within the timeline prescribed in GST Law, to enable BHEL to discharge the GST liability. If there is a delay in submission of invoice by the vendor resulting in delayed payment of GST by BHEL along with Interest, then such Interest payable or paid shall be recovered from the vendor.
- 4.3.13 GST TDS will be deducted as per Section 51 of CGST Act 2017 and in line with Notification 50/2018 – Central Tax dated 13.09.2018. GST TDS certificate which will be generated in GST portal subsequent to vendor accepting the TDS deduction in the GST portal, will be issued to the vendor.
- 4.3.14 In case any changes in taxes and duties as per Gov. Notification (including GST), the same shall be applicable from time to time.

SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25**4.4 TERMS FOR PRICE BID & RATE BASIS**

- 4.4.1 Price bid is to be submitted in a separate price bid form provided in the portal.
- 4.4.2 The period of the contract can be extended if required by BHEL and agreed by contractor.
- 4.4.3 Quotation should be valid for a period of 120 days from the date of tender opening.
- 4.4.4 The quoted rate should be excluding GST and inclusive of any taxes and duties levied or to be levied both by Central and State Government authorities from time to time. Such levies should be borne by the Contractor. GST will be paid extra only on submission of documentary evidence.
- 4.4.5 The quoted rate will be inclusive of supply of all items as per the scope of work. Any miscellaneous materials that have not been mentioned specifically in the specification/tender which are required for work, shall be deemed to be included in the specification and shall be supplied by the bidder without any extra charges. Any scope of activities which are not specifically mentioned in this specification but required for the completion of the work for safe, trouble free, normal operation shall be provided at no extra cost by the bidder, unless explicitly excluded in the specification. Any charges for the civil works/ construction materials used for the work will be in the scope of bidder.
- 4.4.6 The Contractor will have to cover their workmen under PF, ESI, Bonus Act etc. based on the above payment rate (Minimum Wage).
- 4.4.7 Except applicable statutory deductions towards EPF, ESI, etc., the above stipulated wages shall be paid by the Contractor without any deductions like advance, training cost, accommodation cost, loan, etc.
- 4.4.8 The contractor should follow and comply with Minimum Wages, ESI, PF, Bonus, Group Insurance and other statutory regulations as stipulated in Factories Act and other applicable State/Central Government rules & regulations.
- 4.4.9 New vendors responding against BHEL website/ NIC/ CPPP, may visit the area of work, if they want to know the scope/ work details, and also area of work, prior to quoting.
- 4.4.10 Evaluation of the offer shall be done on the basis of delivered cost (i.e. "Total Cost to BHEL").
- 4.4.11 The vendor will be permitted to work round the clock to complete the work.

4.5 RATE FINALIZATION

- 4.5.1 Lowest prices received against BHEL Tenders need not be the acceptable to BHEL and in that case BHEL would not consider the same for award of Contract. BHEL would negotiate or re-float the Tender opened if L1 price is not the lowest acceptable price to them inter-alia other reasons.
- 4.5.2 BHEL will finalize the rates through price bid opening. Hence, Tenderers are requested to give their best prices at the first instant itself.
- 4.5.3 In the event of the final L1 prices are not reasonable/ acceptable to BHEL, BHEL also may resort to short closure of this Tender.

4.6 CRITERIA FOR AWARD OF WORK

- 4.6.1 The evaluation of offer for award of work shall be on the basis of "Total Cost to BHEL" Net Cash outflow to BHEL after taking into account applicable Taxes and Duties.
- 4.6.2 In case of more than one L1 bidders, BHEL will get fresh revised reduced price bids from all such L1 bidders & ranking will be decided based on these revised bids. The new rates quoted should be lower than their previous L1 rates. If L1 could not be decided by this process, ranking will be decided by draw of lots in the presence of all such L1 bidders.
- 4.6.3 The quantity mentioned in BOQ / Price bid is tentative. BHEL reserves the right to increase or decrease the quantity during award of work or issue work order in phase manner as per requirement of BHEL.

4.7 TERMS & CONDITIONS FOR THE CONTRACTS

4.7.1 DEFINITION: In these General Conditions of Contract, the following terms shall have the meaning hereby assigned to them, except where the context otherwise requires:

- i. The "Contract" means, the documents forming the Tender and acceptance thereof, together with all the documents referred to therein including general and special conditions to contract. All these documents as applicable taken together shall be deemed to form one contract and shall be complementary to one another.

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- ii. The "work" means, the work described in the Tender documents in individual work-orders as may be issued from time to time to the contractor by the Officer-In charge within the power conferred upon him including all notified or additional items of works and obligations to be carried out as required for the performance of contract.
 - iii. The "contractor" means, the individual Firm or Company whether incorporated or not, undertaking the work and shall include the legal personal representatives of such individuals or the persons composing the firm or Company or the successors of the firm or company and the permitted assigns of such individual or firm or Company.
 - iv. "The Officer-In charge" means, the Officer deputed by the Head of Indenting department (User), to supervise the work or part of the work.
 - v. "Approved" and "Directed" means, the approval or direction of Head of Indenting department (User), or person deputed by him for the particular purposes.
 - vi. BHARAT HEAVY ELECTRICALS LIMITED" (herein after referred to as BHEL) shall mean the Board of Directors, Chairman, Executive Director, General Manager or other Administrative Officer of the said Company including AGM / WCM authorised to invite tenders and enter into contract for works on behalf of the Company.
 - vii. The "Contract sum" means, the sum accepted or the sum calculated in accordance with the prices accepted in Tender and / or the contract rates as payable to the contractor for the execution of the work during the currency of the contract.
 - viii. A "week" means, Seven Days, without regard to the number of hours worked or not worked in any day in that week.
 - ix. A "day" means, the day of 24 hours (TWENTY-FOUR) irrespective of the number of hours worked or not worked in that day.
 - x. A "working day" means, any day other than that prescribed by the NEGOTIABLE INSTRUMENTS ACT as being a Holiday, and consists of the number of hours of labour as commonly recognised by good employers in the trade in the district where the work is carried out or as laid down in the BHEL regulations.
- 4.7.2 HEADING TO THE CONTRACT CONDITIONS:** The heading to these conditions shall not affect the interpretations thereof.
- 4.7.3 WORK TO BE CARRIED OUT:** The Contract shall, include all labour, materials, tools, plant, equipment and transport which may be required for the execution of the work. The Contractor will be deemed to have satisfied himself as to the nature of the site, local facilities of access and all matters affecting the execution of the work. No extra charges consequent on any misunderstanding in these respects or otherwise will be allowed.
- 4.7.4 DEVIATIONS:** The contractor shall not carry out any work not covered by schedule except in pursuance of the written instructions of the respective area HOD/WCM. No such work shall be valid unless the same has been specifically confirmed and accepted by BHEL in writing and incorporated in the Contract.
- 4.7.5 ASSIGNMENT OF TRANSFER OF CONTRACT:** The Contractor shall not without the prior written approval of the BHEL, assign or transfer the contract or any part thereof, or any share, or interest thereon to any other persons. No sum of money which may become payable under the contract shall be payable to any person, other than the contractor unless the prior written approval of the BHEL to the assignment or transfer of such money is given.
- 4.7.6 SUB-CONTRACT:** The Contractor shall not sub-let any portion of the contract without the prior written approval of the BHEL.
- 4.7.7 COMPLIANCE TO REGULATIONS AND BY-LAWS:** The Contractor shall confirm to the provisions of any statute relating to the work and regulations and Bye-Laws of any local authority. The Contractor shall be bound to give all notices required by statute regulations or By-Laws as aforesaid and to pay all fees and taxes payable to any authority in respect thereof.
- 4.7.8 SECURITY DEPOSIT (SD):** Security Deposit means the security provided by the Contractor towards fulfilment of any obligations in terms of the provisions of the contract. The total amount of Security Deposit will be 5% of the contract value. EMD of the successful tenderer shall be converted and adjusted towards the required amount of Security Deposit. Security Deposit has to be deposited within 15 days of

LOI. Else EMD will be forfeited and may also attract the provision of "Suspension of Business dealings with Suppliers/Contractors".

4.7.8.1 MODES OF DEPOSIT OF SD: The balance amount to make up the required Security Deposit of 5% of the contract value may be accepted in the following forms:

- i. Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of BHEL (Online Payment procedure for EMD and SD amount attached (Annexure – I) for vendor's reference)
- ii. Bank Guarantee from Scheduled Banks/ Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL
- iii. Fixed Deposit Receipt issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL)
- iv. Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Contractor furnishing the security and duly endorsed/ hypothecated/ pledged, as applicable, in favour of BHEL)

BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

- v. **Timely Submission of SD:** "Bidder agrees to submit performance security required for execution of the contract within the time period mentioned. In case of delay in submission of performance security, enhanced performance security which would include interest (SBI rate + 6%) for the delayed period, shall be submitted by the bidder. Further, if performance security is not submitted till such time the first bill becomes due, the amount of performance security due shall be recovered as per terms defined in NIT / contract, from the bills along with due interest

4.7.8.2 COLLECTION OF SECURITY DEPOSIT

- i. The Security Deposit must be deposited before the start of Work.
- ii. At least 50% of the required Security Deposit, including the EMD, is to be submitted before start of the work. Balance of the Security Deposit can be collected by deducting 10% of the gross amount progressively from each of the running bills of the Contractor till the total amount of the required Security Deposit is collected.
- iii. If the value of work done at any time exceeds the contract value, the amount of Security Deposit shall be correspondingly enhanced and the additional Security Deposit shall be immediately deposited by the Contractor or recovered from payment/s due to the Contractor.
- iv. The Security Deposit shall not carry any interest.

NOTE: After issue of LOI / Work Order, if the Contractor fails to commence the work within 15 Days or as indicated in LOI / Work Order, and do not complete the work in total as per the terms & conditions of tender, EMD / SD deposited by the Contractor will be forfeited and suitable action as per suspension of business dealing guidelines of BHEL will be taken.

4.7.9 SUBMISSION OF BILLS BY CONTRACTOR: Bills should be submitted within a week after execution of work during the calendar month. The Contractor shall submit a bill in triplicate detailing the various items of work done during the month supported by the requisitions issued from time to time. The Contractor shall, once in every month, submit to the end user / executing agency, separately details of his claims for the work done by him up to and including the previous month which are not covered by his contract agreement in any of the following respects:

- i. Deviation from the items provided in the contract documents.
- ii. Extra items / new items of work.
- iii. Items in-respect of which rates have not been settled. He should in addition furnish a clear certificate to the effect that the claims submitted by him as aforesaid cover all his claims and that no further claims shall be raised by him in respect of the work done up to and including the period under report.
- iv. Tenderer has to quote rates both in figures and in words for all the items given in the Bill of Quantities provided.

Along with bills, Contractors has to furnish self-attested copy of the following documents for further processing of bills:

- v. Copy of PAN card.
- vi. Documentary proof for payment of PF/ESI (for the last month) with respect to the employees engaged by the contractor with payment details relating to individual names to be submitted.
- vii. Copy of payment challan of previous Month / Quarter as proof of deposit of GST along with a certificate from the Contractor that tax collected from BHEL has been remitted to tax authorities.
- viii. If the Contractor is not registered for any statutory obligation and not liable there to, then a declaration shall be submitted along with offer that they are within the threshold limit.
- ix. Any other relevant document which is required from time to time as per BHEL requirement.

4.7.10 PAYMENT OF BILLS: All payments to be made to the contractor, under this contract shall be through Electronic Fund Transfer (EFT) after the certification of bills by the end user / executing agency.

- i. Payment will be made after completion of work as per tender conditions on acceptance and certification of bills by respective area Executive in charge.
- ii. Payment shall be made against Certification by respective area Executive in charge.
- iii. Statutory deduction like IT etc. will be deducted from contractor payment as required by Law.

4.7.11 REFUND OF SECURITY DEPOSIT: Security Deposit will be refunded on completion of the work and after the expiry of the maintenance period, if any, provided always that the Contractor shall first have been paid the last and final bill and have rendered a "NO DEMAND CERTIFICATE". In case no maintenance period is applicable, then 100% of security Deposit will be refunded after providing "NO DEMAND CERTIFICATE" by the contractor as per format provide by BHEL.

4.7.12 EXTENTION OF CONTRACT: One or more extensions of the Contract may be done with mutual agreement between BHEL, Trichy and the approved Contractor. Such agreements shall be based on acceptance of the lowest rates and terms & conditions of the corresponding contract.

4.7.13 RECOVERY FROM CONTRACTOR: Whenever under the contract, any sum of money, shall be recoverable from or payable by the Contractors, the same may be deducted from or any sum then due or which at any time thereafter may become due to Contractor under the contract or under any other contract with BHEL or from his Security Deposit or he shall pay the claim on demand.

4.7.14 POST TECHNICAL AUDIT OF WORK AND BILLS: BHEL reserves the right to carry out the post-payment Audit and technical examination of the work and final bill including all supporting vouchers, abstracts etc., and enforce recovery of any sum becoming due as a result thereof in the manner provided in the presiding sub-paragraphs. However, no such recovery shall be enforced after three years of passing the final bill.

4.7.15 PREFERENCE TO MAKE IN INDIA: For this procurement, the local content to categorize a supplier as a Class I local supplier/ Class II local Supplier/ Non Local supplier and purchase preference to Class I local supplier, is as defined in Public Procurement (Preference to Make in India), Order 2017 dated 04.06.2020 issued by DPIIT. In case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of Part-II bids against this NIT.

4.7.16 INCOME TAX:

- i. Income Shall be deducted at the applicable rate in respect of the service contract including supply of labour for any work as follows:
- ii. Self-attested copy of PAN card shall be submitted to Account Dept. along with original for verification.
- iii. TDS Certificate will be issued to vendors for each quarter ending as on 30th June, 30th Sept, 31st Dec and 31st Mar during the following quarter.

4.7.17 GST:

- i. Wherever GST is liable to be paid by the contractor, the contractor shall register himself under the GST Rules and a Self-attested copy of Certificate of Registration shall be furnished to Account Dept.

- ii. After registration, the payment of GST shall be effected by the contractor to the Central Government monthly/quarterly based on the invoices raised before the due date of payment. The GST Return also shall be submitted to the Government before the due date.
- iii. The invoice/bill in original duly signed by the contractor claiming the payment for GST shall clearly indicate the following:
 - Continuous Serial no. & date of the bill
 - Cost of the service
 - Separately showing the GST amount calculated at the applicable rate
 - PAN based GST Registration No.
- iv. The GST claimed in the bill will be paid to the contractor based on the proof of payment of GST to the Government for the previous month/quarter as the case may be.

4.7.18 AVAILING INPUT TAX CREDIT (ITC): As per GST in line with new GST Return System from 1st Oct 2019.

4.7.19 ORDERS UNDER THE CONTRACT: All orders, notices etc. to be given under the contract shall be in writing, type-script or printed and if sent by registered post to the address given in the Tender of the Contract, shall be deemed to have been served on the date, when in the ordinary course they would have been delivered to him. The Contractor shall carry out without delay all orders given to him. Contractor shall be deemed to have included in his tender price of all the plant, machinery and appliances required for the purpose of all operations connected with the work embraced under the contract to secure a satisfactory quality of work and rate of progress which in the opinion of the "Contract Signing Officer" will ensure the completion of the work within the time specified. BHEL is having every right to split the schedule and to award the work to single or many parties on the lowest offered rates basis. This is a time bound contract for period mentioned, and does not envisage any extension of time / period.

4.7.20 CONTRACTOR'S SUPERVISION:

- i. The contractor shall either himself supervise the execution of the contract or shall appoint a competent agent acceptable to BHEL Officials.
- ii. Orders given to the contractor's agent shall be considered to have the same force as if they have been given to the contractor himself.
- iii. The contractor or his accredited agent shall attend when required without making any claim for doing so to the Executive/WCM or OFFICER-INCHARGE, to receive instructions.
- iv. The respective area HOD have full powers and without assigning any reason, require the contractor to immediately cease to employ in connection with this contract, any agent, servant or employee where continued employment is, in his opinion undesirable. The contractor shall not be allowed any compensation on this account.

4.7.21 LABOUR:

- i. The Contractor shall remain liable for the payment of all wages and other payments in connection with the employees engaged by him and with regard to the work.
- ii. The Contractor shall comply with the applicable provisions of Payment of Wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act. 1938, Employees Compensation Act 1923, Payment of Bonus Act, EPF and Miscellaneous Provisions Act, 1952, Employees State Insurance Act, 1948 and other relevant Acts and rules framed, there under from time to time.
- iii. Contractor shall be responsible for making payment of wages and shall ensure disbursement of wages in the presence of the authority's representative of contract operating division who shall record under his signature at the end of entries in the Register of wages.
- iv. Contractor shall have/ obtain license under CL(R&A) Act, 1970.
- v. The contractor has to disburse the salary/wages for their workmen only through Bank (RTGS). The relevant Bank statement/proof for Bank payment should be produced along with PF and ESI and challans to Welfare Section every month.

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4.7.22COMPENSATION TO WORKMEN: BHEL shall recover the amount of compensation paid to victim(s) by BHEL towards loss of life / permanent disability due to an accident which is attributable to the negligence of contractor, agency or firm or any of its employees as detailed below.

- a) Victim: Any person who suffers permanent disablement or dies in an accident as defined below
- b) Accident: Any death or permanent disability resulting solely and directly from any unintended and unforeseen injurious occurrence caused during the manufacturing / operation and works incidental thereto at BHEL factories/ offices and precincts thereof, project execution, erection and commissioning, services, repairs and maintenance, trouble shooting, sewing, overhaul, renovation and retrofitting, trial operation, performance guarantee testing undertaken by the company or during any works / during working at BHEL Units/ Offices/ townships and premises/ Project Sites.
- c) Compensation in respect of each of the victims:
 - (i) In the event of death or permanent disability resulting from Loss of both limbs: ₹ 10,00,000/- (Rupees Ten Lakh)
 - ii) In the event of other permanent disability: ₹ 7,00,000/- (Rupees Seven Lakh)
- d) Permanent Disablement: A disablement that is classified as a permanent total disablement under the proviso to Section 2 (I) of the Employee's Compensation Act, 1923

4.7.23PRECAUTIONS AGAINST RISK: The Contractor shall be responsible for providing at his own expense for all precautions to prevent loss or damage from any and all risks and to minimize the amount of any such loss or damage and for the necessary steps to be taken for the said purpose.

4.7.24DAMAGE & LOSS TO PRIVATE PROPERTY & INJURY TO WORKMEN: The Contractor shall at his own expense reinstate and make good to the satisfaction of the respective area HOD and pay compensation for any injury, loss or damage occurred to any property or rights whatever including property and rights of BHEL (or agents) servants or employee of BHEL, the injury loss or damage arising out of or in any way in connection with the execution or purported execution of the contract and further the contractor shall indemnify, the BHEL against all claims enforceable against BHEL (or any agent, servant or employee of BHEL) or which would be so enforceable against BHEL where BHEL is a private person, in respect of any such injury (including injury resulting in death) loss or damage to any person whomsoever or property including all claims which may arise under the Workmen's Compensation Act or otherwise.

4.7.25LAWS GOVERNING THE CONTRACT:

The contract shall be governed by the Indian Laws for time being in force.

- i. Should a tenderer or a contractor has a dependent/relative or in the case of a partnership firm, any of its partners or dependents of partners employed in BHEL, the authority inviting tenders should be informed of this fact at the time of submission of the Tender failing which Tender may be disqualified or if such fact subsequently come to light, the contract may be cancelled.
- ii. No BHEL employee and their dependents are eligible to submit their offer against this tender.

4.7.26CANCELLATION OF CONTRACT FOR CORRUPT ACTS: BHEL, whose decision shall be final and conclusive, shall without prejudice to any other right or remedy which shall have accrued shall accrue thereafter to BHEL cancel the contract in any of the following cases and the Contractor shall be liable to make payment to BHEL for any loss or damage resulting from any such cancellation to the same extend as provided in the case of cancellation for default. If the Contractor shall:

Offer or give or agree to give to any person in BHEL service any gift or consideration of any kind, as an inducement or reward for doing or for bearing to do or for having done or for borne to do any act, in relation to the obtaining or execution of this or any other contract for BHEL service,

OR

Enter in to a contract with BHEL in connection with which commission has been paid or agreed to be paid by him or with his knowledge, unless the particulars of any such commission and the terms of payment thereof have previously been disclosed in writing to BHEL.

OR

To obtain a contract with BHEL as a result of ring tendering or by non-bonafide methods of competitive tendering, without first disclosing the fact in writing to BHEL.

4.7.27 CANCELLATION OF CONTRACT FOR INSOLVENCY ASSIGNMENT OF TRANSFER OR SUB-LETTING OF CONTRACT: BHEL, without prejudice to any other right or remedy which shall have

accrued or shall accrue thereafter to BHEL shall cancel the contract in any of the following cases:

If the Contractor,

- i. being an individual or if a firm any partner thereof shall at any time be adjudged bankrupt or have a receiving order for administration of his estate, made against him or shall take any proceedings for liquidation or composition under any bankruptcy Act or assignment of his effects of composition or arrangement for the benefit of his creditors or purport to do so, or if any application made under any: Bankruptcy Act for the time being in force for the sequestration of his estate or if a trust deed be granted by him on behalf of his creditors.

OR

Being a Company, shall pass a resolution or the Court shall make an order for the liquidation of its affairs, or a receiver or Manager on-behalf of the debenture holders shall be appointed or circumstances shall arise which entitle the Court or debenture holders to appoint a receiver or Manager,

OR

Assigns, Transfers, Sub-lets or attempts to assign, transfer or sub-let any portion of the work without the prior written approval of the BHEL.

- ii. Whenever BHEL exercise the authority to cancel the contract under this conditions, BHEL may have the work done by any means at the contractor's risks and expenses provided always that in the event of the cost of the work so done (as certified by the respective area HOD) being less than the contract cost, the advantage shall accrue to the BHEL and if the cost exceeds the money due to Contractor under the contract, the Contractor shall either pay the excess amount ordered by the respective area HOD or the same shall be recovered from the Contractor by other means.
- iii. In case the BHEL carries-out the work under the provisions of this condition the cost to be taken into account in determining the excess cost to be charged to the Contractor under this condition shall consist of the cost of the materials, hire charges of tools and plants and/or labour provided by the BHEL with an addition of such percentage to cover superintendence and establishment charges as may be decided by the respective area HOD whose decision shall be final and conclusive.
- iv. Labour engaged by the contractor should be disciplined & exhibit good behaviour in dealing with employees of BHEL. Any misbehaviour or undesirable conduct of any person engaged by the contractor is reported, contractor shall change that person immediately or else it may even lead to termination of the contract & in such case security deposit will be forfeited as penalty.

4.7.28 CANCELLATION OF CONTRACT IN PART OF FULL FOR CONTRACTOR'S DEFAULT:

If the Contractor:

- i. makes default in carrying out the work as directed and continues in that state after a reasonable notice from Head of WCM., or his authorised representative;
- ii. fails to comply with any of the Terms and Conditions of the contract or after reasonable notice in writing with orders properly issued thereunder:

BHEL, may without prejudice to any other right or remedy which shall have accrued or shall accrue thereafter to BHEL CANCEL the contract as whole or in part thereof or only such work order or items of work in default from the contract. Whenever BHEL exercise the authority to cancel the contract as whole or part under this condition BHEL may complete the work at the contractor's risk and cost (as certified by Head of WCM., which is final and conclusive) being less than the contract cost, the advantage shall accrue to the BHEL. If the cost exceeds the moneys due to the contractor under this contract the contractor shall either pay the excess amount ordered by Executive/WCM or the same shall be recovered from the contractor by other means. In case the BHEL carries out the work or any part thereof under the provisions

of the conditions the cost to be taken into account in determining the excess cost to be charged to the contractor under this condition shall consist of the cost of the materials, hire charges of tools and plant and/or labour provided by the BHEL with an addition of such percentage to cover the superintendence and establishment charges as may be decided by the Head of WCM., whose decision shall be final and conclusive.

4.7.29 TERMINATION OF CONTRACT ON DEATH OF CONTRACTOR: Without prejudice to any of the rights or remedies under this contract, if the Contractor dies, or if the firm is dissolved or the company is liquidated BHEL shall have the option of terminating the contract without compensation to the Contractor.

4.7.30 SPECIAL POWER TO TERMINATION: If at any time after the award of contract, BHEL shall for any reason whatsoever does not require whole or any part of the work to be carried out, then Head of WCM shall give notice in writing of the fact to the Contractor and terminate the contract. The contractor shall have no claim to any payment of compensation or otherwise howsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not derive in consequence of the fore-closing of the work.

4.7.31 FORCE MAJEURE CLAUSE: If, at any time during the continuance of this Contract the performance in whole or in part by either party of any obligations under this Contract shall be prevented or delayed by reason of any War, Hostile acts of the public enemy Civil Commotion, Epidemics, or Acts of God (Floods, Storm/Cyclone, Hurricane, Earth Quake etc.) then provided notice of happening of any such event is given by either party to other within 7 days from the date of occurrence therefor neither party shall by reason of such event be entitled to terminate this Contract nor shall either party have any claim for damages against the other in respect of such non-performance and delay in performance under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist. If the performance in whole or part of any obligation under this Contract is prevented or delayed by reason of any such event, claims for extension of time shall be granted for periods considered reasonable by the Manager/WCM subject to prompt notification by the contractor.

4.7.32 JURISDICTION: In case of any suit or other legal proceedings arising under or relating to this Contract, the courts at Trichy, Tamil Nadu only shall have the Jurisdiction and is only after exhausting the aforesaid arbitration clause.

4.7.33 SIGNING OF CONTRACT: Each contract document shall be signed by the Contractor with his usual signature. Contract by partnership of Hindu Joint Family firm, may be signed in the FIRM'S name by one of the Partners or the Karta or Manager as the case may be or by any other duly authorised representative followed by the name and designation of the persons so signing. Contracts by a Company shall be signed with the name of the Company by a person authorised in this behalf and a power of attorney or other satisfactory proof showing that the persons signing the Contract documents on behalf of the Company is duly authorised to do so, shall accompany the contract.

4.7.34 FRAUD PREVENTION POLICY: The Bidder along with its associate/ collaborators/ sub – vendors/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about fraud or suspected fraud as soon as it comes to their notice. Fraud Prevention policy and List of Nodal Officers shall be hosted on BHEL website, vendor portals of Units / Regions intranet.

4.7.35 SUSPENSION OF BUSINESS DEALINGS WITH SUPPLIERS / CONTRACTORS: Penal action can be initiated on the suppliers / Contractors in line with extant 'Guidelines for Suspension of Business Dealings with Suppliers/ Contractors'. The abridged version of extant 'Guidelines for suspension of business dealings with suppliers/ contractors' has been uploaded on <http://www.bhel.com> on "supplier registration page".

The offers of the bidders who are under suspension as also the offers of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com.

1.0 Integrity commitment, performance of the contract and punitive action thereof:

1.1. Commitment by BHEL:

BHEL commits to take all measures necessary to prevent corruption in connection with the tender process and execution of the contract. BHEL will during the tender process treat all Bidder(s) in a transparent and fair manner, and with equity.

1.2. Commitment by Bidder/ Supplier/ Contractor:

1.2.1. The bidder/ supplier/ contractor commit to take all measures to prevent corruption and will not directly or indirectly influence any decision or benefit which he is not legally entitled to nor will act or omit in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India.

1.2.2. The bidder/ supplier/ contractor will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and shall adhere to relevant guidelines issued from time to time by Govt. of India/ BHEL.

1.2.3. The bidder/ supplier/ contractor will perform/ execute the contract as per the contract terms & conditions and will not default without any reasonable cause, which causes loss of business/ money/ reputation, to BHEL.

If any bidder/ supplier/ contractor during pre-tendering/ tendering/ post tendering/ award/ execution/ post-execution stage indulges in mal-practices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India, then, action may be taken against such bidder/ supplier/ contractor as per extant guidelines of the company available on [www. bhel.com](http://www.bhel.com) and/or under applicable legal provisions.

4.7.36 SECRECY OF CONFIDENTIAL INFORMATION: The Contractor undertakes and agrees that he/it will not disclose or reveal in part or full the proprietary/confidential information, which terms shall mean and include patents, trademarks, service marks, registered designs, copyright, design rights, know-how, confidential information, trade and business names and any other similar protected information of BHEL received during negotiation or currency of the contract to any third party or governmental authorities without written permission from BHEL. In the event of termination or expiry of the contract, the contractor shall return all proprietary/confidential information to BHEL. This clause shall survive termination or expiry of the contract.

All the input details: transmittals and sample drawings supplied for preparation of drawings are confidential information of BHEL for specific purpose only. The contractor shall never pass on / part with the information to anybody and shall maintain the secrecy of the information. As soon as the bills are certified by BHEL, all the relevant drawing files shall be erased from PCs and shall not be made use under any circumstances.

BHEL reserves the right to initiate appropriate action including legal proceeds / termination of contract, recovery of damages, penalties etc., if the contractor is found guilty / wrong usage of the documents given by BHEL for any unauthorised activity.

4.7.37 STATUTORY REQUIREMENTS:

- i. All statutory requirements under Minimum Wages Act, 1948, Factories Act 1948, Workmen Compensation Act 1923, Employees Provident Fund and Miscellaneous Provisions Act, 1952, Payment of Gratuity Act 1972, Employee State Insurance Act 1948, Contract Labour (R&A) Act 1970, Payment of

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Bonus Act 1965, Income Tax Act, GST Act and all other applicable Acts shall be complied with by the Contractor.

- ii. Contractor shall comply with all statutory requirements, rules, regulations, notifications in relation to employment of his employees issued from time to time by the concerned authorities.
- iii. Contractor shall indemnify BHEL against all claims and losses under various Labour Laws, statutes or any civil or criminal law in connection with employees deployed by him.
- iv. Contractor wherever applicable shall maintain proper records prescribed by the concerned statutory authorities and provide a copy of the same to BHEL.
- v. Contractor shall furnish proper returns to the concerned statutory authorities and provide a copy of the same to BHEL.

4.7.38 MOTOR VEHICLE ACT: The contractor should comply the relevant Motor Vehicle Act and other statutory requirement.

4.7.39 REMOTE TRANSACTIONS: The contractor shall agree to and comply with all such terms and conditions as BHEL may prescribe from time to time and shall confirm that all transactions effected by or through facilities for conducting remote transactions including the Internet, World Wide Web, electronic data interchange, call centres, teleservice operations (whether voice, video, data or combination thereof) or by means of electronic, computer, automated machines network or through other means of telecommunication established by BHEL shall constitute legally binding and valid transactions when done.

4.7.40 CHANGE IN CONSTITUTION OF FIRM: Changes in constitution of firm whenever it is made after submission of application or during currency of the contract, the existing firm has to duly inform the proposed changes to contracting department of BHEL at the appropriate time before the changes in the constitution are made. In case the absence of any such information BHEL is not responsible for the consequences arising out of the absence or suppression of information and the issue / dispute arising out of these changes and the firm is responsible for settling the issue or dispute among themselves (Partners etc.) or with the bankers or with any third party. Under the above circumstances when dispute arises and the firm does not inform the change in the constitution of the firm BHEL has the right for suspending or terminating the contract.

4.7.41 LIEN OF CONSIGNMENTS: The Contractor shall have no 'lien' of any kind over the consignments entrusted for transportation. Any dispute with the Contractor and the consignees shall be settled on negotiations but under no circumstances, delivery of the materials shall be withheld by the Contractor.

4.7.42 SAFEGUARD OF EMPLOYER'S INTERESTS: Contractor shall watch and safeguard Employer's interests during the performance of the work. The contractor shall carefully check each and every consignment/item/commodity with the relevant forms/documents.

4.7.43 RIGHTS:

- i. BHEL may enter into parallel Contract simultaneously with any number of Contractor as may be deemed fit at any time during the period of Contract in the Interest of the work for any or all the stations and for any or all the schedules.
- ii. In case of breach of any of the terms and conditions of the Contract, BHEL will entrust the work to any other Contractor at the risk and cost of the Contract and the Contractor shall be liable to pay the extra expenditure, damages, loss suffered on account of the cancellation of the Contract
- iii. All amounts including the losses / damages / penalties / compensations etc., resulting from non-compliance with the terms of Contract, payable by the Contractor to BHEL under the Terms of the Contract will be recovered from the outstanding payments to Contractor either under this Contract or any other Contracts or from Security Deposit or from both. In case this amount is insufficient for such recoveries, the Contractor shall make good the balance amount by actual payment. In addition, BHEL, Trichy will recover the said amounts through its sister concerns, from the payments due to the Contractor in any of the units of BHEL located in any part of India.

- iv. The Contractor is not allowed to pass the responsibilities connected with the Contract to other agencies / Contractors, the Contractors shall not sublet or transfer the Contract or any part thereof, which tantamount to termination of the Contract and thereby attracting the penalty or forfeiture of security deposit.
- v. The Contractor shall have no right to demand at any time during the currency of this Contract any minimum quantity of Work for this Contract.
- vi. BHEL may verify / audit check by surprise visits at various locations of Works at their discretion and see whether the above requirements are complied with by the Contractor. In case the above requirements are not complied with, severe actions may be taken by BHEL on such Contractors, as deemed fit.

4.7.44 RISK PURCHASE: In case of abnormal delays or non-fulfilment of any other terms and conditions given in work order, BHEL may cancel the work order in full or part thereof, and may also make a contract of such work/service from elsewhere / alternative source at the risk and cost of the original contractor. BHEL will take all reasonable steps to complete the contract obligations from alternate source at optimum cost. If bidder does not agree to the above Risk Purchase Clause, BHEL reserves the right to reject the offer. In case for compelling reasons BHEL accepts the offer without acceptance of this clause by the bidder and in the eventuality of Risk Purchase, appropriate action will be taken as per BHEL extant rules. This will be without prejudice to any other right of BHEL under the contract. Risk & cost clause, in line with conditions of contract may be invoked in any of the following cases:

1. Contractor's poor progress of the work vis-à-vis execution timeline as stipulated in the contract, backlog attributable to contractor/ supplier including unexecuted portion of work/ supply does not appear to be executable within balance available period (#) considering its performance of execution.
2. Withdrawal from or abandonment of the work by contractor before completion of the work as per contract.
3. Non completion of work / Non-supply by the contractor within scheduled completion/delivery period as per contract or as extended from time to time, for the reason attributable to the contractor.
4. Termination of contract on account of any other reason (s) attributable to contractor.
5. Assignment, transfer, subletting of contract without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.
6. Non-compliance to any contractual condition or any other default attributable to contractor.

Risk and Cost amount against balance work will be calculated as follows:

$$\text{Risk \& Cost Amount} = [(A-B) + (A \times H/100)]$$

Where,

A= Value of Balance scope of Work/ Supply (*) as per rates of new contract

B= Value of Balance scope of Work/ Supply (*) as per rates of old contract being paid to the contractor/ supplier at the time of termination of contract i.e. inclusive of PVC & ORC, if any.

H = Overhead Factor to be taken as 5

In case (A-B) is less than 0 (zero), value of (A-B) shall be taken as 0 (zero).

*(Balance scope of work/ supply)

Difference of Contract Quantities and Executed Quantities as on the date of issue of Letter for 'Termination of Contract', shall be taken as balance scope of Work/ Supply for calculating risk & cost amount.

Contract quantities are the quantities as per original contract. If, Contract has been amended, quantities as per amended Contract shall be considered as Contract Quantities.

Items for which total quantities to be executed have exceeded the Contract Quantities based on drawings issued to contractor from time to time till issue of Termination letter, then for these items total Quantities as per issued drawings would be deemed to be contract quantities.

Substitute/ extra items whose rates have already been approved would form part of contract quantities for this purpose. Substitute/ extra items which have been executed but rates have not been approved, would also form part of contract quantities for this purpose and rates of such items shall be determined

in line with contractual provisions. Applicable GST shall also be recovered from contractors on Risk and Cost amount calculated as above.

However, increase in quantities on account of additional scope in new tender shall not be considered for this purpose.

NOTE: In case portion of work is being withdrawn, contract quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work/supply' for calculating Risk & Cost amount.

4.8 COMPLIANCE WITH VARIOUS LABOUR LAWS BY THE CONTRACTS:

The contractor shall not engage in connection with the work any person who has not completed 18 years of age.

The contractor shall in respect of labour employed by him, comply with following statutory provisions and rules and in regard to all matters provided therein.

- a) The contract Labour (Regulation & Abolition) Act 1970 and the related Rules.
- b) The minimum wages Act 1948 and the related rules
- c) The payment of wages Act 1936 and the related rules.
- d) The Factories Act 1948 and related Tamil Nadu Rules.
- e) The Employees' Provident Fund & Miscellaneous provisions Act 1952.
- f) The Employees State Insurance Act 1948.
- g) Workmen Compensation Act 1923
- h) Payment of Bonus Act 1965
- i) Maternity Benefit Act, 1961
- j) Payment of Gratuity Act, 1972
- k) Inter-State Migrant Workmen (Regulation of Employment & Conditions of Service) Act, 1979
- l) Equal Remuneration Act, 1976
- m) Industrial Employment (Standing Order) Act, 1960 (In case of engaging 100 or more workmen)
- n) The Industrial Disputes Act 1947

and any other law, or modifications to the above or to the rules made there under from time to time.

4.8.2 REGISTRATIONS AND LICENCING:

Every contractor shall register his name with the Personnel & Administration Department of BHEL Trichy-14 before taking up the work awarded to him by giving the following information and getting a code Number.

- a) Name of the Contractor
- b) Nature of Work
- c) Period of Work
- d) Number of maximum labour employed by him on anyone day.
- e) License No. & Date (Applicable in case of contractors employing 20 or more workers)
- f) The labourer should be enrolled with PF, ESI and enrolment No should be furnished on finalization of contract.

The contractor employing 20 or more workmen shall obtain a license from the authorities (The Deputy Chief Inspector of Factories / Assistant Commissioner of Labour as the case may be). This license shall be amended and / or renewed wherever there is an increase in the workmen employed by him or in the event of contract being extended or renewed. The contractor shall inform the license number to the BHEL Management before taking up the work.

The contractor (licensed or unlicensed) shall promptly furnish every information and document required by BHEL Authorities.

WAGES: The contractor has to disburse the salary/wages for their workmen only through Bank. The relevant Bank statement/proof for Bank payment should be produced along with PF and ESI challans to Welfare Section every month. The contractor shall have separate PF and ESI code, BHEL will not allow the contractor to remit the PF and ESI of his employees through codes of others. The contractor shall pay wages to the workmen employed by him at the rate, which shall not be less than the minimum wages declared by Tamil Nadu Government from time to time. A certificate of payment shall be furnished in duplicate by the contractor to the Engineer In-charge for each month. The contractor shall inform the BHEL Management every month the details of contract labour engaged for each contract in the following forms:

- a) Serial Number

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- b) Location
- c) Period of Work
- d) No. of Contract labour engaged during the month
- e) No. of days worked
- f) No. of Man – days worked
- g) Wages paid to his workers.

The above statement shall be furnished to BHEL Management at the end of every month.

4.8.3 REGISTERS AND RECORDS: The contractor shall maintain necessary documents/ Formats and Registers and submit returns as required under the Contract Labour (Regulation and Abolition) Act 1970 periodically to BHEL Management and to the Licensing Authority. All registers and records shall be preserved in original for a period of three years. All the registers, records and notice maintained under the Act and rules shall be produced on demand by inspector or any authority under The Act.

4.8.4 WORKING CONDITIONS:

- a) The contractor shall provide all safety devices and personal protective equipment to his workmen at his own cost and shall ensure that his workmen wear / use such device or equipment provided to them while doing the work and there should not be any relaxation on this.
- b) The contractor shall ensure that his workmen vacate the premises after shift is over.
- c) The Contractor should bring contract labour to BHEL premises at his/her own cost, risk and execute the work allotted to him in BHEL premises. All safety equipment's to the workmen, safety rules & regulations are to be followed as per BHEL's Safety Rules & Regulations.
- d) BHEL will no way be responsible for any loss of life or any injury caused to any of the contractors or their crew while executing the above work at BHEL premises.

4.8.5 NOTICES OF ACCIDENTS: In the event of an accident the contractor shall be required to fill injury report and submit to the Engineer In-charge immediately and ensure compliance of ESI / Workmen's Compensation of accident as per the Act. The contractor shall get the contract labour engaged by him insured under workmen's compensation policy from General Insurance Corporation of India before actually starting the work of contract. The Insurance Coverage should be for the entire period of contract. The contractor shall comply with the provisions of the Workmen's Compensation Act 1923. (This should be read in connection with the provisions of ESI Act.)

4.8.6 COVERAGE UNDER THE ESI / PF ACT MISCELLANEOUS PROVISIONS ACT:

- a) The contractor shall ensure that all his workmen are covered under the Employee's Sate Insurance Act and produce to BHEL such Registration number/ Enrolment Number before executing the contract work.
- b) The contractor shall regularly pay the amount by contribution i.e., employers contribution as well as employee's contribution in pursuance of the above scheme as fixed from time to time.
- c) The contractor shall ensure that his workmen are covered the PF & miscellaneous provisions Act 1952 and accordingly produce to the BHEL Management the Registration / Enrolment number before awarding of contract work.
- d) The Contractor shall within seven days of the close of every month submit to BHEL a statement showing the amount of contribution payable / paid for employees engaged by him or through him and shall also furnish to BHEL such information, as Principal Employer is required to furnish under the provisions of the ESI Act PF as well as the schemes made there under to the authorities concerned.
- e) Whenever any sum of money is found to be recoverable from or payable by the contractor, the same shall be deducted from any sum that may be due or which at any time thereafter may become due to the contractor under this contract or under any other contract or from his security deposit. In case the recoveries are not sufficient to satisfy the claims, the contractor shall pay the balance thereof on demand. In case any recoveries are made under this clause from the security deposit, the contractor shall immediately thereafter pay such further sum as may be required to replenish the shortage caused by such recoveries in the amount of security deposit.
- f) In case of non-compliance of the provisions of the Acts and in case BHEL having complied with the same BHEL will be entitled to recover the same from the contractor / sub-contractor.
- g) The contractor shall abide by all the labour and other laws applicable to contract labour / worker under this contract and shall at all-time keep BHEL Indemnified against all losses, claims, prosecutions under any law.

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- h) Non exercise of any of the powers or rights available under any law, shall not in any way operate as waiver thereof.

4.8.7 BIOMETRIC ENTRY/EXIT SYSTEM FOR CONTRACT WORKMEN:

- a) The Entry/Exit of the contract workmen is to be regulated only through Biometric system.
- b) The Contractor initially will be issued with a temporary gang pass for his/her contract workmen for period of ten days.
- c) The contractor should arrange photo coverage for all his/her workmen within the above stipulated time.
- d) The Contractor has to submit Form I for all his/her contract workmen. All the particulars required in Form I are to be provided by the contractor without fail.
- e) The contractor should educate the contract workmen in registering the attendance through the system.
- f) Whenever a contract workman migrates or leaves service, the contractor has to surrender the biometric card of the particular contract workman to Contract Cell with immediate effect.
- g) If a contract workman having biometric card joins another contractor, the contractor who engages them, has to intimate contract cell along with the biometric card for switching over the contract workmen from the earlier contractor to the present contractor.
- h) On completion of the work, the contractor has to surrender all the biometric cards immediately to the contract cell. Otherwise, an amount of Rs.100/- per card will be deducted from the final bill/security deposit of the contractor.
- i) If any contract workmen lose his/her card, the contractor shall arrange a duplicate for the workmen by paying an amount of Rs.100/-.
- j) The Contractor is totally responsible for the biometric cards issued to his/her contract workmen.
- k) The Contractor has to indemnify BHEL for all the damages and losses caused by his/her workmen.

4.8.8 SAFETY CONDITIONS: Tamil Nadu Factories Rules, 1950:

- a) Rule 61F: Methods of Work: No process or work shall be carried on in any factory in such a manner as to cause risk of bodily injury.
- b) Rule 61G: Stacking and storing of materials etc.: No materials or Equipment shall be stacked or stored in such a manner as to cause risk of bodily injury.
- c) Rule 61-N and Rule 61- O: Workers to be provided with Personal Protective equipment suitable for the hazards and should be of good quality / have certification by Indian Standard Institute.
- d) Rule 96: Notification of Accidents: Shall be complied with as required in the Factories Act (Section 88 and Section 88A) and Tamil Nadu Factories Rules.

4.8.9 COMMON TERMS AND CONDITIONS FOR WORKS CONTRACT RELEVANT TO SAFETY:

- a) All the Contract employees should be trained on Safety and certified by Safety/BHEL. New employees should undergo Safety Training before take up the work, without Safety Training no contract person is allowed to do any work.
- b) Use of cell phones and other mobile electronic devices (including hands-free devices) in the work spot and during the operation of a vehicle in the BHEL premises is prohibited.
- c) Contractor employees working on BHEL premises must wear appropriate personal protective equipment. Strict adherence to all required Personal Protective Equipment (Helmet, Safety Shoes and Goggles) are mandatory, specific PPE requirements will be based on job type or tasks performed.
- d) Excessively loose-clothing, dhoti/Lungi is prohibited especially around rotating or moving equipment.
- e) The contractors work area should be kept clean and orderly, free of clutter and trash, so that work may proceed in a safe and orderly manner. Tools should be safely positioned during use and promptly put away when no longer required.
- f) Fire-fighting, emergency shutdown devices, and life-saving equipment, should not be blocked by the contractors and access to the path to this equipment should be maintained at all times.
- g) Only approved equipment should be used in locations where flammable mixtures are present. A Hot Work Permit is required when open flames, or electric arcs are in the work area and while handling flammable materials.
- h) Smoking is not allowed in work area.
- i) BHEL operate under a comprehensive Emergency Response Plan. Contractor should be aware of the site Emergency Response Plan and communicate that plan to all their employees.

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- j) It is recommended that the contractor should know & display the emergency phone number like Fire, Ambulance, Safety, Security etc. at their work area.
- k) It is the responsibility of the contractor to understand and use the appropriate Work Permits and to verify any permit requirements at the location. Contractor must make necessary arrangements with their Representative to acquire appropriate authorization to perform those operations at the site.

4.8.10 TERMS & CONDITIONS of the Contract shall be applicable to the extent that the condition therein do not supersede these special condition given below:

- a) The Contractor or his/ her crew should handle the machinery and other equipment's entrusted to them by BHEL with utmost care and return them safely after execution of stipulated work. The cost of damage, repair due to improper handling of machinery and equipment will be recovered from the contractor.
- b) Contractor shall supervise the work carried out by his/her employees.
- c) Contractor shall ensure that the employees deployed in the premises of BHEL are physically and mentally fit and do not have any criminal record. Such employees should possess requisite skill, proficiency, qualification, experience etc.
- d) Contractor shall maintain appropriate records of his/her employee's deployed carry out the job(s).
- e) Contractor will be responsible for the good conduct of his/her employees. In case any misconduct/ misbehaviour by any employee, the contractor will replace such employee(s) immediately.
- f) Contractor will ensure that the job is executed through his/her employees only and under any circumstances; the contractor will neither deploy any casual employee to carry out the job nor shall subcontract the job without prior written permission.
- g) Contractor shall be solely responsible for non-payment / delayed payment of minimum contribution under EPF & MP Act, ESI Act, Bonus, etc.
- h) In case, the contractor fails to make payment of wages to his/her employees or remittance of contribution to the concerned authorities, the security deposit / other dues / running bills under the contract can be utilized by BHEL to discharge the liability of the contractor.
- i) The liability for any compensation on account of injury sustained by an employee of the contractor will be exclusively that of the contractor.
- j) Contractor shall observe provisions of the Factories Act, 1948 in respect of working hours, holidays, rest intervals, leave and overtime to his/her employee. No work shall be done on second / third shift, overtime, Sundays or on other declared holidays without proper permission.
- k) The Contractor should maintain a 'Work Diary' containing the details of work executed by him from time to time on Shift/ Daily basis and obtain the signature from official concerned nominated for this purpose for having executed the work correctly and satisfactorily.
- l) The proof of execution of work should be submitted along with each bill (printed form with covering letter and proof for execution of work).
- m) Necessary gate entry pass will be issued by BHEL Security Department for Contract Workmen based on your application duly forwarded by the Contract Executing Department and approved by HR/ Welfare/ Contract Cell on fulfilment of the Statutory Obligation by the Contractor. In order to ensure compliance to Minimum Wage payment to all workmen entering the factory premises, the entry of manpower shall be regulated based on the quoted/awarded value and the prevailing minimum wages.
- n) In the event of termination of contract for any reason whatsoever, the contractor shall withdraw all his/her employees from the establishment of BHEL. In case, contractor decides to terminate services of his/her employees, he should settle all terminal dues including retrenchment compensation.
- o) The Contractor has to equip himself with standard wire ropes, nylon ropes, belt, lifting tackles, tools etc. In addition, BHEL will supply special type of wire ropes, lifting tackles, tools etc., to the Contractor free of cost as and when required if necessary.
- p) The contractor is directly responsible for injuries / death of vehicle driver or any person employed by him as well as to the third party occupants or other users arising due to accident or otherwise of vehicle during the contractual period. At any point of time, BHEL will not be responsible for any loss / damage either to the person or to the vehicle arising out of accident of the vehicle for performing the contractual obligations.
- q) Any damage to BHEL materials due to rough and faulty handling by the contractor's men will have to be made good by the contractor to BHEL. Similarly, if any damage caused to BHEL equipment's/installation, property of third party in the course of work by the contractor's men, the same shall be made good by the contractor.

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- r) The workmen engaged under this contract should not be permitted to stay inside BHEL complex after completing their day's work. It will be the responsibility of the contractor to take the labourers out of BHEL Complex as soon as their day's work is over.
- s) WCM will be arranging the contract. User Department is to be approached by the contractor regarding execution of work, Bill Certification, Bill processing / passing, Payment, Penalty, Contract closing etc.

4.9.11: Bidder Declaration:

- a) We declare that we will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- b) In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines.

4.9.12: Resolution of Disputes:

The Parties agree that if at any time (whether before, during or after the arbitral or judicial proceedings), any Disputes (which term shall mean and include any dispute, difference, question or disagreement arising in connection with construction, meaning, operation, effect, interpretation or breach of the contract/tender which the Parties are unable to settle mutually), arise inter-se the Parties, the same may, be referred by either party to Conciliation to be conducted through Independent Experts Committee to be appointed by competent authority of BHEL from the BHEL Panel of Conciliators.

The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof.

Notes:

1. No serving or a retired employee of BHEL/Administrative Ministry of BHEL shall be included in the BHEL Panel of Conciliators.
2. Any other person(s) can be appointed as Conciliator(s) who is/are mutually agreeable to both the parties from outside the BHEL Panel of Conciliators.

The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in Annexure ... to the Terms and conditions of the tender.

The Annexure (as below) together with its appendices will be treated as if the same is part and parcel hereof and shall be as effectual as if set out herein in the terms and conditions of the tender.

Except as provided elsewhere in this Contract, in case amicable settlement is not reached between the Parties, in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract, then, either Party may, by a notice in writing to the other Party refer such dispute or difference to the sole arbitration of an arbitrator appointed by Head of the BHEL, Trichy.

The Arbitrator shall pass a reasoned award and the award of the Arbitrator shall be final and binding upon the Parties.

Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder and for the time being in force

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shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be at BHEL premises, Trichy.

The cost of arbitration shall be borne as per the award of the Arbitrator.

Subject to the arbitration in terms of Clause above, the Courts at TRICHY shall have exclusive jurisdiction over any matter arising out of or in connection with this Contract.

Notwithstanding the existence or any dispute or differences and/or reference for the arbitration, the Contractor shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and expedition in a professional manner except where the Contract has been terminated by either Party in terms of this Contract.

In case of Contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable:

In the event of any dispute or difference relating to the interpretation and application of the provisions of the Contract, such dispute or difference shall be referred by either Party for arbitration to the sole arbitrator in the Department of Public Enterprises to be nominated by the Secretary to the Government of India in-charge of the Department of Public Enterprises. The Arbitration and Conciliation Act, 1996 shall not be applicable to arbitration under this clause. The award of the arbitrator shall be binding upon the Parties to the dispute, provided, however, any Party aggrieved by such award may make further reference for setting aside or revision of the award to the Law Secretary, Department of Legal Affairs, Ministry of Law and Justice, Government of India. Upon such reference the dispute shall be decided by the Law Secretary or the Special Secretary or Additional Secretary when so authorized by the Law Secretary, whose decision shall bind the Parties hereto finally and conclusively. The Parties to the dispute will share equally the cost of arbitration as intimated by the Arbitrator.

Annexure: BRIEF PROCEDURE FOR CONDUCT OF CONCILIATION PROCEEDINGS

1. The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided herein:
2. The party desirous of resorting to Conciliation shall send an invitation/notice in writing to the other party to conciliate specifying all points of Disputes with details of the amount claimed. The party concerned shall not raise any new issue thereafter. Parties shall also not claim any interest on claims/counter-claims from the date of notice invoking Conciliation till the conclusion of the Conciliation proceedings.
3. The party receiving the invitation/notice for Conciliation shall within 30 days of receipt of the notice of Conciliation intimate its consent for Conciliation along with its counter-claims, if any.
4. The Conciliation in a matter involving claim or counter-claim (whichever is higher) up to Rs 5 crores shall be carried out by sole Conciliator nominated by BHEL while in a matter involving claim or counter-claim (whichever is higher) of more than Rs 5 crores.
5. Conciliation shall be carried out by 3 Conciliators nominated by BHEL.
6. The Parties shall be represented by only their duly authorized in-house executives/officers and neither Party shall be represented by a Lawyer.
7. The first meeting of the IEC shall be convened by the IEC by sending appropriate communication/notice to both the parties as soon as possible but not later than 30 days from the date of his/their appointment. The hearings in the Conciliation proceeding shall ordinarily be

- concluded within two (2) months and, in exceptional cases where parties have expressed willingness to settle the matter or there exists possibility of settlement in the matter, the proceedings may be extended by the IEC by a maximum of further 2 months with the consent of the Parties subject to cogent reasons being recorded in writing.
8. The IEC shall thereafter formulate recommendations for settlement of the Disputes supported by reasons at the earliest but in any case within 15 days from the date of conclusion of the last hearing. The recommendations so formulated along with the reasons shall be furnished by the IEC to both the Parties at the earliest but in any case within 1 month from the date of conclusion of the last hearing.
 9. Response/modifications/suggestions of the Parties on the recommendations of the IEC are to be submitted to the IEC within time limit stipulated by the IEC but not more than 15 days from the date of receipt of the recommendations from the IEC.
 10. In the event, upon consideration, further review of the recommendations is considered necessary, whether by BHEL or by the other Party, then, the matter can be remitted back to the IEC with request to reconsider the same in light of the issues projected by either/both the Parties and to submit its recommendations thereon within the following 15 days from the date of remitting of the case by either of the Parties.
 11. Upon the recommendations by the Parties, with or without modifications, as considered necessary, the IEC shall be called upon to draw up the Draft Settlement Agreement in terms of the recommendations.
 12. When a consensus can be arrived at between the parties only in regard to any one or some of the issues referred for Conciliation the draft Settlement Agreement shall be accordingly formulated in regard to the said Issue(s), and the said Settlement Agreement, if signed, by the parties, shall be valid only for the said issues. As regards the balance issues not settled, the parties may seek to resolve them further as per terms and conditions provided in the contract.
 13. In case no settlement can be reached between the parties, the IEC shall by a written declaration, pronounce that the Conciliation between the parties has failed and is accordingly terminated.
 14. Unless the Conciliation proceedings are terminated in terms of para 22 (b), (c) & (d) herein below, the IEC shall forward his/its recommendations as to possible terms of settlement within one (1) month from the date of last hearing. The date of first hearing of Conciliation shall be the starting date for calculating the period of 2 months.
 15. In case of 3 members IEC, 2 members of IEC present will constitute a valid quorum for IEC and meeting can take place to proceed in the matter after seeking consent from the member who is not available. If necessary, videoconferencing may be arranged for facilitating participation of the members. However, the IEC recommendations will be signed by all members. Where there is more than one (1) Conciliator, as a general rule they shall act jointly. In the event of differences between the Members of IEC, the decision/recommendations of the majority of the Members of IEC shall prevail and be construed as the recommendation of the IEC.
 16. The Draft Settlement Agreement prepared by the IEC in terms of the consensus arrived at during the Conciliation proceedings between the Parties shall be given by the IEC to both the parties for putting up for approval of their respective Competent Authority.
 17. Before submitting the draft settlement agreement to BHEL's Competent Authority viz. the Board Level Committee on Alternative Dispute Resolution (BLCADR) for approval, concurrence of the other party's Competent Authority to the draft settlement agreement shall be obtained by the other party and informed to BHEL within 15 days of receipt of the final draft settlement agreement by it. Upon approval by the Competent Authority, the Settlement Agreement would thereafter be

signed by the authorized representatives of both the Parties and authenticated by the members of the IEC.

18. In case the Draft Settlement Agreement is rejected by the Competent Authority of BHEL or the other Party, the Conciliation proceedings would stand terminated.

19. A Settlement Agreement shall contain a statement to the effect that each of the person(s) signing thereto (i) is fully authorized by the respective Party(ies) he/she represents, (ii) has fully understood the contents of the same and (iii) is signing on the same out of complete freewill and consent, without any pressure, undue influence.

20. The Settlement Agreement shall thereafter have the same legal status and effect as an arbitration award on agreed terms on the substance of the dispute rendered by an arbitral tribunal passed under section 30 of the Arbitration and Conciliation Act, 1996.

21. Acceptance of the Draft Settlement Agreement/recommendations of the Conciliator and/or signing of the Settlement Agreement by BHEL shall however, be subject to withdrawal/closure of any arbitral and/or judicial proceedings initiated by the concerned Party in regard to such settled issues.

22. Unless otherwise provided for in the agreement, contract or the Memorandum of Understanding, as the case may be, in the event of likelihood of prolonged absence of the Conciliator or any member of IEC, for any reason/incapacity, the Competent Authority/Head of Unit/Division/Region/Business Group of BHEL may substitute the Conciliator or such member at any stage of the proceedings. Upon appointment of the substitute Conciliator(s), such reconstituted IEC may, with the consent of the Parties, proceed with further Conciliation into the matter either de-novo or from the stage already reached by the previous IEC before the substitution.

23. The proceedings of Conciliation under this Scheme may be terminated as follows:

- On the date of signing of the Settlement agreement by the Parties; or,
- By a written declaration of the IEC, after consultation with the parties, to the effect that further efforts at conciliation are no longer justified, on the date of the declaration; or,
- By a written declaration of the Parties addressed to the IEC to the effect that the Conciliation proceedings are terminated, on the date of the declaration; or,
- By a written declaration of a Party to the other Party and the IEC, if appointed, to the effect that the Conciliation proceedings are terminated, on the date of the declaration.
- On rejection of the Draft Settlement Agreement by the Competent Authority of BHEL or the other Party.

24. The Conciliator(s) shall be entitled to following fees and facilities:

Sl No	Particulars	Amount
1	Sitting fees	Each Member shall be paid a Lump Sum fee of Rs 75,000/- for the whole case payable in terms of paragraph No. 27 herein below.
2	Towards drafting of settlement agreement	In cases involving claim and/or counter-claim of up to Rs 5 crores. Rs 50,000/- (Sole Conciliator) In cases involving claim and/or counter-claim of exceeding Rs 5 crores but less than Rs 10 crores. Rs 75,000 (per

SI No	Particulars	Amount
		Conciliator) In cases involving claim and/or counter-claim of more than Rs 10 crores.
		Rs 1,00,000/- (per Conciliator) Note: The aforesaid fees for the drafting of the Settlement Agreement shall be paid on Signing of the Settlement Agreement after approval of the Competent Authority or Rejection of the proposed Settlement Agreement by the Competent Authority of BHEL.
3	Secretarial expenses	Rs 10,000/- (one time) for the whole case for Conciliation by a Sole Member IEC. Where Conciliation is by multi member Conciliators –Rs 30,000/- (one time)- to be paid to the IEC
4	Travel and transportation and stay at outstation Retired Senior Officials of other Public Sector Undertakings (pay scale wise equivalent to or more than E-8 level of BHEL)	As per entitlement of the equivalent officer (pay scale wise) in BHEL.
	Others	As per the extant entitlement of whole time Functional Directors in BHEL.
		Ordinarily, the IEC Member(s) would be entitled to travel by air Economy Class.
5	Venue for meeting	Unless otherwise agreed in the agreement, contract or the Memorandum of Understanding, as the case may be, the venue/seat of proceedings shall be the location of the concerned Unit / Division / Region / Business Group of BHEL. Without prejudice to the seat/venue of the Conciliation being at the location of concerned BHEL Unit / Division / Region / Business Group, the IEC after consulting the Parties may decide to hold the proceedings at any other place/venue to facilitate the proceedings. Unless, Parties agree to conduct Conciliation at BHEL premises, the venue is to be arranged by either Party alternately.

25. The parties will bear their own costs including cost of presenting their cases / evidence / witness(es) / expert(s) on their behalf. The parties agree to rely upon documentary evidence in support of their claims and not to bring any oral evidence in IEC proceedings.

SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25

26. If any witness(es) or expert(s) is/are, with the consent of the parties, called upon to appear at the instance of the IEC in connection with the matter, then, the costs towards such witness(es)/expert(s) shall be determined by the IEC with the consent of the Parties and the cost so determined shall be borne equally by the Parties.
27. The other expenditures/costs in connection with the Conciliation proceedings as well as the IEC's fees and expenses shall be shared by the Parties equally.
28. Out of the lump sum fees of Rs 75,000/- for Sitting Fees, 50% shall be payable after the first meeting of the IEC and the remaining 50% of the Sitting Fees shall be payable only after termination of the conciliation proceedings in terms of para 22 hereinabove.
29. The travelling, transportation and stay at outstation shall be arranged by concerned Unit as per entitlements as per Serial No. 3 of the Table at para 23 above, and in case such arrangements are not made by the BHEL Unit, the same shall be reimbursed to the IEC on actuals limited to their entitlement as per Serial No. 4 of the Table at Para 23 above against supporting documents. The IEC Member(s) shall submit necessary invoice for claiming the fees/reimbursements.
30. The Parties shall keep confidential all matters relating to the conciliation proceedings. Confidentiality shall extend also to the settlement agreement, except where its disclosure is necessary for purposes of its implementation and enforcement or as required by or under a law or as per directions of a Court/Governmental authority/ regulatory body, as the case may be.
31. The Parties shall not rely upon or introduce as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the Disputes that is the subject of the Conciliation proceedings:
- a. Views expressed or suggestions made by the other party in respect of a possible settlement of the Disputes;
 - b. admissions made by the other party in the course of the Conciliator proceedings;
 - c. proposals made by the Conciliator;
 - d. The fact that the other Party had indicated his willingness to accept a proposal for settlement made by the Conciliator.
32. The Parties shall not present the Conciliator(s) as witness in any Alternative Dispute Resolution or Judicial proceedings in respect of a Disputes that is/was the subject of that particular Conciliation proceeding.
33. None of the Conciliators shall act as an arbitrator or as a representative or counsel of a Party in any arbitral or judicial proceeding in respect of a Disputes that is/was the subject of that particular Conciliation proceeding.
34. The Parties shall not initiate, during the Conciliation proceedings, any arbitral or judicial proceedings in respect of a Disputes that is the subject matter of the Conciliation proceedings except that a Party may initiate arbitral or judicial proceedings where, in his opinion, such proceedings are necessary for preserving his rights including for preventing expiry of period of limitation. Unless terminated as per the provisions of this Scheme, the Conciliation proceedings shall continue notwithstanding the commencement of the arbitral or judicial proceedings and the arbitral or judicial proceedings shall be primarily for the purpose of preserving rights including preventing expiry of period of limitation.
35. The official language of Conciliation proceedings under this Scheme shall be English unless the Parties agree to some other language.



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Appendix I

FORMAT FOR SEEKING CONSENT FOR REFERRING THE DISPUTES TO CONCILIATION THROUGH IEC

To,

M/s. (Stakeholder's name)

Sub: Resolution of the Disputes through conciliation by Independent Expert Committee (IEC).

Ref: Contract No/MoU/Agreement/LOI/LOA& date _____.

Sir,

With reference to above referred Contract/MoU/Agreement/LOI/LOA, you have raised certain Disputes/claims. Vide your letter dated____ you have requested BHEL to refer the Disputes/claims to IEC for Conciliation.

We are enclosing herewith Format (3) for giving consent and the terms and conditions of BHEL Conciliation Scheme, 2018 governing conciliation through IEC. You are requested to give your unconditional consent to the said terms and conditions of the Scheme by returning the same duly sealed and signed on each page. On receipt of your consent, matter will be put to the Competent Authority for consideration and decision.

Please note that BHEL has also certain claims against you (if applicable). BHEL reserves its right to agree or not to agree conciliation of the said disputes through BHEL and this letter is being issued without prejudice to BHEL's rights and contentions available under the contract and law.

Yours faithfully,

Representative of BHEL



Appendix II

**FORMAT FOR GIVING CONSENT BY CONTRACTOR / VENDOR / CUSTOMER / COLLABORATOR /
CONSORTIUM PARTNERS FOR REFERRING THE DISPUTES TO CONCILIATION THROUGH IEC**

To,

BHEL

.....

Sub: Resolution of Disputes through Conciliation by Independent Expert Committee (IEC).

Ref: Contract/MoU/Agreement/LOI/LOA No & date_____

With reference to above referred contract, our following bills/invoices/claims submitted to BHEL are still unpaid giving rise to Disputes:

SL. no.	Claim Description	Bill submitted to BHEL (no. and date)	Amount of the bill/claim	Amount received from BHEL	Outstanding Amount

Accordingly, we request you to kindly refer the Disputes in respect of above claims to IEC for Conciliation.

We hereby agree and give our unconditional consent to the terms and conditions of BHEL Conciliation Scheme, 2018 governing conciliation through IEC. We have signed the same on each page and enclosed it for your consideration.

Yours faithfully,

(Signature with stamp)

Authorized Representative of Contractor

Name, with designation Date

Appendix III

STATEMENT OF CLAIMS/COUNTER CLAIMS TO BE SUBMITTED TO THE IEC BY BOTH THE PARTIES

1. Chronology of the Disputes
2. Brief of the Contract/MoU/Agreement/LOI/LOA
3. Brief history of the Disputes:
4. Issues:
5. Details of Clam(s)/Counter Claim(s):

Sl. No.	Description of claim(s)/Counter Claim	Amount (in INR)Or currency applicable in the contract	Relevant contract clause

6. Basis/Ground of claim(s)/counter claim(s) (along with relevant clause of contract)

Note– The Statement of Claims/Counter Claims may ideally be restricted to maximum limit of 20 pages. Relevant documents may be compiled and submitted along with the statement of Claims/Counter Claims. The statement of Claims/Counter Claims is to be submitted to all IEC members and to the other party by post as well as by email.

4.9.13 GOODS & SERVICE TAX (GST) REGISTRATION & COMPLIANCE:

- a) Response to Tenders for Indigenous supplier will be entertained only if the vendor has a valid GST registration Number (GSTIN) which should be clearly mentioned in the offer. If the dealer is exempted from GST registration, a declaration with due supporting documents need to be furnished for considering the offer. Dealers under composition scheme should declare that he is a composition dealer supported by the screen shot taken from GSTN portal. The unregistered dealer as well as the composition dealer has to submit an undertaking stating that they will not claim GST during the execution of the contract even if their status under GST changes to regular tax payer.
The dealer has to submit necessary documents if there is any change in status under GST.
- b) Supplier shall mention their GSTIN in all their invoices (incl. credit Notes, Debit Notes) and invoices shall be in the format as specified/prescribed under GST laws. Invoices shall necessarily contain Invoice number (in case of multiple numbering system is being followed for billing like SAP invoice no, commercial invoice no etc., then the Invoice No. which is linked/uploaded in GSTN network shall be clearly indicated), Billed to party (with GSTIN) & Shipped to party details, item description



as per PO, Quantity, Rate, Value, applicable taxes with nomenclature (like IGST, SGST, CGST & UTGST) separately, HSN/ SAC Code, Place of Supply etc. **Wherever E-Invoice is applicable, the tax invoice/ CN / DN submitted by the vendor must contain the QR code generated in E-Invoice Portal & IRN.**

- c) All invoices shall bear the HSN Code for each item separately (Harmonized System of Nomenclature)/ SAC code (Services Accounting Code)
- d) Invoices will be processed only upon completion of statutory requirement and further subject to following:
 - i. Vendor declaring such invoice in **their GSTR-1 Return/ IFF**
 - ii. Receipt of Goods or Services and Tax invoice by BHEL
- e) As the continuous uploading of tax invoices in GSTN portal (**in GSTR-1/ IFF**) is available for all (i.e. both Small & Large) tax payers, all invoices raised on BHEL may be uploaded immediately in GST portal on dispatch of material /rendering of services. The supplier shall ensure availability of Invoice in GSTN portal before submission of invoice to BHEL. Invoices will be admitted by BHEL only if the invoices are available in GSTN portal (**in BHEL's GSTR-2A/ GSTR-2B**).
- f) In case of discrepancy in the data uploaded by the supplier in the GSTN portal or in case of any shortages or rejection in the supply, then BHEL will not be able to avail the tax credit and will notify the supplier of the same. Supplier has to rectify the data discrepancy in the GSTN portal or issue credit note or debit note (details also to be uploaded in GSTN portal) for the shortages or rejections in the supplies or additional claims, within the calendar month informed by BHEL.
- g) In cases where invoice details have been uploaded by the vendor but failed to remit the GST amount to GST Department (Form PMT-08 or Form GST RET-01 to be submitted) within stipulated time, then GST paid on the invoices pertaining to the month for which GST return not filed by the vendor will be recovered from the vendor along with the applicable interest (currently 24% p.a) and all subsequent bills of the vendor will not be processed till filing of the GST return by the vendor
- h) In case GST credit is denied to BHEL due to non-receipt or delayed receipt of goods and/ or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount claimed in the invoice shall be disallowed to the vendor.
- i) Where any GST liability arising on BHEL under Reverse Charge (RCM), the vendor has to submit the invoices to BHEL well within the timeline prescribed in GST Law, to enable BHEL to discharge the GST liability. If there is a delay in submission of invoice by the vendor resulting in delayed payment of GST by BHEL along with Interest, then such Interest payable or paid shall be recovered from the vendor.
- j) Under GST regime, BHEL has to discharge GST liability on risk & cost recovered from suppliers/contracts. Hence applicable GST shall also be recoverable from suppliers/contractors on risk and cost amount. For this Tax Invoice will be issued by BHEL indicating the respective supply invoice number.
- k) GST TDS will be deducted as per Section 51 of CGST Act 2017 and in line with Notification 50/2018

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Central Tax dated 13.09.2018. GST TDS certificate will be generated in GSTN portal subsequent to vendor accepting the TDS deduction in the GSTN portal & the vendor can directly download the Certificate from the GSTN Portal

INTEGRITY PACT (IP):

5.1 IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner. Following Independent External Monitors (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.

Sl	IEM	Email
1.	Shri Otem Dai, IAS (Retd.)	iem1@bhel.in
2.	Shri Bishwamitra Pandey, IRAS (Retd.)	iem2@bhel.in
3.	Shri Mukesh Mittal, IRS (Retd.)	iem3@bhel.in

5.2 The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid (Part-I, in case of two/ three part bid). Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.

5.3 Please refer Section-8 of IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to any of the above IEM(s). All correspondence with the IEMs shall be done through email only.

Note:

No routine correspondence shall be addressed to the IEM (phone/ post/ email) regarding the clarifications, time extensions or any other administrative queries, etc on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) department's officials whose contact details are provided below:

Details of contact person(s):

(1)

Name: E Venkatesh
 Designation : DGM
 Dept: Works Contracts Management
 Address: Bldg. 24, 3rd Floor, HPBP, BHEL Trichy-14
 Phone: 0431-2577042
 Email: evenkat@bhel.in

(2)

Name: M SATHESE
 Designation : Deputy Manager
 Dept: Works Contracts Management
 Address: Bldg. 24, 3rd Floor, HPBP, BHEL Trichy-14
 Phone: 0431-2575438
 Email: msathese@bhel.in

INTEGRITY PACT

Between

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at "BHEL House", Siri Fort, New Delhi - 110049 (India) hereinafter referred to as "The Principal", which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

And

.....(description
of the party along with address), hereinafter referred to as "The Bidder/ Contractor" which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

Preamble

The Principal intends to award, under laid-down organizational procedures, Contract/s for **SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25**. The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s). In order to achieve these goals, the Principal will appoint independent External Monitor(s), who will monitor the tender process and the execution of the Contract for compliance with the principles mentioned above.

Section 1- Commitments of the Principal

- a. The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:
 - i.No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - ii.The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - iii.The Principal will exclude from the process all known prejudiced persons.
- b. If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 - Commitments of the Bidder(s)/ Contractor(s)

2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender Process or during the execution of the contract.

SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25

2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/ PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

2.1.4 Foreign Bidder(s)/ Contractor (s) shall disclose the name and address of the agent and representative in India and Indian Bidder(s)/ Contractor (s) to disclose their foreign principle or associates. The Bidder(s)/ Contractor (s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.

2.2 The Bidder(s)/ Contractor (s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

2.3 The Bidder(s)/ Contractor (s) shall not approach the courts while representing the matters to IEMs and will await their decision in the matter.

Section 3 - Disqualification from Tender process and exclusion from future Contracts

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process or take action as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors" framed by the Principal.

Section 4 - Compensation for Damages

4.1 If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent Earnest Money Deposit/Bid Security.

4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/Performance Bank Guarantee, whichever is higher.

Section 5 - Previous Transgression

5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.

5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 - Equal treatment of all Bidders/ Contractors / Sub-Contractors

6.1 The Bidder(s)/ Contractor(s) undertake(s) to obtain from all subcontractors a commitment consistent with this Integrity Pact and report Compliance to the Principal. This commitment shall be taken only from those subcontractors whose contract value is more than 20 % of Bidder's/ Contractor's contract value with the Principal. The Bidder(s)/ Contractor(s) shall continue to remain responsible for any default by his Sub-contractor(s).

6.2 The Principal will disqualify from the tender process all Bidders who do not sign this pact or violate its provisions.

Section 7 - Criminal Charges against violating Bidders/ Contractors /Sub-contractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section 8 -Independent External Monitor(s)

8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.

8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all Contract documentation of the Principal including that provided by the Bidder(s) / Contractor(s). The Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-Contractor(s). The Monitor is under Contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Subcontractor (s) with confidentiality in line with Non-disclosure agreement.

8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

8.5 The role of IEMs is advisory, would not be legally binding and it is restricted to resolving issues raised by an interesting bidder regarding any aspects of the tender which allegedly restricts competition or bias towards some bidder. At the same time, it must be understood that IEMs are not consultant to the management. Their role is independent in nature and the advice once tendered would not be subject to review at the request of the organization.

8.6 For ensuring the desired transparency all complaints received by them and give their recommendations / views to CMD, BHEL at the earliest. They may also send their report directly to the CVO and the commission in case of suspicion of serious irregularities requiring legal / administrative action. IEMs will tender their advice on complaints within 10 days as far as possible.

8.7 The IEMs would examine all complaints received by them and give their recommendations / views to CMD, BHEL, at the earliest. They may also send their reports directly to the CVO and the commission, in case of suspicion irregularities requiring legal/ administrative action. IEMs will tender their advice on the complaints within 10 days as far as possible/

8.8 The CMD, BHEL shall decide the compensation to be paid to the monitor and its terms and conditions.

8.9 IEM should examine the process integrity they are not expected to concern themselves with fixing of responsibility of the officers. Complaints alleging mala fide on the part of any officer of the organization should be looked into by the CVO of the concerned organization.

8.10 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant IPC / PC Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

8.11 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.

8.12 The word 'Monitor' would include both singular and plural.



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Section 9 - Pact Duration:

9.1 This Pact shall be operative from the date of IP is signed by both the parties till the final completion of contract of successful bidder and for all other bidder 6 months after the Contract has been awarded. Issues like warranty guarantee etc., should be outside the purview of IEMs.

9.2 If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified as above, unless it is discharged / determined by the CMD, BHEL.

Section 10 – Other Provisions:

10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.

10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

10.3 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

10.4 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

10.5 Only those Bidders / Contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.


For & On behalf of the Principal
(Office Seal)
M. SATHESE
Deputy Manager
Works Contracts Management
BHEL, TRICHY - 620 014.

<SIGNATURE OF BIDDER / CONTRACTOR>
For & On behalf of the Bidder/ Contractor
(Office Seal)

Place: Trichy
Date:

Place:
Date:

Witness: 
(Name & Address of Witness)
S. GOPALAKRISHNAN
Dy. Engineer
Works Contracts Management
BHEL, TRICHY - 620 014.

Witness: <SIGNATURE OF WITNESS>
(Name & Address of Witness)

ANNEXURE – I

E-PAYMENTS

- This annexure to the techno-commercial bid explains how to make e-payments to BHEL- Tiruchirappalli through SBI e-collect.
- Vendors (EMD and SD Payments payable by others) can utilise this facility.
- Payments can be made using Internet Banking, Debit Cards/Credit Cards etc.
- SBI Charges a minimum amount (Service Charge) for every transaction. This may vary according to the MODE selected.

STEP BY STEP PROCEDURE:

Login to <https://www.onlinesbi.com>

1. Select State Bank Collect available on the top (pre login page)
2. Accept the terms and conditions and click “PROCEED”
3. Select State “TAMILNADU “and Institution type “INDUSTRY “.
4. Select “BHEL TRICHY under “INDUSTRY”.
5. In the next page, Select APPROPRIATE category, fill details correctly & click “SUBMIT”.
6. If all details entered are correctly populated, click “CONFIRM “to proceed.
7. Make payment as per your convenience. (Options available are payment of fees through SBI Net Banking, State Bank ATM cum Debit Cards / Other Bank Debit / Credit Cards and through SBI Branches).
8. SAVE & Keep the copy of receipt for future reference.

HOW TO TAKE RECEIPT FOR A PAYMENT MADE, EVEN ON A LATER DATE:

(PLEASE CHECK THE STATUS BEFORE MAKING PAYMENT SECOND TIME)

1. Login to www.onlinesbi.com
2. Select State Bank Collect available on the top (pre login page)
3. Accept the terms and conditions and click “PROCEED”
4. Select “PAYMENT HISTORY “option available on the left side of screen.
5. Using two options as mentioned below, you can get the receipt:
 - a. Type the same Date of Birth, Mobile Number which you have entered at the time of making payment through SB collect. Select the date range and submit.
 - b. If you know the payment reference number, then enter the Reference number (DU...) along with anyone information (Date of Birth / Mobile number, which you have entered at the time of making payment). Select the date range and submit.
6. In the next page, take print out of receipt.



ANNEXURE-II

(TO BE AGREED IN TECHNICAL BID FORM)

No Deviation Declaration

I/We, have read and clearly understood all the Terms and conditions in Tender Schedule of and accordingly accept the same without any deviation what so ever.

- I/ We unconditionally agree to all the tender conditions and no new conditions are imposed by us in the technical / price bid. I understand in the event of imposing any condition in the technical / price bid, such condition would be ignored by BHEL and only the prices will be considered for the purpose of evaluation”
- I/ We confirm that none of our group concern or affiliates etc., appears on the list of banned firms / companies by BHEL (list available on www.bhel.com) nor any of the Director / Partner / proprietor of bidder / such group concern or affiliate etc. are involved with such company.
- I/ We also declare that, we have not been suspended or black listed or issued with Show Cause Notice by BHEL- Trichy or any other BHEL Unit or any PSU/ Government organization.
- I/ We confirm that other than us, none of our group concerns or affiliates etc. are participating in the tender either directly or indirectly through any other agency under same proprietor / common director(s) / common partner(s).
- I/ We confirm that if any of the above statement / information furnished by us in this tender is found to be false/ fake at any stage of tender evaluation or during execution of contract, BHEL will have the right to initiate appropriate action including legal proceeds / termination of contract, recovery of damages, penalties etc. as deemed fit.

Yours Sincerely,

Signature of the Bidder with date & Seal



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SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25.

Annexure-III**PART-II (PRICE BID)**
(FOR REFERENCE ONLY)(Vendor to fill the value in excel sheet and upload in <https://eprocurebhel.co.in> portal)

Item Rate BoQ

Tender Inviting Authority: WCM, BHEL, Trichy

Name of Work: SERVICE CONTRACT FOR SPECIMEN PREPARATION FOR PLANT LAB, BHEL TRICHY DURING YEAR 2023-25

Contract No: 94722000xx

Name of the Bidder/ Bidding Firm / Company :	
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PRICE SCHEDULE(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)

NUMBER #	TEXT #	NUMBER #	TEXT #	NUMBER #	TEXT #
Sl. No.	Item Description	Quantity (Lump sum)	Basis	Vendor to quote Lump sum value for ALL (₹)(Excluding GST) Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	7
1	Description				
1.1	Schedule-I 10 Carbon & low alloy-smaller cross section 20 Carbon & low alloy-larger cross section 30 Stainless steel test coupon 40 IBR welder performance qualification 50 Titanium tube to tubesheet weld blocks	1	Lump sum value		INR Zero Only
1.2	Schedule-II 10 Austenitic cladding over ferritic material 20 Non-austenitic special grade material 30 Austenitic special grade material 40 Titanium special grade material	1	Lump sum value		
Total in Figures					INR Zero Only
Quoted Rate in Words		INR Zero Only			

Annexure-IV

LIST OF DRAWINGS FOR SPECIMEN PREPARATION

S No	Drawing No.	Rev	Description	Issued date
1	PL: OS: SP: T001	00	Tensile test specimen with round cross-section and threaded grips.	27.10.2022
2	PL: OS: SP: T002	00	Tensile test specimen with round cross-section.	27.10.2022
3	PL: OS: SP: T003	00	Tensile test specimen with rectangular cross-section.	27.10.2022
4	PL: OS: SP: T004	00	Tensile test specimen for fasteners.	27.10.2022
5	PL: OS: SP: T005	00	Standard specimen for Charpy Impact test	27.10.2022
6	PL: OS: SP: T006	00	Standard specimen for Drop weight test	27.10.2022
7	PL: OS: SP: T007	00	Standard specimen for Intergranular Corrosion Test (IGCT)	27.10.2022
8	PL: OS: SP: T008	00	Standard specimen for Macro, Micro, Hardness & Chemical	27.10.2022
9	PL: OS: SP: C001	00	Transverse Tensile specimen from Welded Plate – Rectangular cross section	27.10.2022
10	PL: OS: SP: C002	00	Transverse Tensile specimen from Welded Pipe – Rectangular cross section	27.10.2022
11	PL: OS: SP: C003	00	Transverse Tensile specimen – Reduced section with round cross section	27.10.2022
12	PL: OS: SP: C004	00	Full section small diameter pipe with weld	27.10.2022
13	PL: OS: SP: C005	00	Transverse side bend specimen	27.10.2022
14	PL: OS: SP: C006	00	Transverse bend – Face & Root	27.10.2022
15	PL: OS: SP: C007	00	Procedure & Performance Qualification for Fillet welds - Plate	27.10.2022
16	PL: OS: SP: C008	00	Procedure & Performance Qualification– Hard facing overlay	27.10.2022
17	PL: OS: SP: C009	00	Order of removal of specimens as per ASME Sec IX	27.10.2022
18	PL: OS: SP: C010	00	Titanium Tube to sheet weld block specimen preparation	27.10.2022
19	PL: OS: SP: C011	00	IBR welder performance qualification Tube + Fin weld coupon	27.10.2022

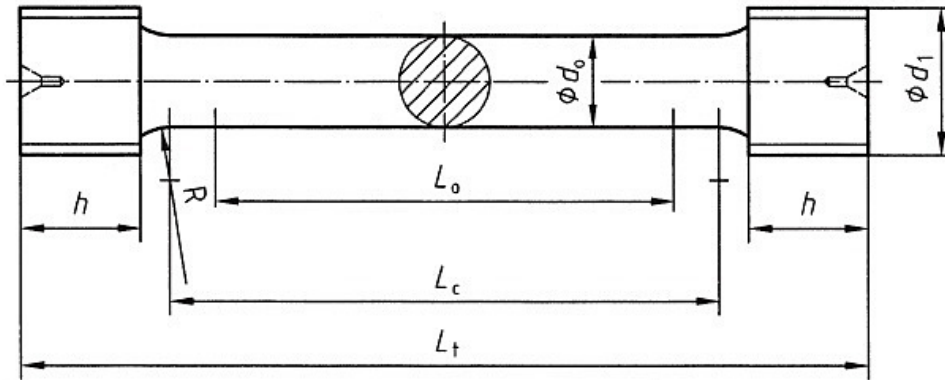
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Date: 2022.11.26
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PL: OS: SP: T001/00

Date: 27.10.2022

Tensile test specimen with Round cross-section and Threaded grips



d_0 test piece diameter
 d_1 diameter of ISO metric thread
 h length of gripped ends
 L_0 original gauge length
 L_c parallel length ($L_c \geq L_0 + d_0$)
 L_t total length of test piece

For samples where gauge length $L_0 = 5 \times d_0$ (as per IS 1608 or DIN 50125)

Sample Dia d_0	Gauge length L_0	Parallel length L_c (min)	Radius R (min)	Total length L_t (min)	Gripped section length h (min)	Thread section diameter d_1
5 ± 0.060	25 ± 0.1	30	5	50	7	M8
6 ± 0.060	30 ± 0.1	36	6	60	9	M10
8 ± 0.060	40 ± 0.1	48	8	80	12	M12
10 ± 0.075	50 ± 0.1	60	10	100	15	M16

Note: 1. All dimensions indicated are in mm only.
 2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

PL: OS: SP: T001/00

Date: 27.10.2022

For samples where gauge length $L_0 = 4 \times d_0$ (as per ASTM A370)

Sample Dia d_0	Gauge length L_0	Parallel length L_c (min)	Radius R (min)	Total length L_t (min)	Gripped section length h (min)	Thread section diameter d_1
12.5±0.25	50±0.1	62.5	10	112.5	20	M20
8.75±0.18	35±0.1	43.75	6	78.75	17.5	M16
6.25±0.12	25±0.1	31.25	5	56.25	12.5	M12

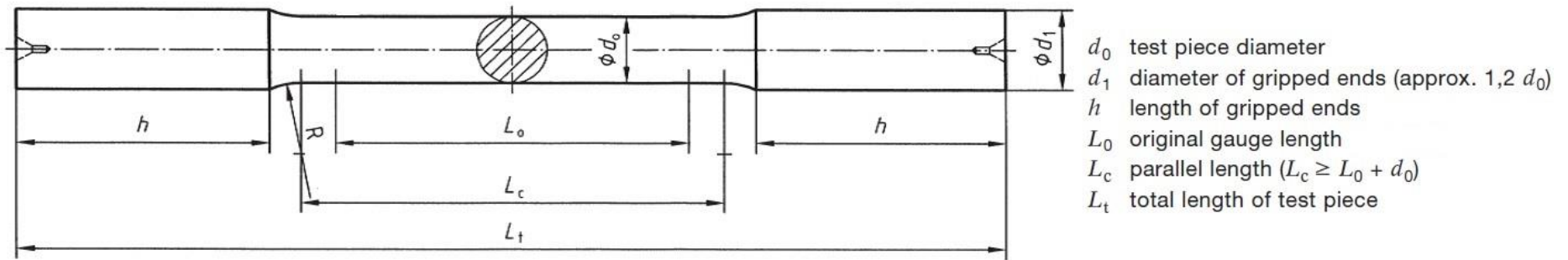
Guidelines:

1. This drawing is applicable to raw material/ welded plates, pipes and forgings. Direction or orientation of specimen (longitudinal or transverse) shall be as per details in work order.
2. The gage length of the tension test specimen shall be taken at least one T from any as-heat treated edge, where T is the thickness of the test coupon, and shall be at least 1/2 in. [12.5 mm] from flame-cut or heat-affected-zone surfaces.
3. The axis of the test specimen shall be located midway between the center of thickness and the top or bottom surface of the plate.
4. No thermal cutting is allowed in any of the test coupons. Proper identification shall be transferred on sliced pieces.
5. If any seal is transferred on the job, care shall be exercised such that the seal is not damaged during sample preparation. Identification shall be punched on both sides of the tensile samples.

PL: OS: SP: T002/00

Date: 27.10.2022

Tensile test specimen with Round cross-section



For samples where gauge length $L_0 = 5 \times d_0$ (as per IS 1608 or DIN 50125)

Sample Dia d_0	Gauge length L_0	Parallel length L_c (min)	Radius R (min)	Total length L_t (min)	Gripped section length h (min)	End section diameter d_1
5 ± 0.060	25 ± 0.1	30	5	50	7	6
6 ± 0.060	30 ± 0.1	36	6	60	9	7.2
8 ± 0.060	40 ± 0.1	48	8	80	12	9.6
10 ± 0.075	50 ± 0.1	60	10	100	15	12

PL: OS: SP: T002/00

Date: 27.10.2022

For samples where gauge length $L_0 = 4 \times d_0$ (as per ASTM A370)

Sample Dia d_0	Gauge length L_0	Parallel length L_c (min)	Radius R (min)	Total length L_t (min)	Gripped section length h (min)	End section diameter d_1
12.5±0.25	50±0.1	60	10	130	20	15
8.75±0.18	35±0.1	45	6	92	17.5	10.5
6.25±0.12	25±0.1	32	5	67	12.5	7.5

Guidelines:

1. This drawing is applicable to raw material/ welded plates, pipes and forgings. Direction or orientation of specimen (longitudinal or transverse) shall be as per details in work order.
2. The gage length of the tension test specimen shall be taken at least one T from any as-heat treated edge, where T is the thickness of the test coupon, and shall be at least 1/2 in. [12.5 mm] from flame-cut or heat-affected-zone surfaces.
3. The axis of the test specimen shall be located midway between the center of thickness and the top or bottom surface of the plate.
4. No thermal cutting is allowed in any of the test coupons. Proper identification shall be transferred on sliced pieces
5. If any seal is transferred on the job, care shall be exercised such that the seal is not damaged during sample preparation. Identification shall be punched on both sides of the tensile samples.

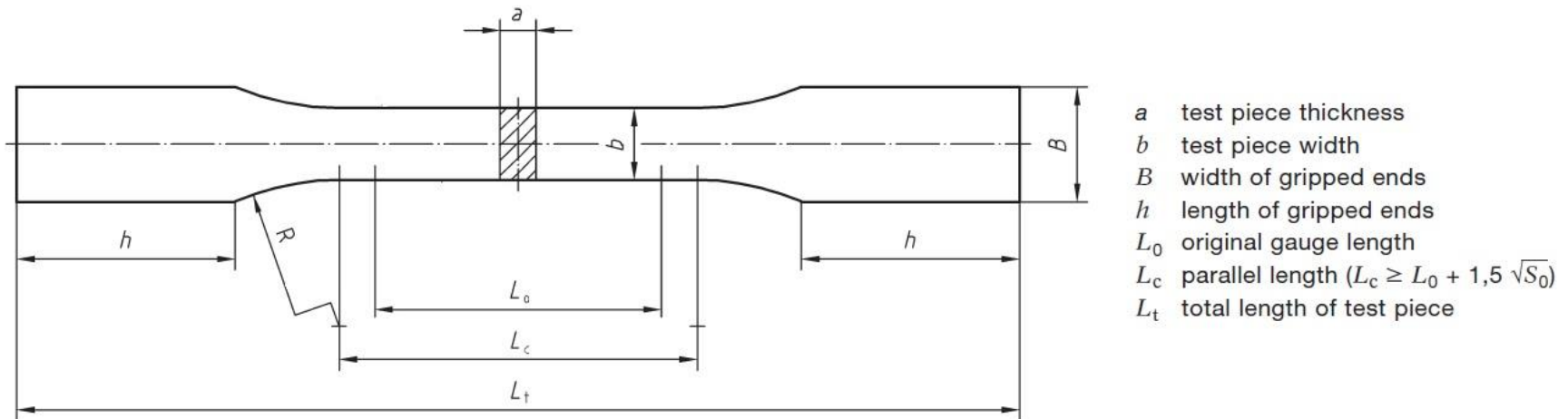
Note: 1. All dimensions indicated are in mm only.

2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

PL: OS: SP: T003/00

Date: 27.10.2022

Tensile test specimen with Rectangular cross-section



For sample sizes as per ISO 6892/ IS 1608

Thickness a	Width b	Gauge length L_0 (min)	Parallel length L_c (min)	Radius R (min)	Total length L_t (min)	Gripped section length h (min)	Gripped section width B (min)
T	12.5 ± 1	50 ± 0.1	75	35	175	30	15
T	20 ± 1	80 ± 0.1	120	35	230	50	27

Note: 1. All dimensions indicated are in mm only.
 2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

PL: OS: SP: T003/00

Date: 27.10.2022

For sample sizes as per ASTM A370

Thickness a	Width b	Gauge length L₀ (min)	Parallel length L_c (min)	Radius R (min)	Total length L_t (min)	Gripped section length h (min)	Gripped section width B (min)
T	12.5±0.25	50±0.1	60	13	200	50	20
T	6.25±0.05	25±0.08	32	6	100	32	10

T – Thickness of test coupon.

Guidelines:

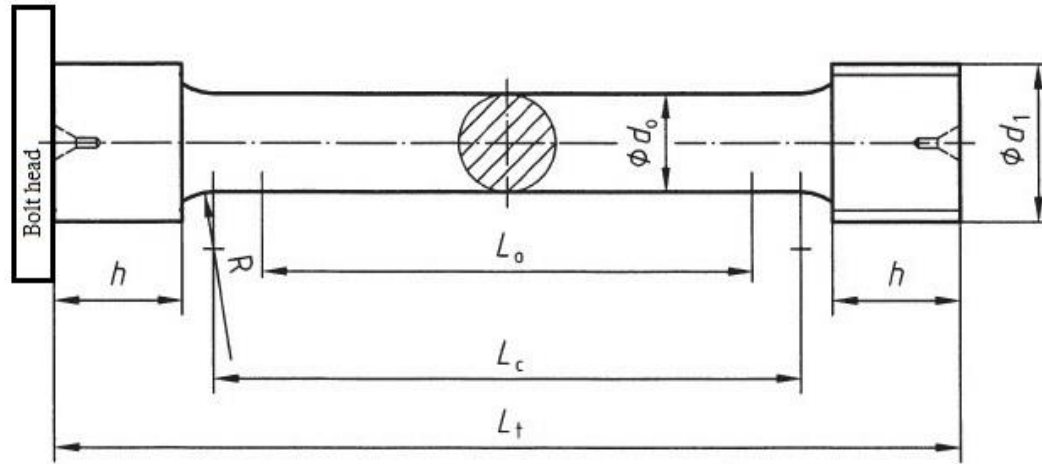
1. This drawing is applicable to raw material/ welded plates, pipes and forgings. Direction or orientation of specimen (longitudinal or transverse) shall be as per details in work order.
2. The gage length of the tension test specimen shall be taken at least one T from any as-heat treated edge, where T is the thickness of the test coupon, and shall be at least 1/2 in. [12.5 mm] from flame-cut or heat-affected-zone surfaces.
3. The axis of the test specimen shall be located midway between the center of thickness and the top or bottom surface of the plate.
4. No thermal cutting is allowed in any of the test coupons. Proper identification shall be transferred on sliced pieces.
5. If any seal is transferred on the job, care shall be exercised such that the seal is not damaged during sample preparation. Identification shall be punched on both sides of the tensile samples.

Note: 1. All dimensions indicated are in mm only.
 2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

PL: OS: SP: T004/00

Date: 27.10.2022

Tensile test specimen for fasteners



d_0 test piece diameter
 d_1 diameter of ISO metric thread
 h length of gripped ends
 L_0 original gauge length
 L_c parallel length ($L_c \geq L_0 + d_0$)
 L_t total length of test piece

For sample sizes as per (IS 1608 or DIN 50125)

Sample Dia d_0	Gauge length L_0	Parallel length L_c (min)	Radius R (min)	Total length L_t (min)	Gripped section length h (min)	Thread section diameter d_1
5 ± 0.060	25 ± 0.1	30	5	50	7	M8
6 ± 0.060	30 ± 0.1	36	6	60	9	M10
8 ± 0.060	40 ± 0.1	48	8	80	12	M12
10 ± 0.075	50 ± 0.5	60	10	90	12	M16

Note: 1. All dimensions indicated are in mm only.
 2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.



Plant Laboratory - Bharat Heavy Electricals Limited, Trichy-14.
Drawings for Specimen Preparation

PL: OS: SP: T004/00

Date: 27.10.2022

Guidelines:

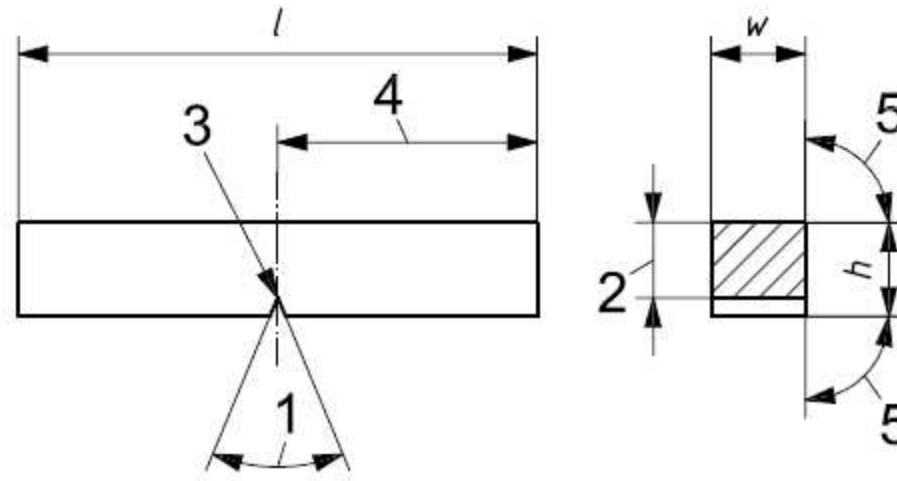
1. This drawing is applicable to fasteners alone.
2. No thermal cutting is allowed in any of the test coupons. Proper identification shall be transferred on sliced pieces.
3. If any seal is transferred on the job, care shall be exercised such that the seal is not damaged during sample preparation. Identification shall be punched on both sides of the tensile samples.

Note: 1. All dimensions indicated are in mm only.
2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

PL: OS: SP: T005/00

Date: 27.10.2022

Standard specimen for Charpy Impact Test



For sample sizes as per ASTM A370/ ISO 148-1

Length (l)	Width (w)	Height (h)	Notch angle (1)	Notch depth ($h-2$)	Radius of notch (3)	Notch position from edge (4)	Adjacent sides at
55 +0, -2.5	10±0.075	10±0.075	45°±1°	2±0.025	0.025	$l \pm 1$	90°±10 min

1. Finish requirements - 2 μ m (63 μ in.) on notched surface and opposite face; 4 μ m (125 μ in.) on other two surfaces.
2. For sub-size specimens, value of ' w ' can be 2.5, 3.3, 5.0, 6.7 & 7.5mm maintaining all other dimensions.
3. V-notch on the specimen indicated is for information only. Notch profile (V or U notch) shall be as per the work indent raised during material collection. Radius of notch (3) shall be 1mm in case of U notch.

Note: 1. All dimensions indicated are in mm only.

2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.



Plant Laboratory - Bharat Heavy Electricals Limited, Trichy-14.
Drawings for Specimen Preparation

PL: OS: SP: T005/00

Date: 27.10.2022

Guidelines:

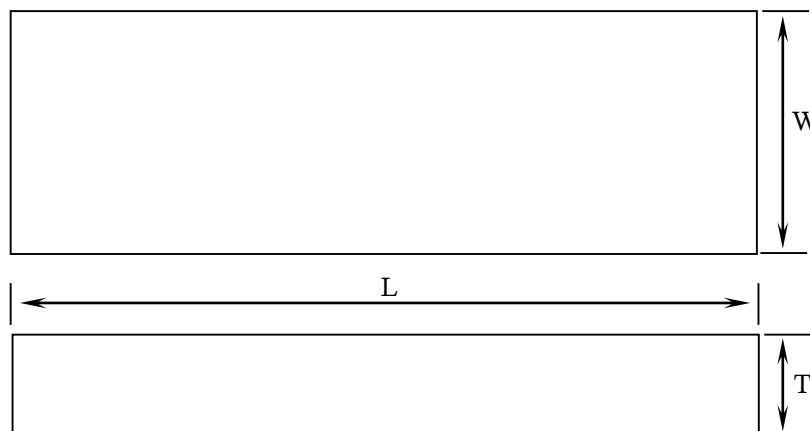
1. This drawing is applicable to raw material/ welded plates, pipes and forgings. Direction or orientation of specimen shall be as per details in work order.
2. Preparation of notch is to be carried out in broaching machine only.
3. Samples once received from BHEL shall be properly identified before taking up for further machining.
4. No thermal cutting is allowed in any of the test coupons. Proper identification shall be transferred on sliced pieces
5. If any seal is transferred on the job, care shall be exercised such that the seal is not damaged during sample preparation

Note: 1. All dimensions indicated are in mm only.
2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

PL: OS: SP: T006/00

Date: 27.10.2022

Standard Drop weight specimen



For sample sizes as per ASTM E208

Specimen type	Length (L)	Width (W)	Thickness (T)
P2	130 ± 10	50 ± 1.0	19 ± 1.0

Note: 1. All dimensions indicated are in mm only.
 2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.



Plant Laboratory - Bharat Heavy Electricals Limited, Trichy-14.
Drawings for Specimen Preparation

PL: OS: SP: T006/00

Date: 27.10.2022

Guidelines:

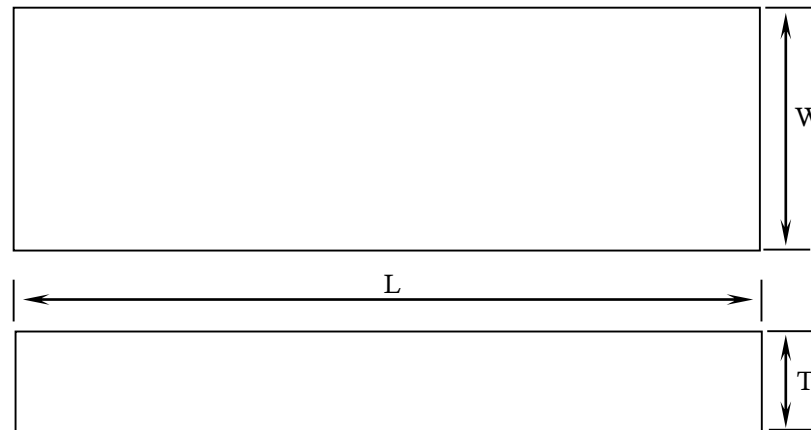
1. This drawing is applicable to raw material/ welded plates and forgings. Direction or orientation of specimen shall be as per details in work order.
2. For samples that are required from welded plates/ forgings where notch is to be prepared at weld or HAZ regions, the center line of such regions shall be within $\pm 1.0\text{mm}$ of center line of the specimen.
3. Drop weight specimens shall have fine milling surface with opposite faces parallel to each other.
4. Samples once received from BHEL shall be properly identified before taking up for further machining.
5. No thermal cutting is allowed in any of the test coupons. Proper identification shall be transferred on sliced pieces.
6. If any seal is transferred on the job, care shall be exercised such that the seal is not damaged during sample preparation.

Note: 1. All dimensions indicated are in mm only.
2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

PL: OS: SP: T007/00

Date: 27.10.2022

Standard specimen for Intergranular Corrosion Test (IGCT)



Specimen for IGCT as per ASTM A262 Practice E

Material type	Size	Length (L)	Width (W)	Thickness (T)
Plates / Pipes	Upto 5mm thick (Incl.)	75m (min)	9 to 25mm	Full thickness
	Over 5mm thick	75mm (min)	9 to 25mm	5 to 13mm
Tubes	Upto Ø38mm (Incl.)	--	Full ring 25mm wide	--
	Over Ø38mm	75mm	Circumferential segment 25mm wide	--

Note: 1. All dimensions indicated are in mm only.
 2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.



Plant Laboratory - Bharat Heavy Electricals Limited, Trichy-14.
Drawings for Specimen Preparation

PL: OS: SP: T007/00

Date: 27.10.2022

Guidelines:

1. This drawing is applicable to raw material/ welded plates and forgings. Direction or orientation of specimen shall be as per details in work order.
2. For samples that are required from welded plates/ forgings where specimen is to be bent at weld/HAZ regions, the center line of such regions shall be within $\pm 1.0\text{mm}$ of center line of the specimen.
3. Samples once received from BHEL shall be properly identified before taking up for further machining.
4. No thermal cutting is allowed in any of the test coupons. Proper identification shall be transferred on sliced pieces.
5. If any seal is transferred on the job, care shall be exercised such that the seal is not damaged during sample preparation.

Note: 1. All dimensions indicated are in mm only.
2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

PL: OS: SP: T008/00

Date: 27.10.2022

Standard specimen for Macro, Micro, Hardness, Delta Ferrite & Chemical

Table 1 – Sample on material size and type

S No	Specimen type	Material	Size	Grinding direction	Figure
1	Micro/ Hardness/ Chemical	Raw material	L=25, W=25, T=10	‘L’ or ‘W’	Fig 1
2	Micro/ Macro/ Hardness & Chemical	Butt weld plates/pipes/tubes	L=80, T=10, M=25 min W=plate/pipe thickness	‘L’ or ‘W’	Fig 2
3	Micro/ Macro/ Hardness/ Delta ferrite	Plates with cladding or hardfacing overlay	L=25, W=25, T=10	‘L’ or ‘W’	Fig 3
4	Chemical	Plates with cladding or hardfacing overlay	L=25, T=25, W= 25	‘T’	Fig 3
5	Delta ferrite (All weld)	Plates with cladding or SS weld plates	L=60 & D=Ø5	--	Fig 4

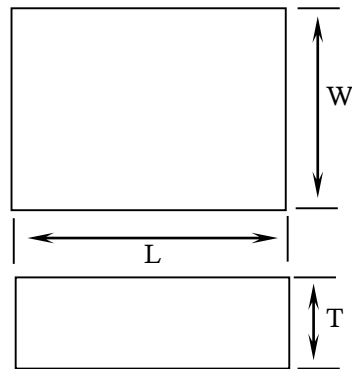


Fig 1 – Raw material plate/pipe/tube

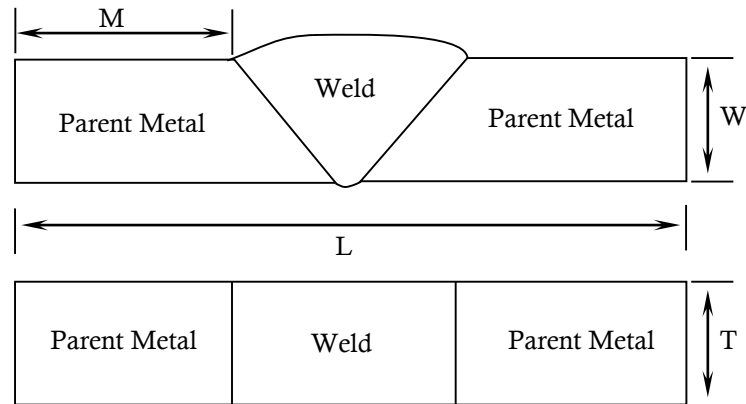


Fig 2 – Butt weld plate/ pipe or tube

Note: 1. All dimensions indicated are in mm only.
 2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

PL: OS: SP: T008/00

Date: 27.10.2022

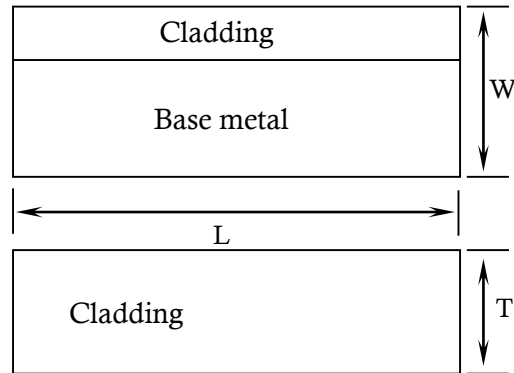


Fig 3 – Plates with cladding or hard facing overlay

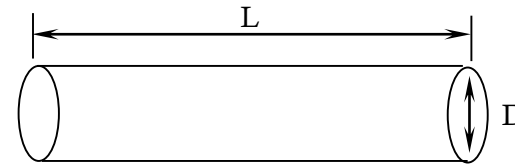


Fig 4 – Delta ferrite specimen (volumetric)

Guidelines:

1. This drawing is applicable to raw material/ welded plates and forgings. Direction or orientation of specimen shall be as per details in work order.
2. Samples once received from BHEL shall be properly identified before taking up for further machining.
3. No thermal cutting is allowed in any of the test coupons. Proper identification shall be transferred on sliced pieces.
4. If any seal is transferred on the job, care shall be exercised such that the seal is not damaged during sample preparation.

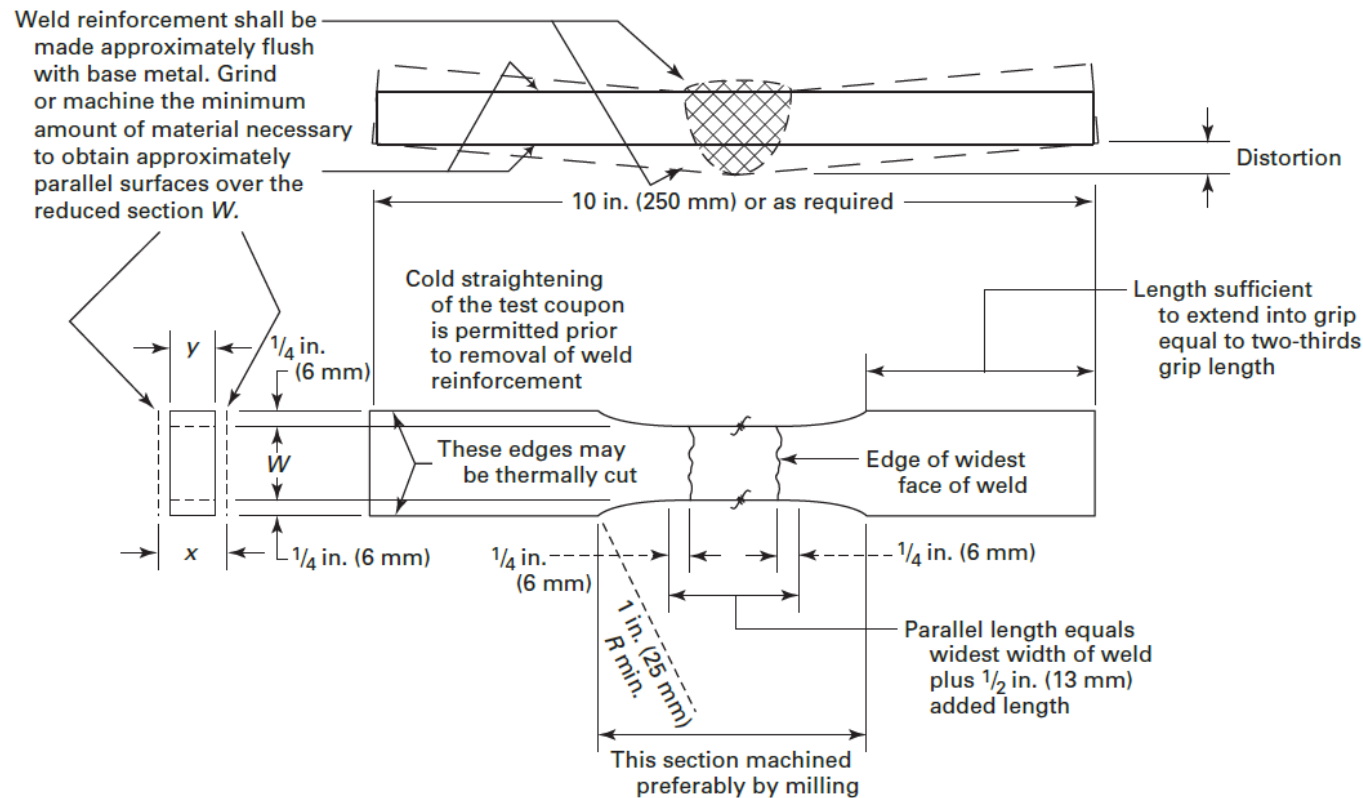
Note: 1. All dimensions indicated are in mm only.
 2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

PL: OS: SP: C001/00

Date: 27.10.2022

Transverse Tensile Specimen from Welded Plate – Rectangular Cross Section

Figure QW-462.1(a)
Tension — Reduced Section — Plate



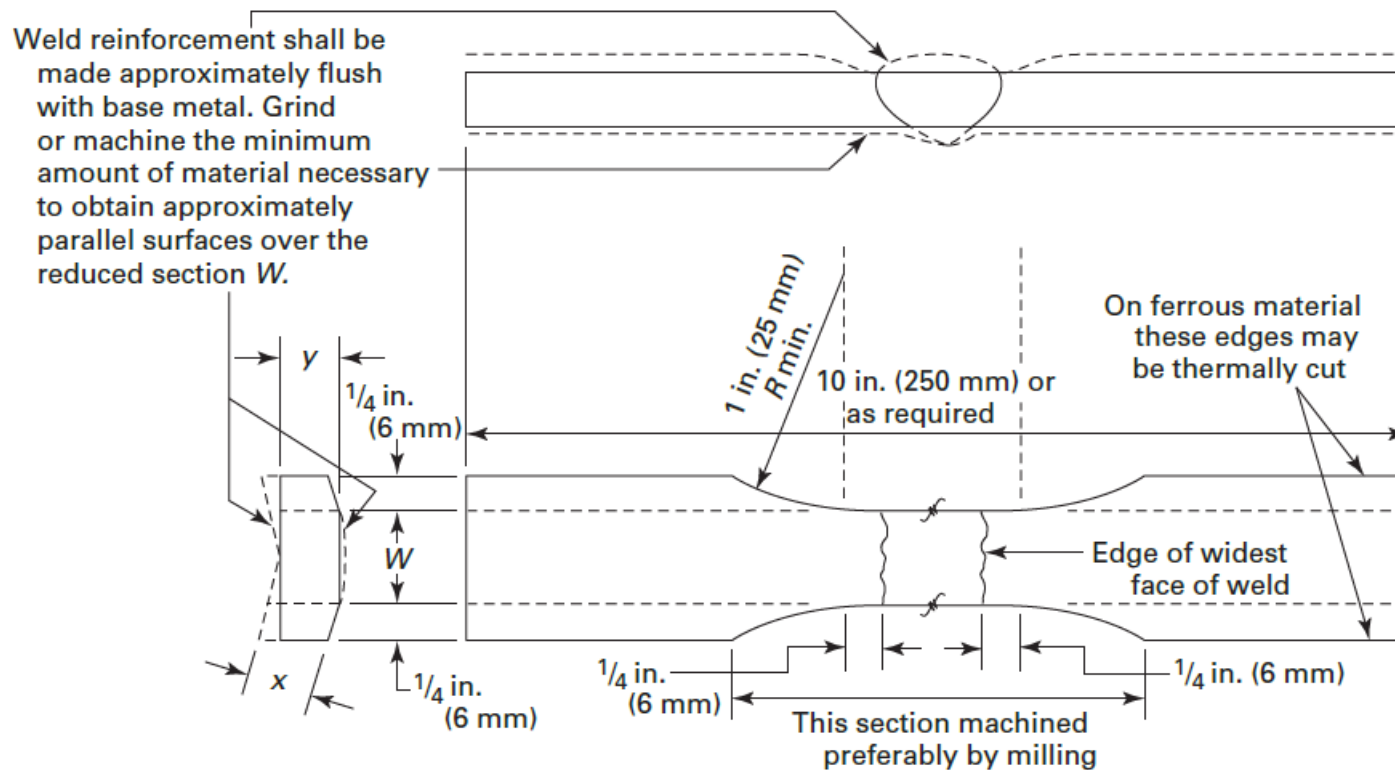
- Note:** 1. All dimensions indicated are in mm only.
2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

PL: OS: SP: C002/00

Date: 27.10.2022

Transverse Tensile Specimen from Welded Pipe – Rectangular Cross Section

Figure QW-462.1(b)
Tension — Reduced Section — Pipe



- Note:**
1. All dimensions indicated are in mm only.
 2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

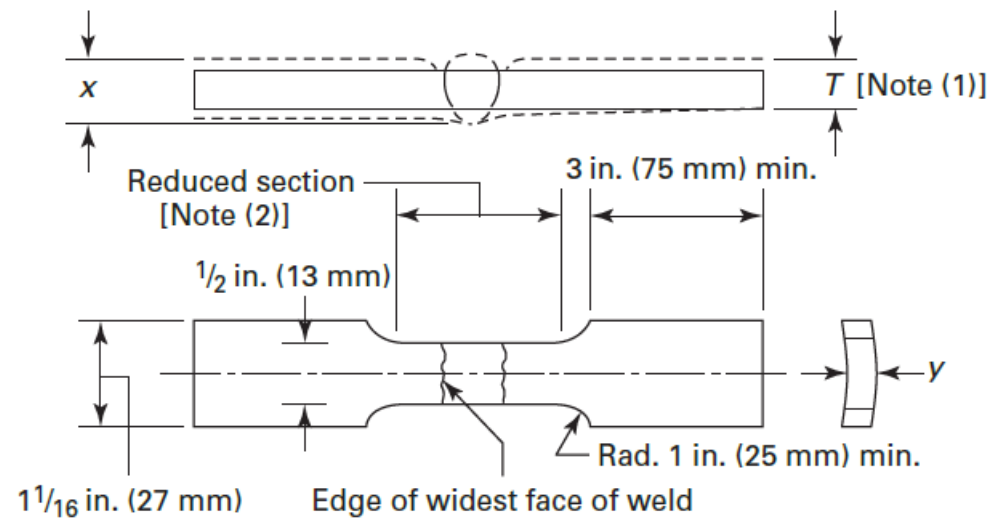
PL: OS: SP: C002/00

Date: 27.10.2022

Transverse Tensile Specimen from Welded Pipe – Rectangular Cross Section

(ALTERNATE)

**Figure QW-462.1(c)
Tension — Reduced Section Alternate for Pipe**



NOTES:

- (1) The weld reinforcement shall be ground or machined so that the weld thickness does not exceed the base metal thickness T . Machine minimum amount to obtain approximately parallel surfaces.
- (2) The reduced section shall not be less than the width of the weld plus $2y$.

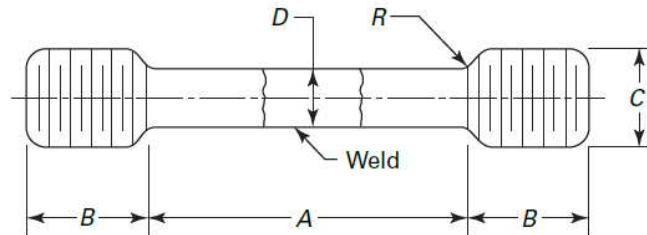
Note: 1. All dimensions indicated are in mm only.
2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

PL: OS: SP: C003/00

Date: 27.10.2022

Transverse Tensile Specimen – Reduced Section with Round Cross Section

Figure QW-462.1(d)
Tension — Reduced Section — Turned Specimens



	Standard Dimensions, in. (mm)			
	(a) 0.505 Specimen	(b) 0.353 Specimen	(c) 0.252 Specimen	(d) 0.188 Specimen
A – Length of reduced section	[Note (1)]	[Note (1)]	[Note (1)]	[Note (1)]
D – Diameter	0.500 ± 0.010 (12.7 ± 0.25)	0.350 ± 0.007 (8.89 ± 0.18)	0.250 ± 0.005 (6.35 ± 0.13)	0.188 ± 0.003 (4.78 ± 0.08)
R – Radius of fillet	$\frac{3}{8}$ (10) min.	$\frac{1}{4}$ (6) min.	$\frac{3}{16}$ (5) min.	$\frac{1}{8}$ (3) min.
B – Length of end section	$1\frac{3}{8}$ (35) approx.	$1\frac{1}{8}$ (29) approx.	$\frac{7}{8}$ (22) approx.	$\frac{1}{2}$ (13) approx.
C – Diameter of end section	$\frac{3}{4}$ (19)	$\frac{1}{2}$ (13)	$\frac{3}{8}$ (10)	$\frac{1}{4}$ (6)

GENERAL NOTES:

- Use maximum diameter specimen (a), (b), (c), or (d) that can be cut from the section.
- Weld should be in center of reduced section.
- Where only a single coupon is required, the center of the specimen should be midway between the surfaces.
- The ends may be of any shape to fit the holders of the testing machine in such a way that the load is applied axially.
- When the diameter, D , of the reduced section is measured and the actual value is used to calculate the tensile stress, specimens of nominal diameters other than those shown above may be used.

NOTE:

- Reduced section A should not be less than width of weld plus $2D$.

Note: 1. All dimensions indicated are in mm only.

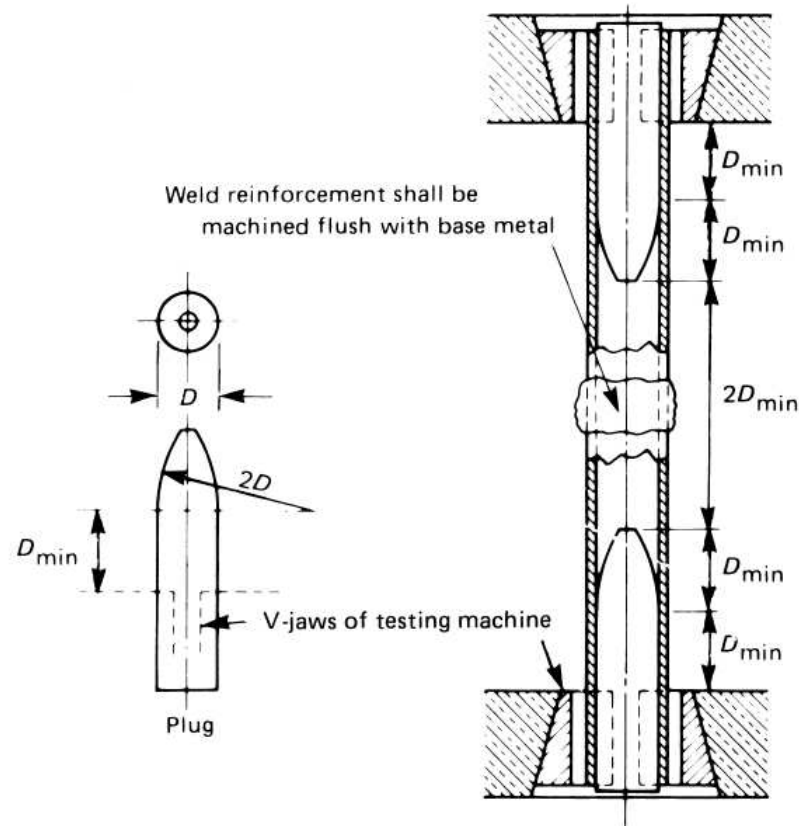
2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

PL: OS: SP: C004/00

Date: 27.10.2022

Full Section Small Diameter Pipe with Weld

Figure QW-462.1(e)
Tension — Full Section — Small Diameter Pipe



Note: 1. All dimensions indicated are in mm only.
 2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

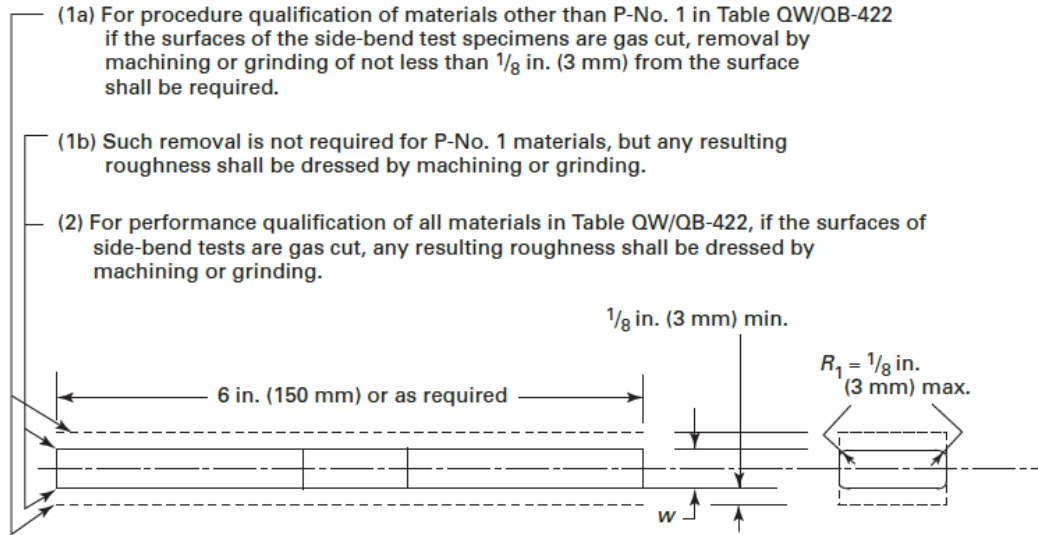
Plant Laboratory - Bharat Heavy Electricals Limited, Trichy-14.
Drawings for Specimen Preparation

PL: OS: SP: C005/00

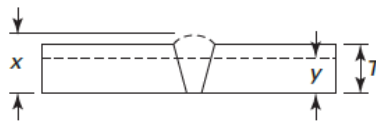
Date: 27.10.2022

Transverse Side Bend Specimen

Figure QW-462.2
Side Bend



T, in. (mm)	y, in. (mm)	w, in. (mm)	
		P-No. 23, F-No. 23, F-No. 26, or P-No. 35	All other metals
$\frac{3}{8}$ to $< 1\frac{1}{2}$ (10 to < 38)	T [Note (1)]	$\frac{1}{8}$ (3)	$\frac{3}{8}$ (10)
$\geq 1\frac{1}{2}$ (≥ 38)	Notes (1) and (2)	$\frac{1}{8}$ (3)	$\frac{3}{8}$ (10)



GENERAL NOTE: Weld reinforcement and backing strip or backing ring, if any, may be removed flush with the surface of the specimen. Thermal cutting, machining, or grinding may be employed. Cold straightening is permitted prior to removal of the reinforcement.

NOTES:

(1) When weld deposit t is less than coupon thickness T , side-bend specimen thickness may be t .

(2) When coupon thickness T equals or exceeds $1\frac{1}{2}$ in. (38 mm), use one of the following:

(a) Cut specimen into multiple test specimens of thickness y of approximately equal dimensions $\frac{3}{4}$ in. to $1\frac{1}{2}$ in. (19 mm to 38 mm).

y = tested specimen thickness when multiple specimens are taken from one coupon.

(b) The specimen may be bent at full width. See requirements on jig width in QW-466.1.

Note: 1. All dimensions indicated are in mm only.

2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

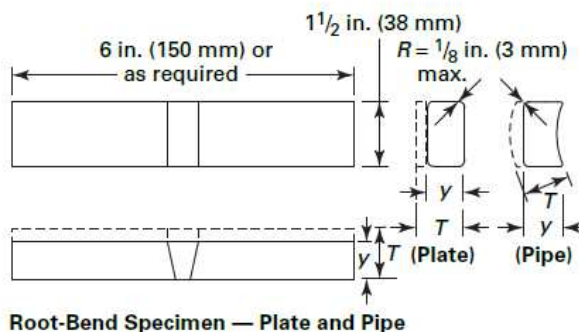
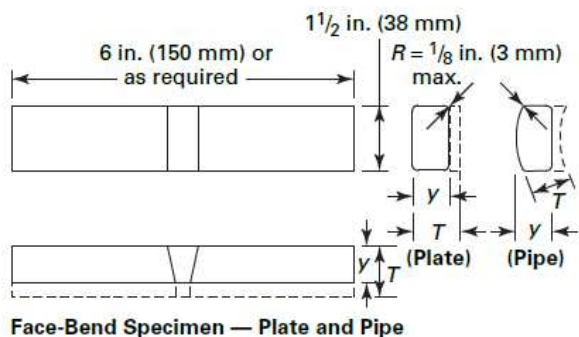
Plant Laboratory - Bharat Heavy Electricals Limited, Trichy-14.
Drawings for Specimen Preparation

PL: OS: SP: C006/00

Date: 27.10.2022

Transverse Bend – Face & Root

Figure QW-462.3(a)
Face and Root Bends — Transverse



T, in. (mm)	Y, in. (mm)	
	P-No. 23, F-No. 23, All Other F-No. 26, or P-No. 35	Metals
$\frac{1}{16} < \frac{1}{8}$ (1.5 < 3)	T	T
$\frac{1}{8} - \frac{3}{8}$ (3 - 10)	$\frac{1}{8}$ (3)	T
$> \frac{3}{8}$ (10)	$\frac{1}{8}$ (3)	$\frac{3}{8}$ (10)

GENERAL NOTES:

- Weld reinforcement and backing strip or backing ring, if any, may be removed flush with the surface of the specimen. If a recessed ring is used, this surface of the specimen may be machined to a depth not exceeding the depth of the recess to remove the ring, except that in such cases the thickness of the finished specimen shall be that specified above. Do not flame-cut nonferrous material.
- If the pipe being tested has a diameter of NPS 4 (DN 100) or less, the width of the bend specimen may be $\frac{3}{4}$ in. (19 mm) for pipe diameters NPS 2 (DN 50) to and including NPS 4 (DN 100). The bend specimen width may be $\frac{3}{8}$ in. (10 mm) for pipe diameters less than NPS 2 (DN 50) down to and including NPS $\frac{3}{8}$ (DN 10) and as an alternative, if the pipe being tested is equal to or less than NPS 1 (DN 25) pipe size, the width of the bend specimens may be that obtained by cutting the pipe into quarter sections, less an allowance for saw cuts or machine cutting. These specimens cut into quarter sections are not required to have one surface machined flat as shown in QW-462.3(a). Bend specimens taken from tubing of comparable sizes may be handled in a similar manner.

Note: 1. All dimensions indicated are in mm only.

2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

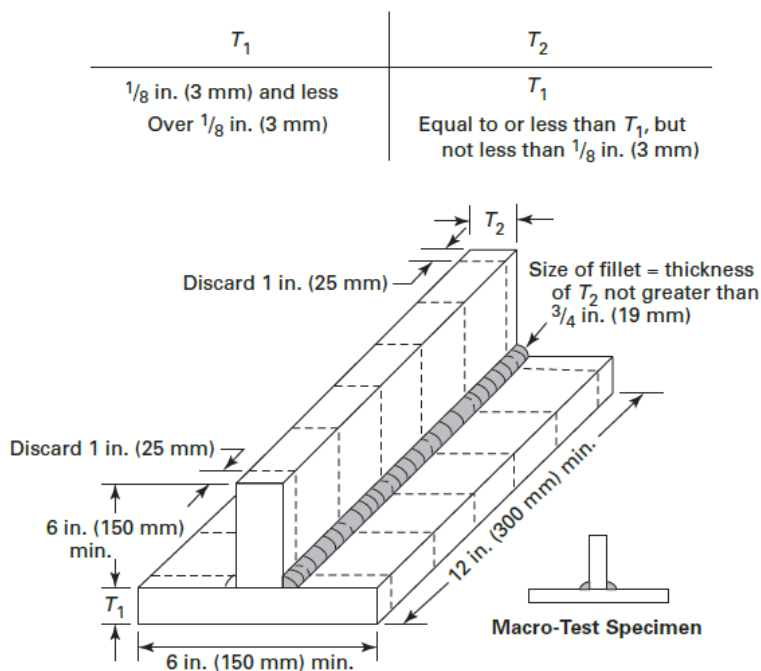
Plant Laboratory - Bharat Heavy Electricals Limited, Trichy-14.
Drawings for Specimen Preparation

PL: OS: SP: C007/00

Date: 27.10.2022

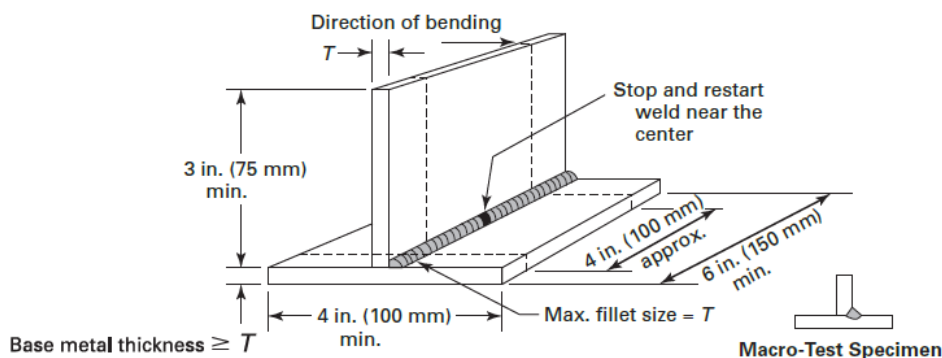
Procedure & Performance Qualification for Fillet Welds – Plate

Figure QW-462.4(a)
Fillet Welds in Plate — Procedure



GENERAL NOTE: Macro test — the fillet shall show fusion at the root of the weld but not necessarily beyond the root. The weld metal and heat-affected zone shall be free of cracks.

Figure QW-462.4(b)
Fillet Welds in Plate — Performance



GENERAL NOTE: Refer to Table QW-452.5 for T thickness and qualification ranges.

Note: 1. All dimensions indicated are in mm only.

2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

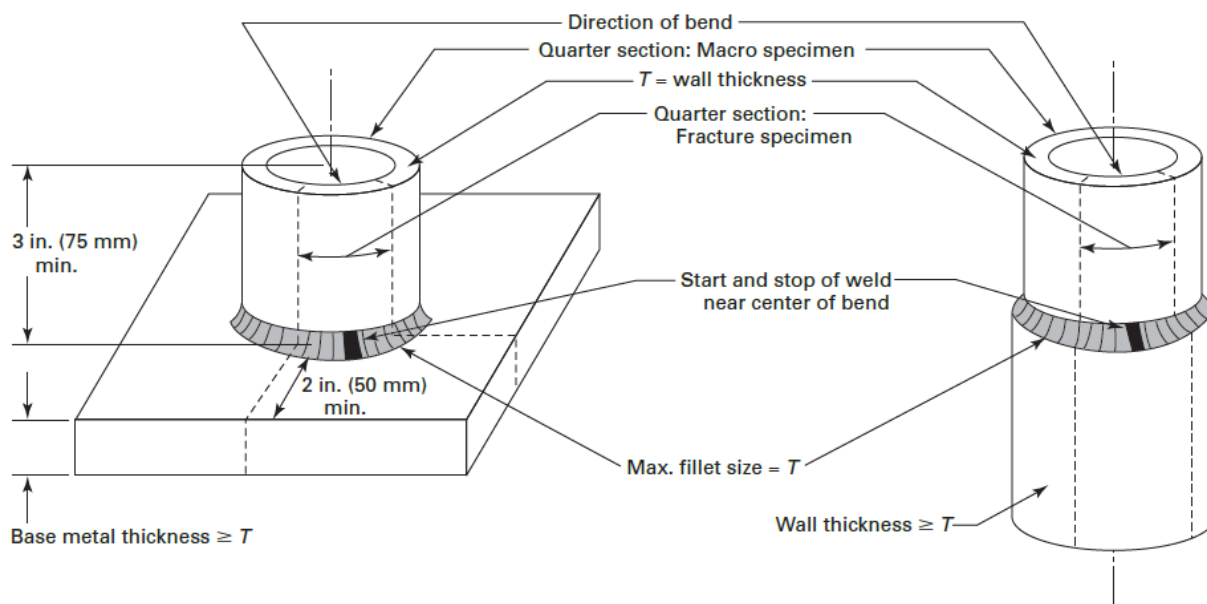
Plant Laboratory - Bharat Heavy Electricals Limited, Trichy-14.
Drawings for Specimen Preparation

PL: OS: SP: C007/00

Date: 27.10.2022

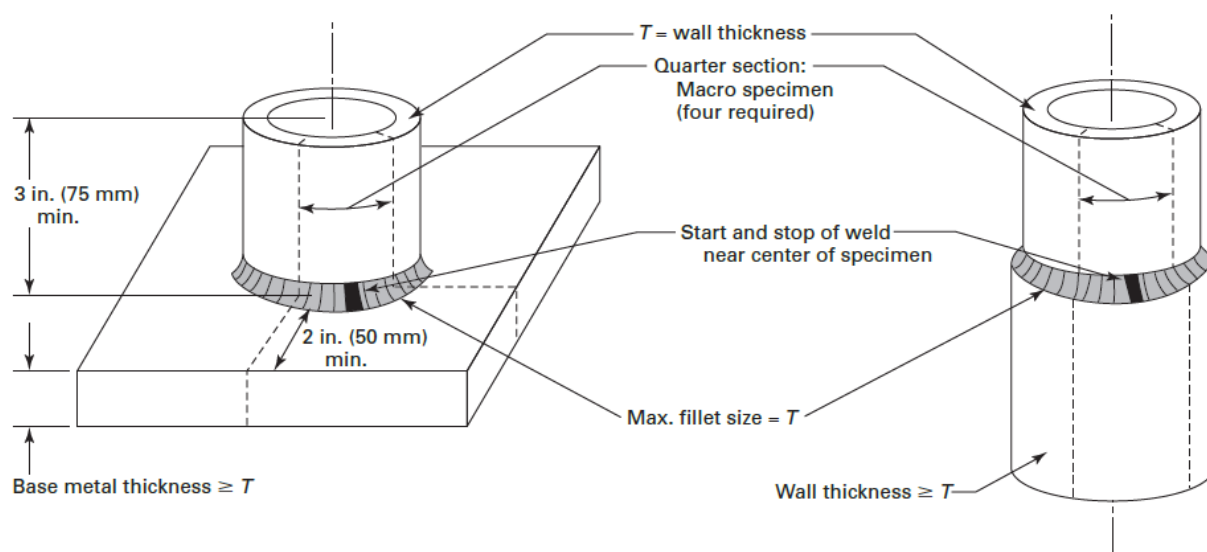
Procedure & Performance Qualification for Fillet Welds – Plate

Figure QW-462.4(c)
Fillet Welds in Pipe — Performance



GENERAL NOTE: Either pipe-to-plate or pipe-to-pipe may be used as shown.

Figure QW-462.4(d)
Fillet Welds in Pipe — Procedure



GENERAL NOTE: Either pipe-to-plate or pipe-to-pipe may be used as shown.

Note: 1. All dimensions indicated are in mm only.

2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

Plant Laboratory - Bharat Heavy Electricals Limited, Trichy-14.
Drawings for Specimen Preparation

PL: OS: SP: C008/00

Date: 27.10.2022

Procedure & Performance Qualification– Hard Facing Overlay

Figure QW-462.5(a)
Chemical Analysis and Hardness Specimen Corrosion-Resistant and Hard-Facing Weld Metal Overlay

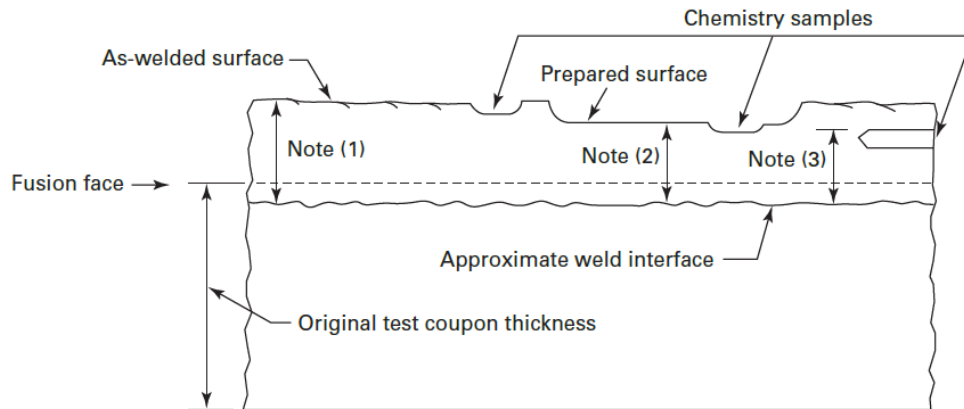
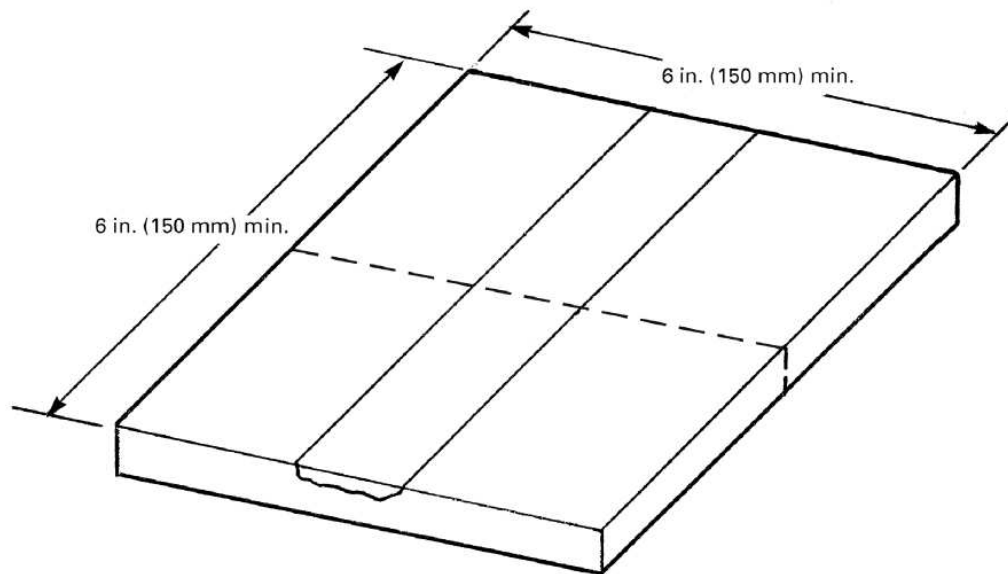


Figure QW-462.5(e)
Plate Macro, Hardness, and Chemical Analysis Specimens — Corrosion-Resistant and Hard-Facing Weld Metal Overlay



GENERAL NOTES:

- (a) Location of required test specimen removal ([Table QW-453](#)). One required for each position. Refer to [Figure QW-462.5\(a\)](#) for chemical analysis and hardness test surface locations and minimum qualified thickness.
- (b) Removal required for a change from vertical up to vertical down and vice versa.

Note: 1. All dimensions indicated are in mm only.

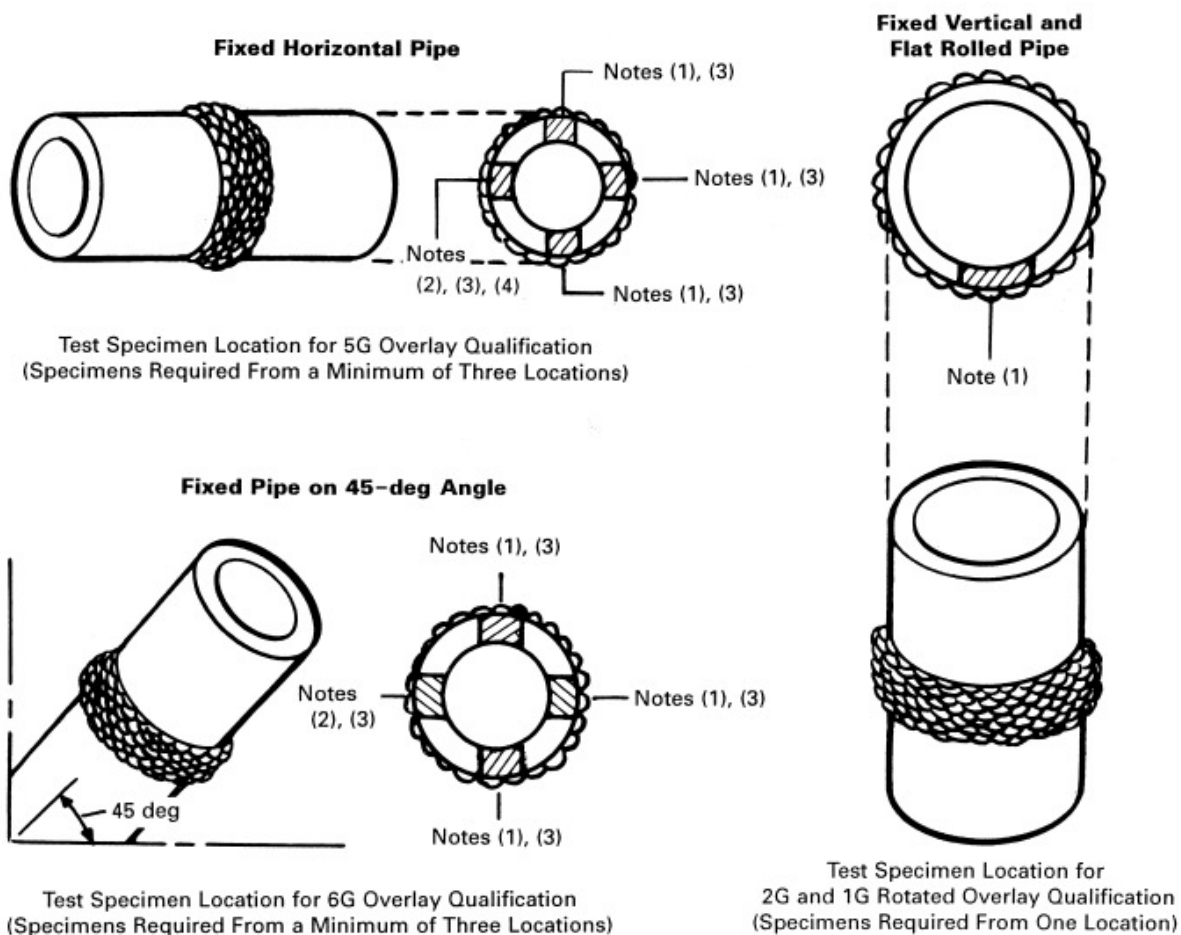
2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

PL: OS: SP: C008/00

Date: 27.10.2022

Procedure & Performance Qualification– Hard Facing Overlay

Figure QW-462.5(b)
Chemical Analysis Specimen, Hard-Facing Overlay Hardness, and Macro Test Location(s) for Corrosion-Resistant and Hard-Facing Weld Metal Overlay



GENERAL NOTE: Overlay may be on the inside or outside of pipe.

NOTES:

- (1) Location of required test specimen removal (Table QW-453). Refer to Figure QW-462.5(a) for chemical analysis and hardness test surface locations and minimum qualified thickness.
- (2) Testing of circumferential hard-facing weld metal on pipe procedure qualification coupons may be limited to a single segment (completed utilizing the vertical, up-hill progression) for the chemical analysis, hardness, and macro-etch tests required in Table QW-453. Removal is required for a change from vertical down to vertical up-hill progression (but not vice-versa).
- (3) Location of test specimens shall be in accordance with the angular position limitations of QW-120.
- (4) When overlay welding is performed using machine or automatic welding and the vertical travel direction of adjacent weld beads is reversed on alternate passes, only one chemical analysis or hardness specimen is required to represent the vertical portion. Qualification is then restricted in production to require alternate pass reversal of rotation direction method.

Note: 1. All dimensions indicated are in mm only.

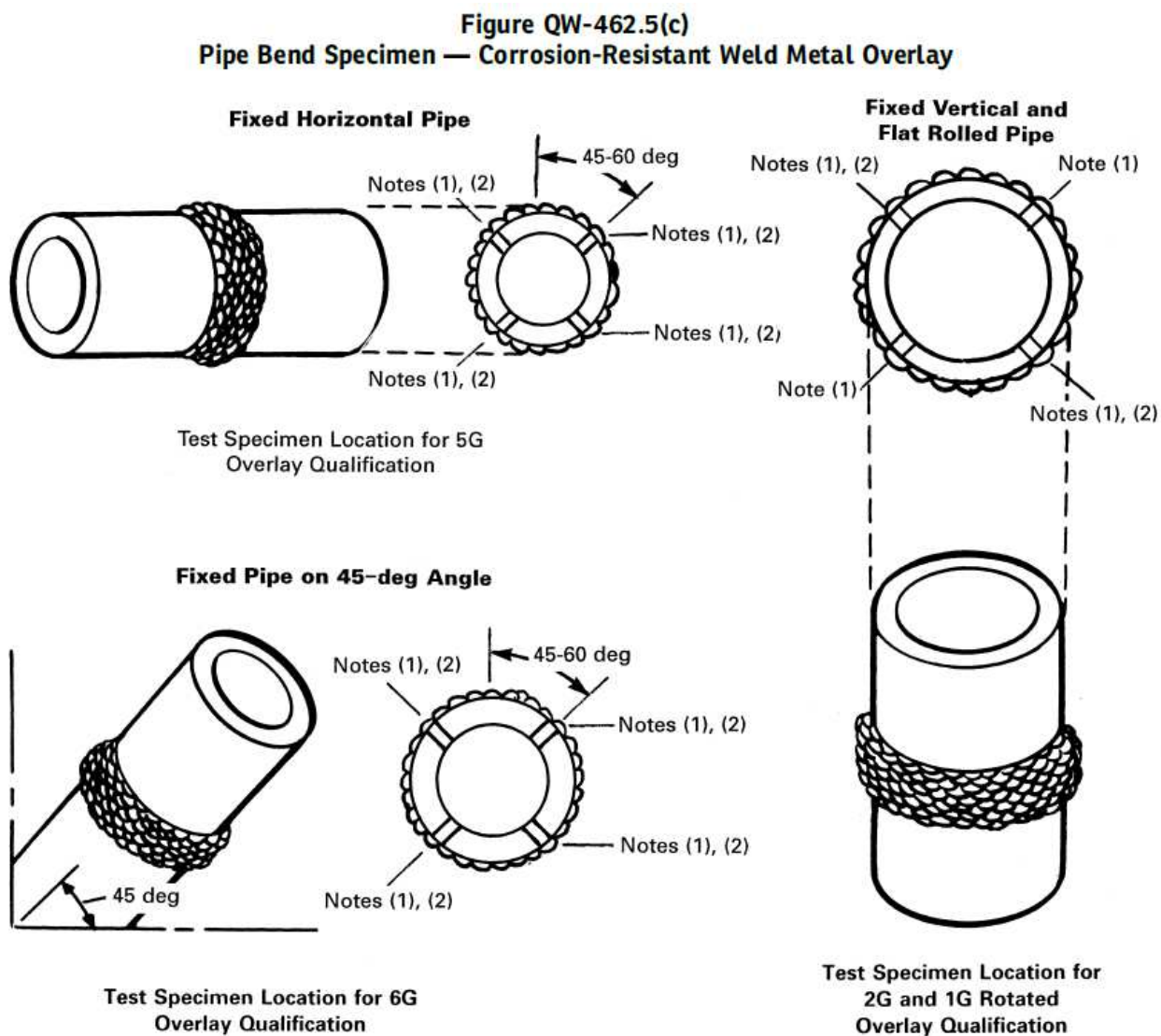
2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

Plant Laboratory - Bharat Heavy Electricals Limited, Trichy-14.
Drawings for Specimen Preparation

PL: OS: SP: C008/00

Date: 27.10.2022

Procedure & Performance Qualification– Hard Facing Overlay



GENERAL NOTE: Overlay may be on the inside or outside of pipe.

NOTES:

- (1) Location for required test specimen removal — Procedure ([Table QW-453](#)).
- (2) Location for required test specimen removal — Performance ([Table QW-453](#)).

Note: 1. All dimensions indicated are in mm only.

2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

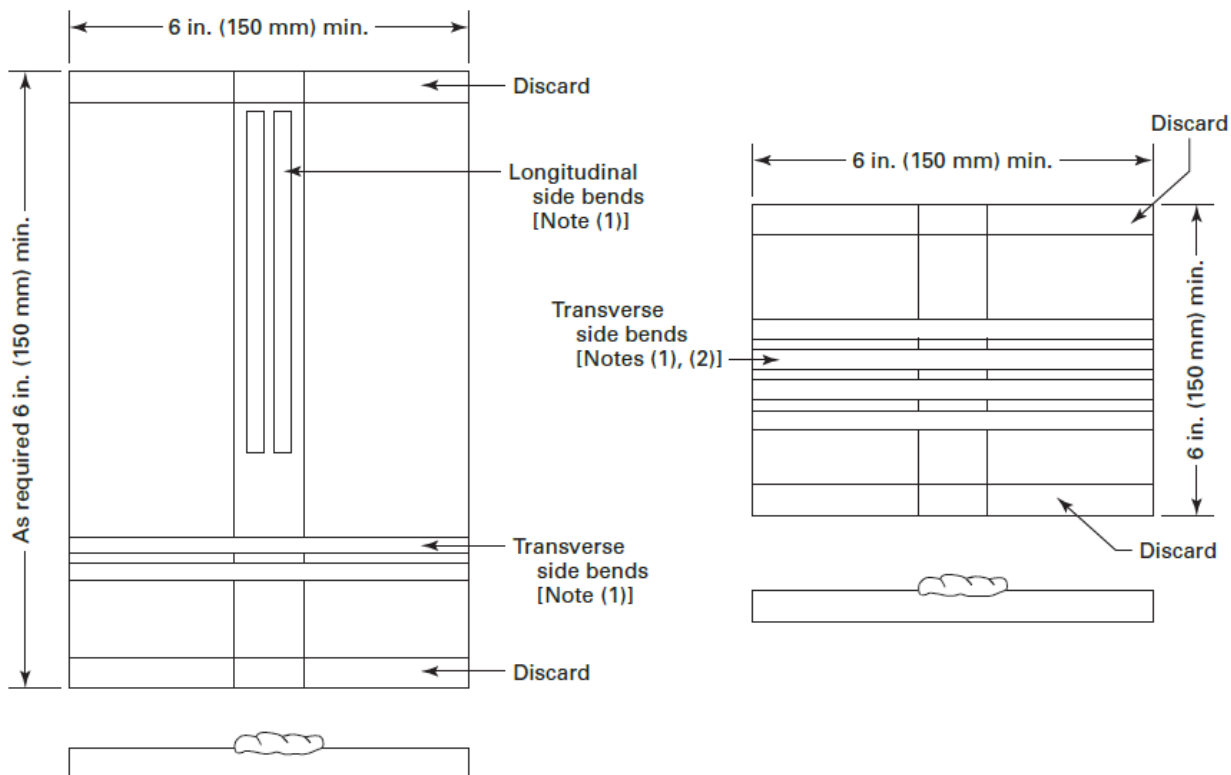
Plant Laboratory - Bharat Heavy Electricals Limited, Trichy-14.
Drawings for Specimen Preparation

PL: OS: SP: C008/00

Date: 27.10.2022

Procedure & Performance Qualification– Hard Facing Overlay

Figure QW-462.5(d)
Plate Bend Specimens — Corrosion-Resistant Weld Metal Overlay



NOTES:

- (1) Location for required test specimen removal — Procedure (Table QW-453). Four-side-bend test specimens are required for each position.
- (2) Location for required test specimen removal — Performance (Table QW-453). Two-side-bend test specimens are required for each position.

Note: 1. All dimensions indicated are in mm only.

2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

Plant Laboratory - Bharat Heavy Electricals Limited, Trichy-14.
Drawings for Specimen Preparation

PL: OS: SP: C009/00

Date: 27.10.2022

Order of Removal of Specimens as per ASME Sec IX

Procedure Qualification for Plate

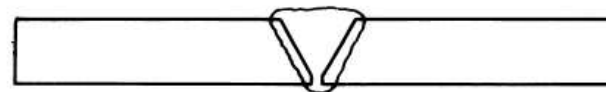
Figure QW-463.1(a)
Plates — Less Than $\frac{3}{4}$ in. (19 mm)
Thickness Procedure Qualification

Discard		this piece
Reduced section		tensile specimen
Root bend		specimen
Face bend		specimen
Root bend		specimen
Face bend		specimen
Reduced section		tensile specimen
Discard		this piece



Figure QW-463.1(b)
Plates — $\frac{3}{4}$ in. (19 mm) and Over Thickness
and Alternate From $\frac{3}{8}$ in. (10 mm) but Less
Than $\frac{3}{4}$ in. (19 mm) Thickness Procedure
Qualification

Discard		this piece
Side bend		specimen
Reduced section		tensile specimen
Side bend		specimen
Side bend		specimen
Reduced section		tensile specimen
Side bend		specimen
Discard		this piece

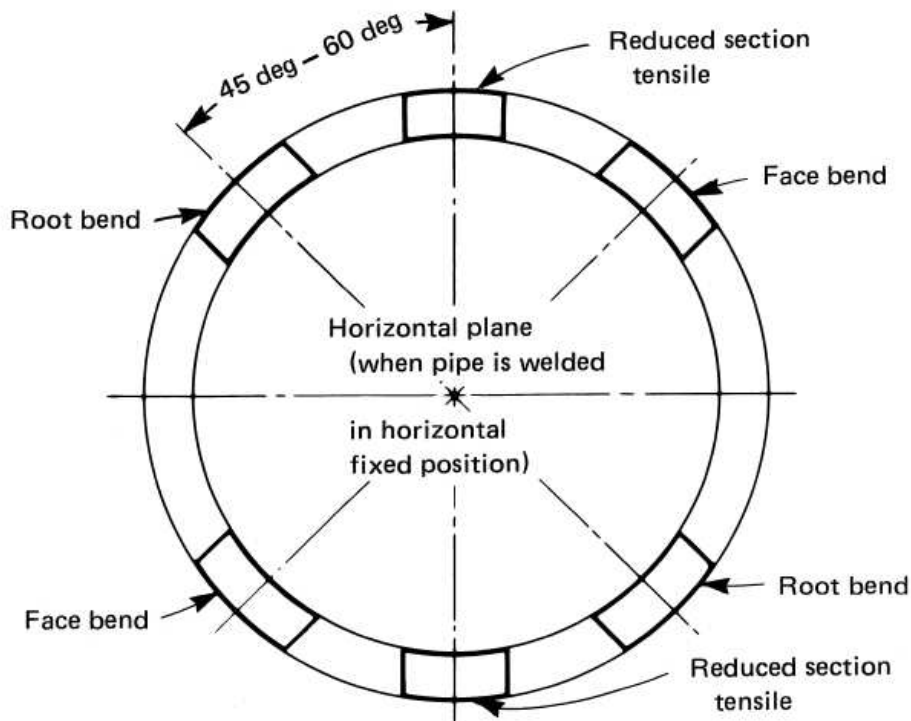


- Note:** 1. All dimensions indicated are in mm only.
 2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

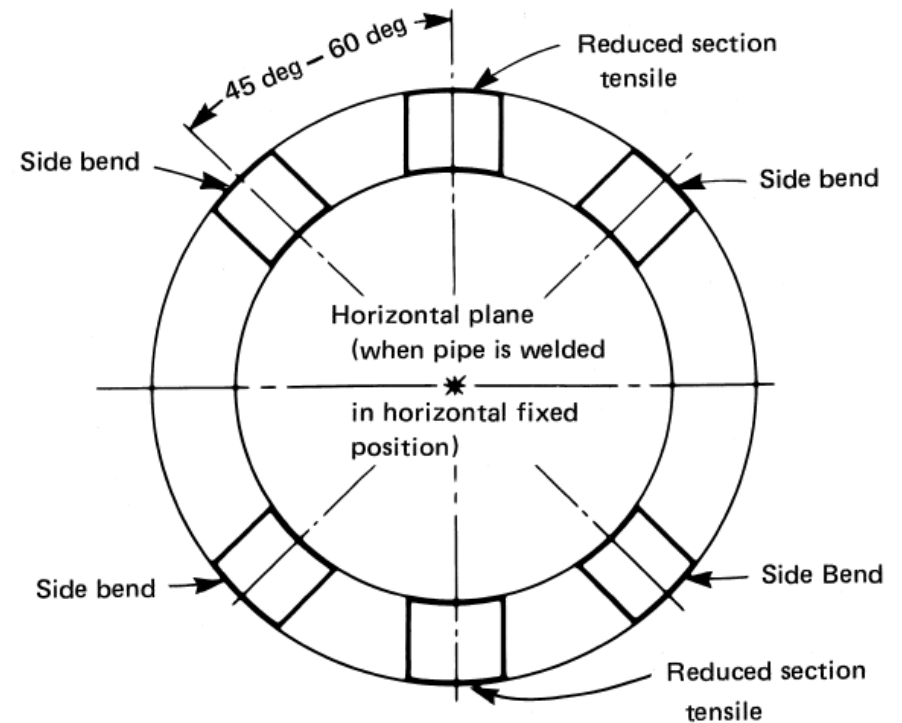
Order of Removal of Specimens as per ASME Sec IX

Procedure Qualification for Pipe

**Figure QW-463.1(d)
Procedure Qualification**



**Figure QW-463.1(e)
Procedure Qualification**

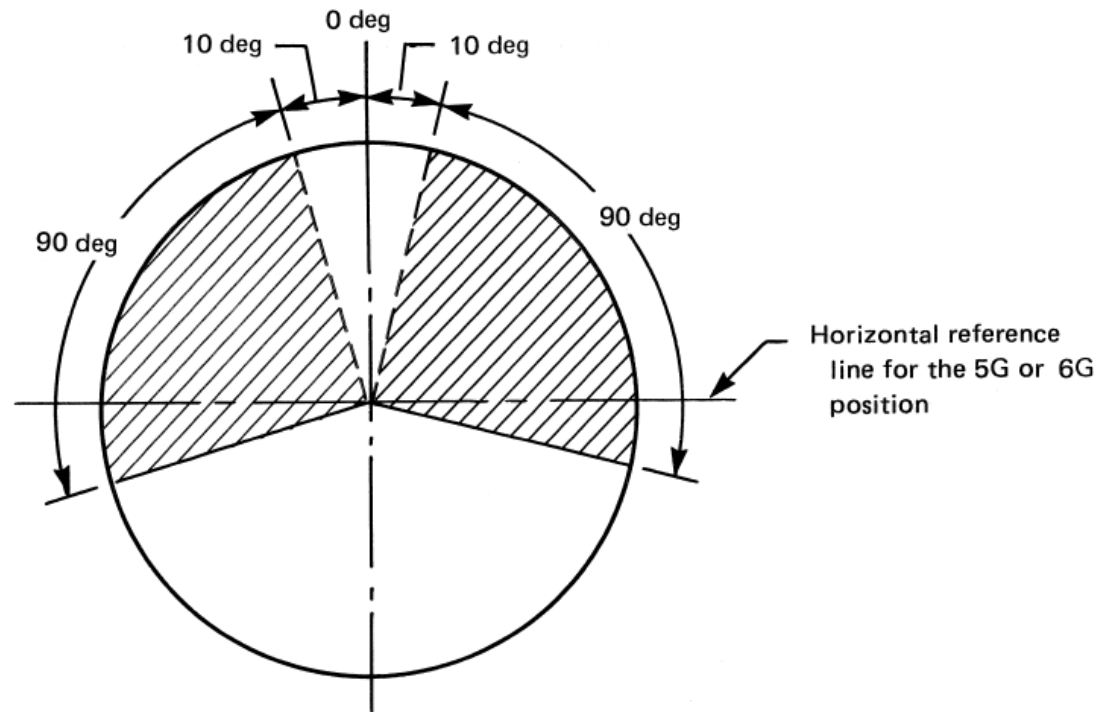


Note: 1. All dimensions indicated are in mm only.
2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

Order of Removal of Specimens as per ASME Sec Ix

Procedure Qualification for Pipe

Figure QW-463.1(f)
Toughness Test Specimen Location



Note: 1. All dimensions indicated are in mm only.
2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

Plant Laboratory - Bharat Heavy Electricals Limited, Trichy-14.
Drawings for Specimen Preparation

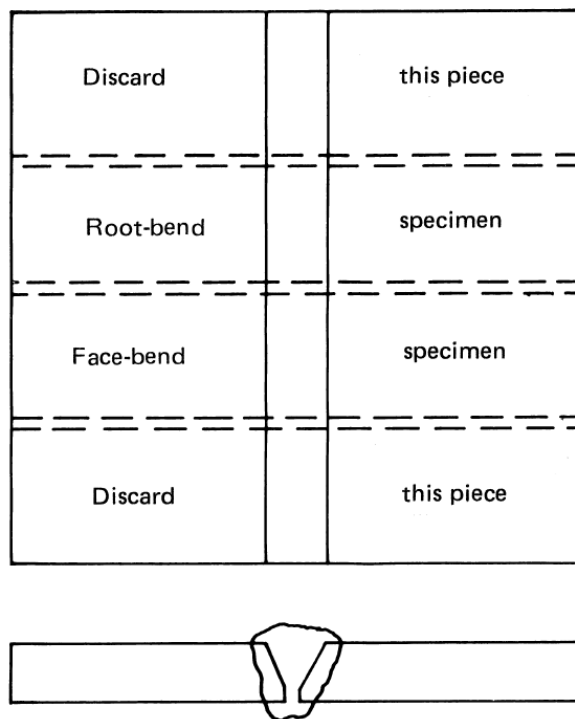
PL: OS: SP: C009/00

Date: 27.10.2022

Order of Removal of Specimens as per ASME Sec IX

Procedure Qualification for Plate

Figure QW-463.2(a)
Plates — Less Than $\frac{3}{4}$ in. (19 mm) Thickness Performance Qualification



Note: 1. All dimensions indicated are in mm only.
2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

**Plant Laboratory - Bharat Heavy Electricals Limited, Trichy-14.
Drawings for Specimen Preparation**

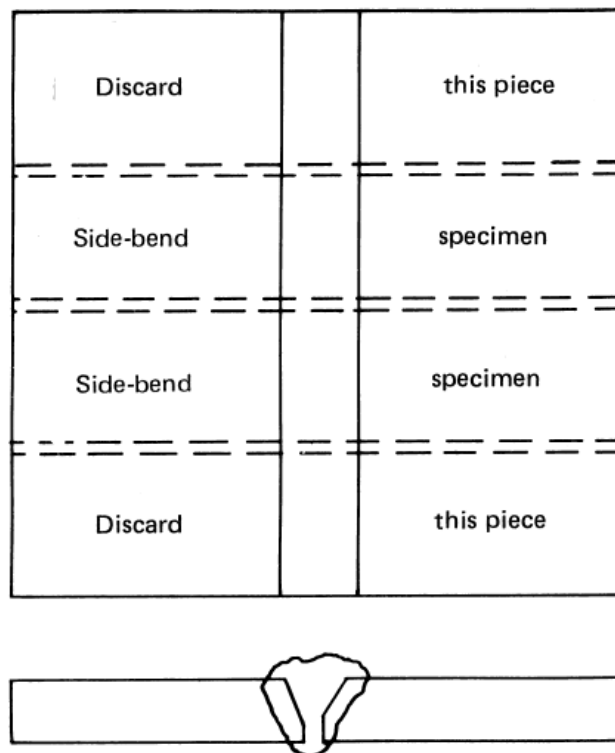
PL: OS: SP: C009/00

Date: 27.10.2022

Order of Removal of Specimens as per ASME Sec IX

Procedure Qualification for Plate

**Figure QW-463.2(b)
Plates — $\frac{3}{4}$ in. (19 mm) and Over Thickness and Alternate From $\frac{3}{8}$ in. (10 mm) but Less Than $\frac{3}{4}$ in. (19 mm) Thickness Performance Qualification**



Note: 1. All dimensions indicated are in mm only.
2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

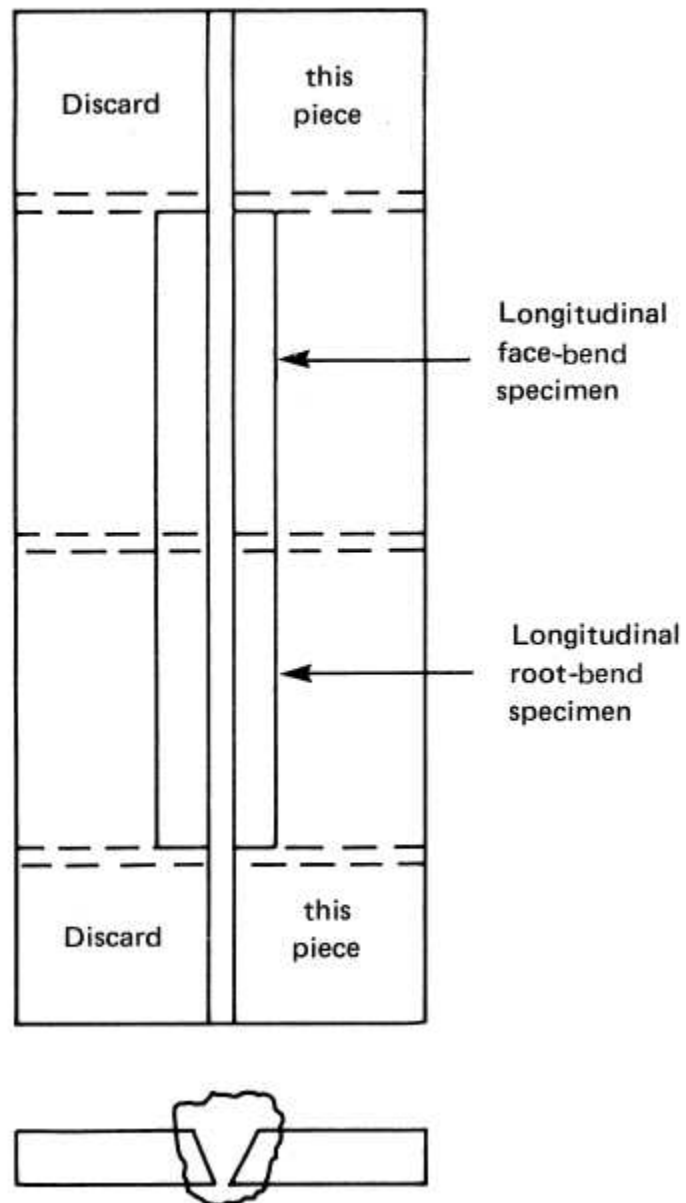
PL: OS: SP: C009/00

Date: 27.10.2022

Order of Removal of Specimens as per ASME Sec IX

Procedure Qualification for Plate

Figure QW-463.2(c)
Plates — Longitudinal Performance Qualification



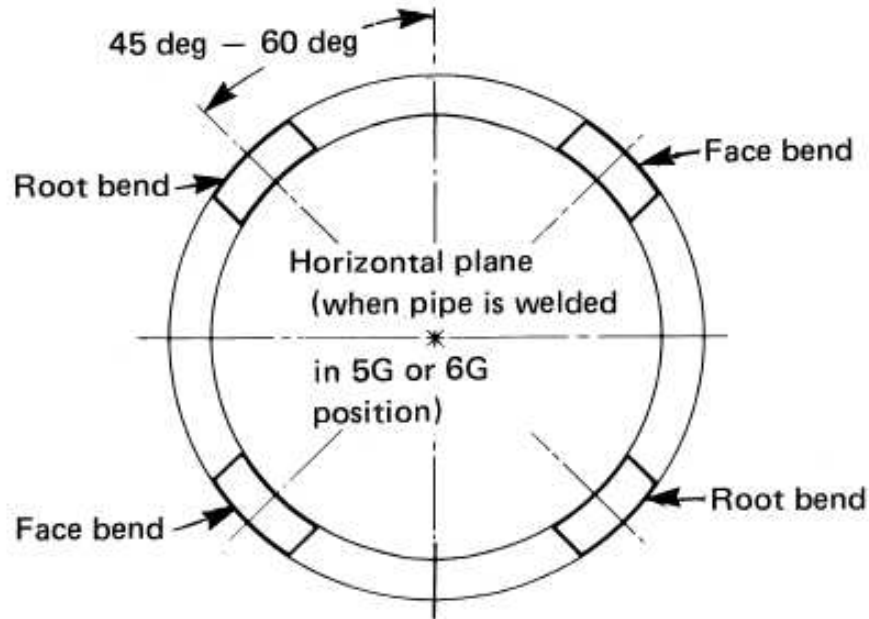
Note: 1. All dimensions indicated are in mm only.

2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

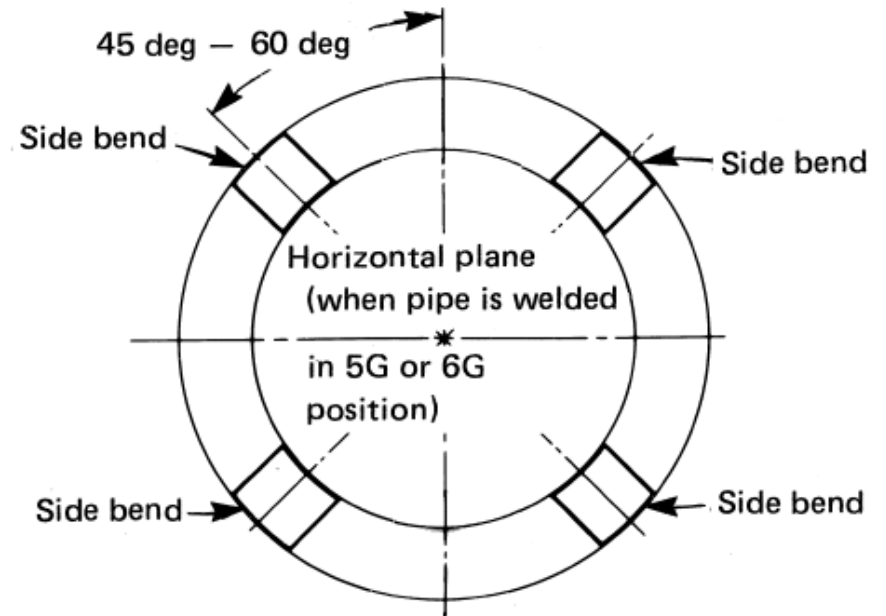
Order of Removal of Specimens as per ASME Sec IX

Procedure Qualification for Pipe

**Figure QW-463.2(d)
Performance Qualification**



**Figure QW-463.2(e)
Performance Qualification**



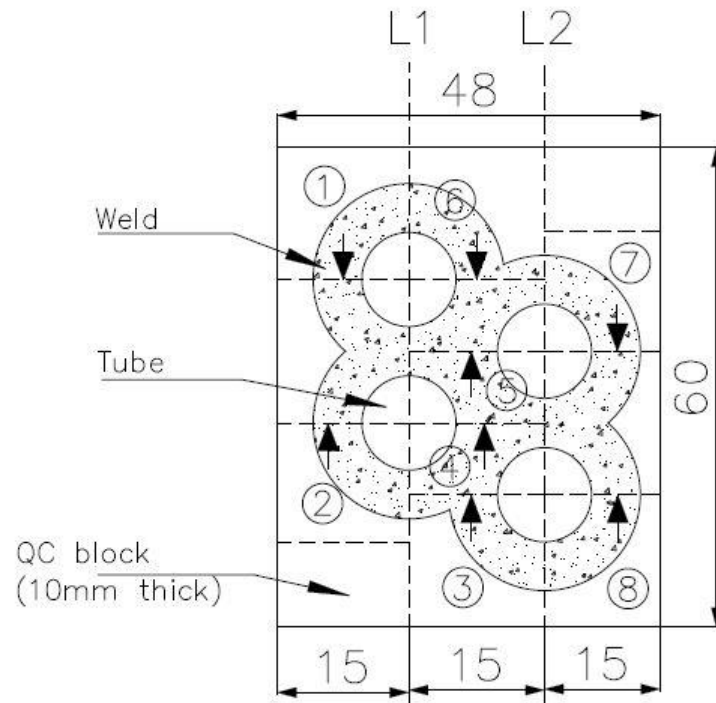
Note: 1. All dimensions indicated are in mm only.
2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

Plant Laboratory - Bharat Heavy Electricals Limited, Trichy-14.
Drawings for Specimen Preparation

PL: OS: SP: C010/00

Date: 27.10.2022

Specimen preparation drawing
Tube to sheet weld blocks



Instructions:

1. The weld block will be ready for collection as three different pieces of dimension 60mm x 15mm. Cutting along lines L1 & L2 is not in the scope of the vendor and would have been completed in BHEL.
2. From these three weld block cut pieces, 8 no's of micro specimen as marked in the sketch needs to be cut and prepared
3. The surface marked by the arrow head shall have machined finish typical to surface grinding machine with a roughness value of 1.6 μ
4. The edges shall 'not' be rounded off
5. All dimensions are in mm

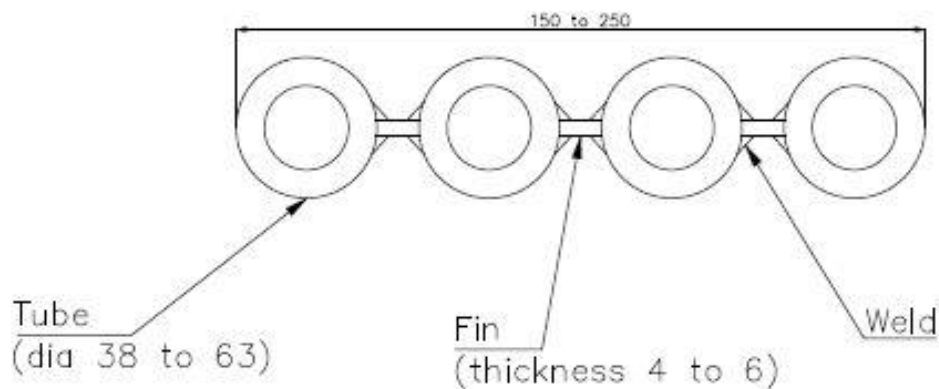
Note: 1. All dimensions indicated are in mm only.
2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

Plant Laboratory - Bharat Heavy Electricals Limited, Trichy-14.
Drawings for Specimen Preparation

PL: OS: SP: C011/00

Date: 27.10.2022

IBR Welder Performance Qualification
Tube + Fin weld coupon



All dimensions are in mm

Notes:

1. Drawing shows the cross section of the tube to fin test coupon.
2. The length of the test coupon will be (i.e. length of each tube and fin) 300mm.
3. From the test coupon, 4 nos of macro specimen, each of length 15mm needs to be cut from the coupon and machined.
4. The face shown in the drawing shall have a machined finish with a roughness value of 1.6μ typical of a surface grinding machine.
5. While preparing an estimate, keep in mind that 4 no of macro specimen will be cut from this single coupon.

Note: 1. All dimensions indicated are in mm only.

2. Any clarifications/changes/disputes to be brought to the notice of issuing authority.

Annexure-V

ANNEXURE-E

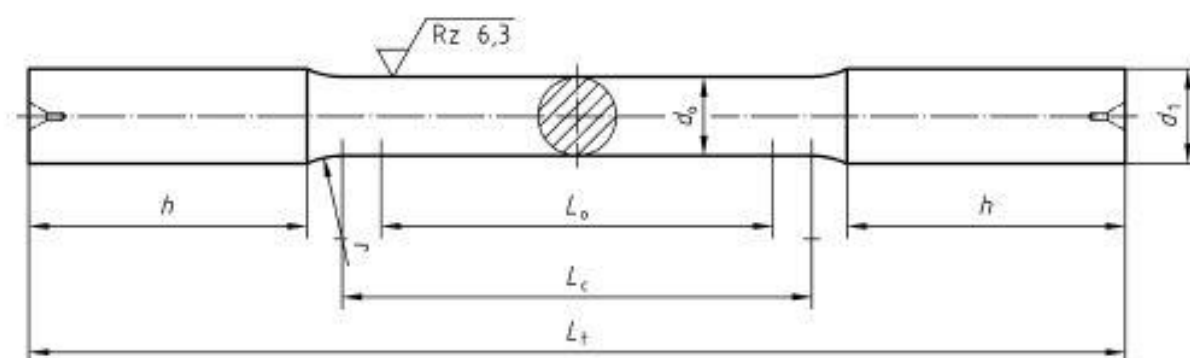
LIST OF DRAWINGS

Sl. No	Specimen type	Specimen ID	Page	Issued date
1	Tensile test	T	2	27.10.2022
2	Impact test	IP	5	27.10.2022
3	Bend test	SB	6	27.10.2022
4	Micro / Macro / Hardness test	M1/M2	7	27.10.2022
5	Inter granular corrosion test (IGCT)	IC	8	27.10.2022
6	Delta ferrite analysis	DF	9	27.10.2022
7	Chemical analysis	CH	10	27.10.2022
8	Drop weight test	DP	11	27.10.2022

**S VIJAY
MURUGAN**

Digitally signed by S
VIJAY MURUGAN
Date: 2022.11.04
16:05:23 +05'30'

1 (a) Tensile specimen (Rounded type, Specimen ID - T):



Key

d_0	test piece diameter	L_0	original gauge length ($L_0 = 5\ d_0$)
d_1	diameter of gripped ends ($\geq 1,2\ d_0$)	L_c	parallel length ($L_c \geq L_0 + d_0$)
h	length of gripped ends	L_t	total length of test piece

Figure 1 — Type A test piece, of circular cross-section, with smooth, cylindrical ends for clamping in wedge grips

Designation of a type A test piece with a diameter $d_0 = 12\text{ mm}$ and original gauge length $L_0 = 60\text{ mm}$:

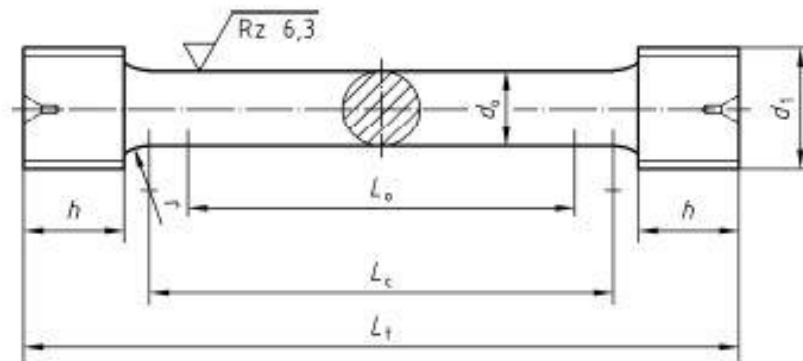
Tensile test piece DIN 50125 – A 12 × 60

Table 2 — Examples of dimensions for type A test pieces

Dimensions in millimetres

d_0	L_0	d_1 $\geq$	r min.	h min.	L_c min.	L_t min.
4	20	5	3	16	24	60
5	25	6	4	20	30	74
6	30	8	5	25	36	92
8	40	10	6	30	48	115
10	50	12	8	35	60	138
12	60	15	9	40	72	162
14	70	17	11	45	84	186
16	80	20	12	50	96	210
18	90	22	14	55	108	233
20	100	24	15	60	120	255
25	125	30	20	70	150	310

1 (b) Tensile specimen (Threaded type, Specimen ID - T):



Key

d_0	test piece diameter	L_0	original gauge length ($L_0 = 5\ d_0$)
d_1	diameter of ISO metric thread	L_c	parallel length ($L_c \geq L_0 + d_0$)
h	length of gripped ends	L_t	total length of test piece

Figure 2 — Type B test piece, of circular cross section, with threaded ends

Designation of a type B test piece with a diameter $d_0 = 14\text{ mm}$ and original gauge length $L_0 = 70\text{ mm}$:

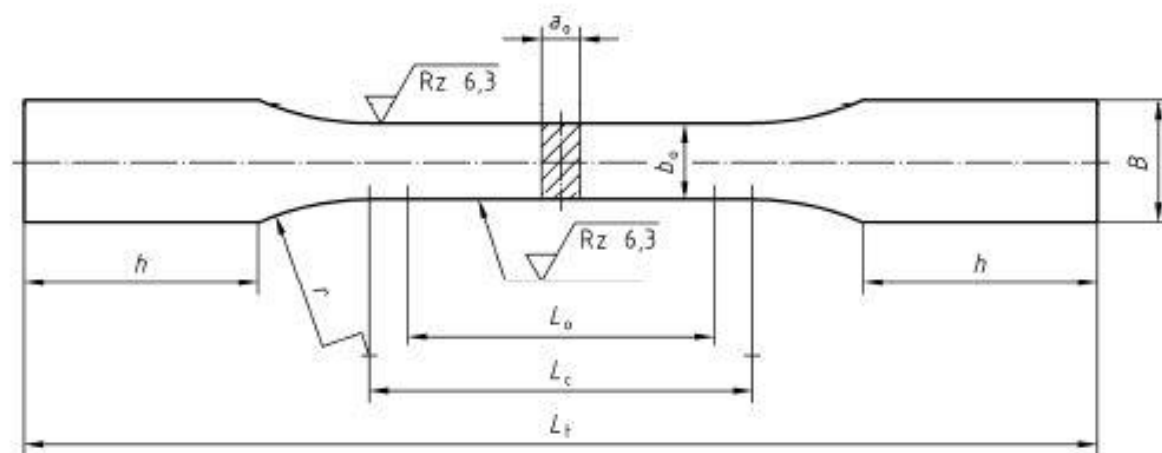
Tensile test piece DIN 50125 – B 14 × 70

Table 3 — Examples of dimensions for type B test pieces

Dimensions in millimetres

d_0	L_0	d_1	r min.	h min.	L_c min.	L_t min.
4	20	M6	3	6	24	41
5	25	M8	4	7	30	51
6	30	M10	5	8	36	60
8	40	M12	6	10	48	77
10	50	M16	8	12	60	97
12	60	M18	9	15	72	116
14	70	M20	11	17	84	134
16	80	M24	12	20	96	154
18	90	M27	14	22	108	173
20	100	M30	15	24	120	191
25	125	M33	20	30	150	234

1 (c) Tensile specimen (Rectangular type, Specimen ID - T):



Key

a_o	test piece thickness	L_o	original gauge length ($L_o = 5,65 \sqrt{a_o \times b_o}$)
b_o	test piece width	L_c	parallel length ($L_c \geq L_o + 1,5 \sqrt{a_o \times b_o}$)
B	width of gripped ends ($\approx 1,2 b + 3$ mm)	L_t	total length of test piece
h	length of gripped ends ($\approx 2 b + 10$ mm)		

Figure 5 — Type E test piece, flat bar with ends for clamping in wedge grips

Designation of a type E test piece with a thickness $a_o = 5$ mm, width $b_o = 16$ mm and original gauge length $L_o = 50$ mm:

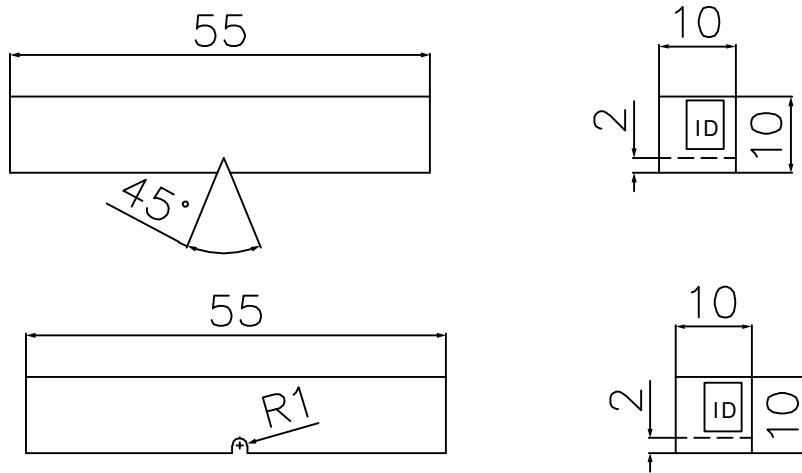
Tensile test piece DIN 50125 – E 5 × 16 × 50

Table 6 — Examples of dimensions for type E test pieces

Dimensions in millimetres

a_o	b_o	L_o	B min.	r min.	h min.	L_c min.	L_t min.
3	8	30	12	12	26	38	104
4	10	35	15	12	30	45	120
5	10	40	15	12	30	51	126
5	16	50	22	15	40	64	162
6	20	60	27	15	50	77	197
7	22	70	29	20	55	89	222
8	25	80	33	20	60	102	246
10	25	90	33	20	60	114	258
10	30	100	40	25	70	126	296
12	26	100	34	25	65	127	285
15	30	120	40	25	70	152	322
18	30	130	40	25	70	165	335

2. Impact Specimen for cladding & butt weld coupon (IP):

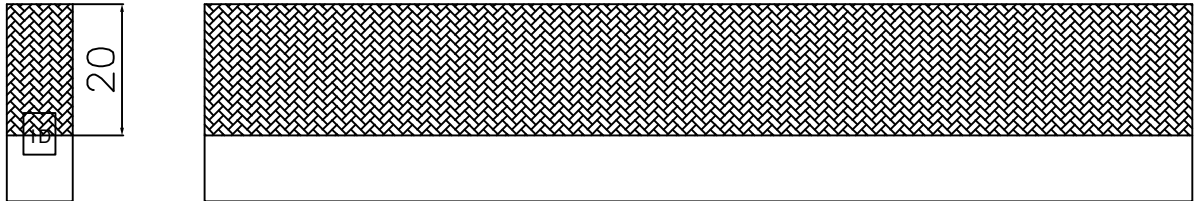


Note:

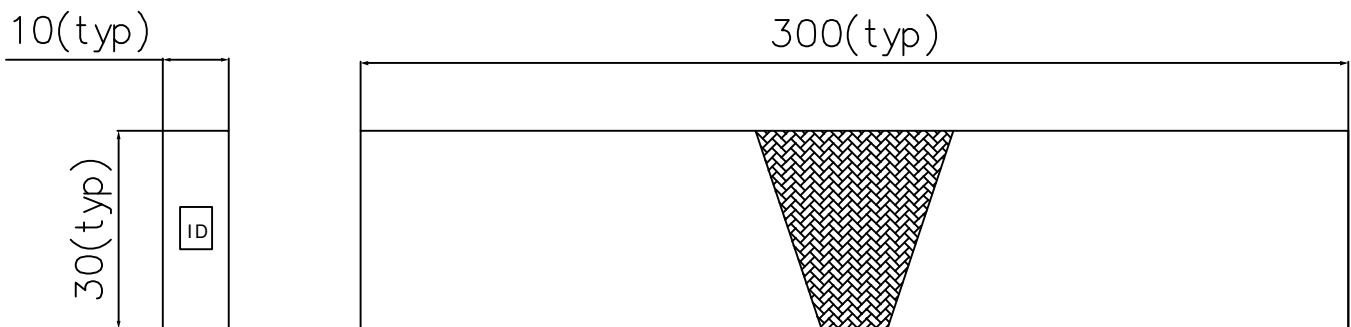
1. Specimen with either V notch or U notch will be required to be made.
2. The dimensions and tolerances shall be as per ASTM A370 (latest revision) & E23 (latest revision)
3. Specimen ID should be punched on both the end faces of the impact specimen
4. All dimensions are in mm.

3. Bend Specimen for cladding & butt weld coupon (SB):

Cladding bend specimen:



Butt weld bend specimen:

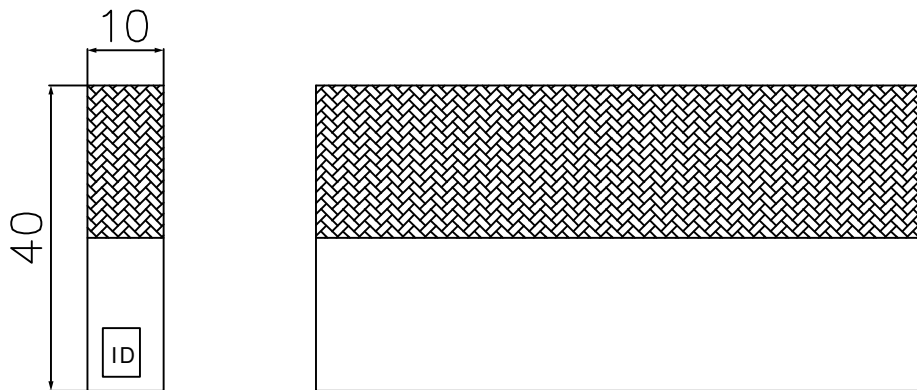


Note:

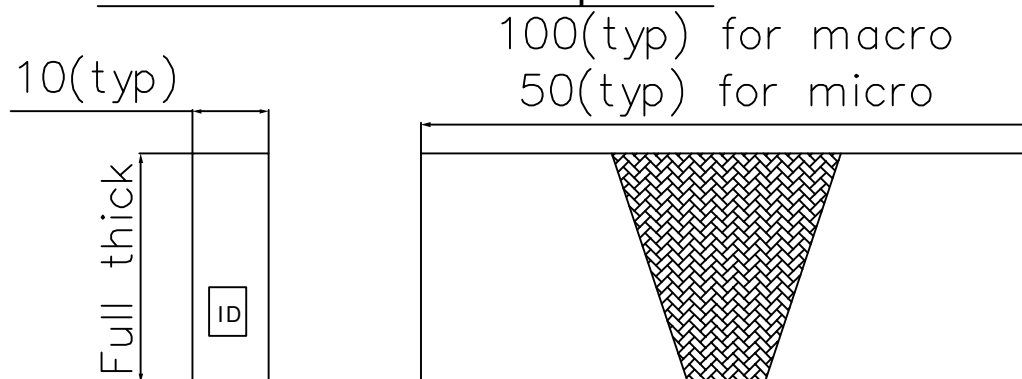
1. The 30 x 300mm surface shall have machined finish typical to surface grinding machine with a roughness value of 1.6μ
2. Parallelism has to be maintained between 30 x 300mm surfaces
3. The edges shall be rounded off to a minimum radius not more than 1mm.
4. Specimen ID should be punched on both the end faces of the specimen
5. All dimensions are in mm.

4. Micro / Macro / Hardness Specimen for cladding & butt weld coupon (M1/ M2):

Cladding micro/ macro specien:



Butt weld micro/ macro specien:

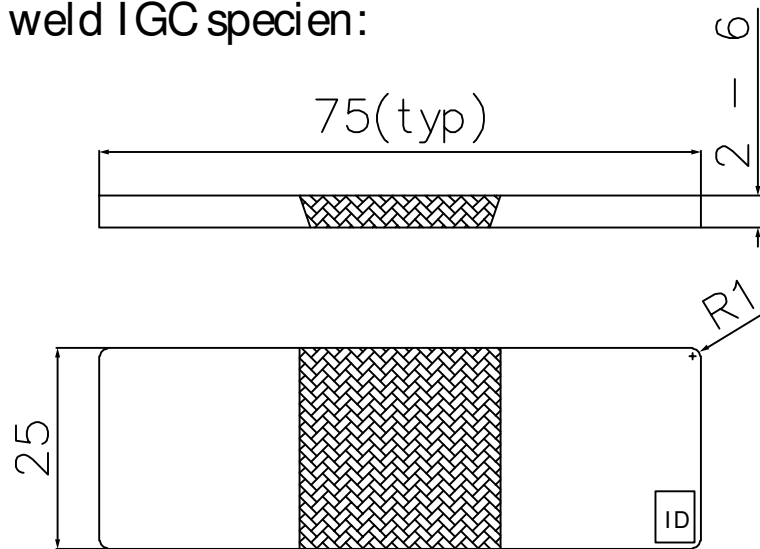


Note:

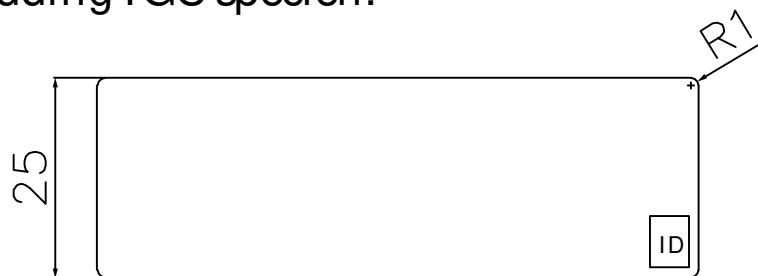
1. The surface shall have machined finish typical to surface grinding machine with a roughness value of 1.6μ
2. Parallelism has to be maintained between surfaces
3. The edges shall "**not**" be rounded off.
4. Specimen ID should be punched on any one of the faces with dimension 10 x 30mm
5. All dimensions are in mm.

5. IGCT Specimen for cladding & butt weld coupon (IC):

Butt weld IGCT specimen:



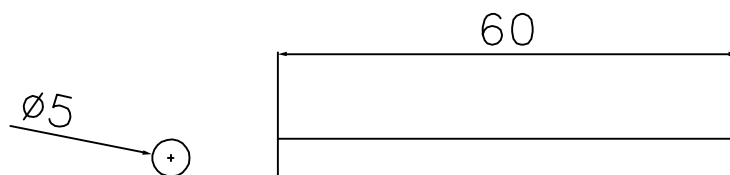
Cladding IGCT specimen:



Note:

1. The surface shall have machined finish typical to surface grinding machine with a roughness value of 1.6μ
2. Parallelism has to be maintained between surfaces
3. The edges shall be rounded off to a minimum radius not more than 1mm.
4. Specimen ID shall be inscribed (small size) on the surface of the specimen as indicated.
5. All dimensions are in mm.

6. Delta ferrite Specimen for cladding & butt weld coupon (DF):

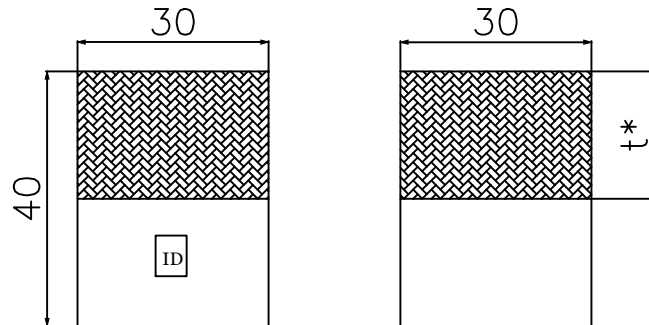


Note:

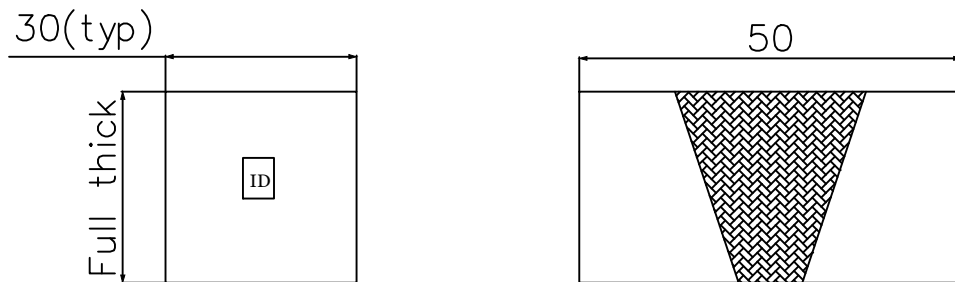
1. The surface shall have machined finish with a roughness value of 3.2μ
2. Specimen ID shall be inscribed in any one of the end face.
3. All dimensions are in mm.

7. Chemical Specimen for cladding & butt weld coupon (CH):

Cladding chemical specimen: (30 x 30 x 40mm thick)



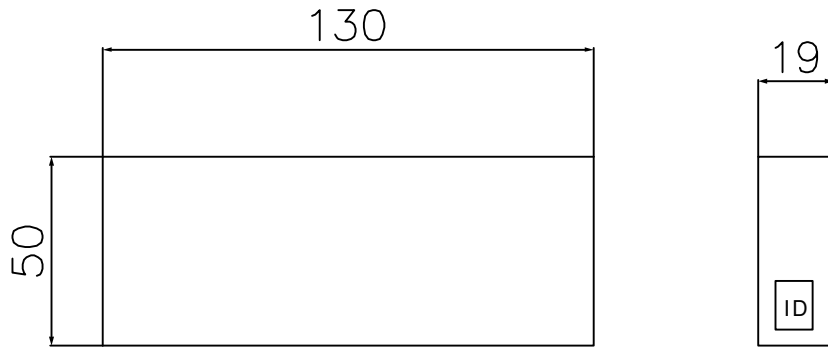
Butt weld chemical specimen: (50 x 30 x full thick)



Note:

1. The surface shall have machined finish typical to milling machine with a roughness value of 3.2μ
2. The top surface of cladding, top and bottom face of butt weld chemical specimen shall have surface roughness value of 1.6
3. From cladding coupon, chemical specimen of different cladding thickness are required to be machined.
4. The edges shall "not" be rounded off.
5. Specimen ID shall be punched in
 - i) the Low alloy steel portion of clad chemical specimen
 - ii) the base metal surface in case of butt weld chemical specimen
6. All dimensions are in mm.
7. Pins for chemical analysis shall be taken in location as per instructions from Plant Lab. The dimension for pin shall be as follows
 - Dia - 2-4mm
 - Length - 4-10mm

8. Drop weight Specimen for cladding & butt weld coupon (DP):



Note:

1. The surface shall have machined finish typical to milling machine with a roughness value of 3.2μ
2. The edges shall be rounded off to a minimum radius not more than 1mm.
3. Specimen ID shall be punched in any one of the 19 x 50mm surface.
4. All dimensions are in mm.