



QUALITY ASSURANCE
TECHNICAL DELIVERY CONDITIONS
FOR HIGH STRENGTH LOW ALLOY SHEETS AND PLATES WITH
ATMOSPHERIC CORROSION RESISTANCE FOR GATES & DAMPERS

TDC : RTG : 476

Rev. No. 01

DATE: 13.04.2013

TECHNICAL DELIVERY CONDITIONS

FOR HIGH STRENGTH LOW ALLOY SHEETS AND PLATES WITH ATMOSPHERIC CORROSION
RESISTANCE APPLICABLE TO GATES & DAMPERS

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4	TDC : RTG : 476	01	13.04.2013	TECHNICAL DELIVERY CONDITIONS FOR HIGH STRENGTH LOW ALLOY SHEETS AND PLATES WITH ATMOSPHERIC CORROSION RESISTANCE FOR GATES & DAMPERS	<p>Clause No. 05 - NDT Standard Changed to ASTM A435 & A578 which is applicable to steel plates & steel special plates respectively instead of ASTM A 388 which is applicable to steel forgings.</p> <p>Clause No. 04 – Modified based on feedback received from MM Dept.</p>
3	TDC : RTG : 476	00	11.08.2012	TECHNICAL DELIVERY CONDITIONS FOR HIGH STRENGTH LOW ALLOY SHEETS AND PLATES WITH ATMOSPHERIC CORROSION RESISTANCE FOR GATES & DAMPERS	<ol style="list-style-type: none"> 1. TDC : 511 WITHDRAWN. 2. ALL THE REQUIREMENTS OF ABOVE TDC ARE COVERED IN THE TDC : RTG : 476 AND NUMBERING SCHEME OF TDC CHANGED AS PER SYSTEM PROCEDURE 3. NEW CLAUSES LIKE, DIMENSIONAL TOLERANCE, SPECIAL FLATNESS, UT REQUIREMENTS, INSPECTION & TESTING REQUIREMENT ARE ADDED AND RELEASED AS ORIGINAL ISSUE.
2	TDC : 511	00	15.11.1995	TDC FOR CORROSION RESISTANT PLATES & SHEETS TO ASTM A 588 MATERIAL	<ol style="list-style-type: none"> 1. TDC : RTA : 006 WITHDRAWN. 2. ALL THE REQUIREMENTS ARE COVERED IN THIS TDC AND NUMBERING SCHEME OF TDC CHANGED AS PER SYSTEM PROCEDURE. 3. TDC RELEASED AS ORIGINAL ISSUE.
1	TDC : RTA : 006	04	15.04.1993	TDC FOR CORROSION RESISTANT PLATES & SHEETS TO ASTM A 588 MATERIAL	ORIGINAL RELEASE
SL NO	TDC / CLAUSE NO	REV. NO.	EFFECTIVE DATE	TITLE OF DOCUMENT	REVISIONS MADE

HISTORY OF RECORD OF REVISIONS



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1.0 SCOPE :

- 1.1 This Technical Delivery Conditions (TDC) specifies the requirements for supply of high strength low alloy plates with weathering or atmospheric corrosion resistance to various specifications mentioned below applicable to Gates & Dampers.
- 1.2 a) COR – TEN B or ASTM A 588 Gr. A
b) EN 10025-5 GR. S355J2W + N (Matl. No. 1.8965)
c) SAILCOR IRSM 41

2.0 MATERIAL & MANUFACTURE :

- 2.1 The Chemical and Mechanical properties of the material shall be as per respective specifications mentioned in clause 1.2 above.
- 2.2 The steel shall be fully killed with fine grain structure
- 2.3 Sheets and Plates shall be either hot rolled or cold rolled and shall be supplied in a Normalized condition.

3.0 DIMENSIONAL TOLERANCES :

Clause Sl. No.	Tolerance on	Allowable or Acceptable Limits
3.1.1	Thickness for Sheets & Plates of 1.6 mm to 12 mm	Class B of EN 10029 (Fixed Minus Tolerance)
3.1.2	Thickness for Plates of 16 mm and more	Class A of EN 10029 (for minus thickness tolerance depending on the nominal thickness)
3.2	Width	+ 20 to + 30 mm depends on thickness of the plates
3.3	Length	+ 50 mm for a length of 8000mm to 12000mm
3.4	Edge Camber – Length wise	Max 10mm permitted for a length of 8000 to 12000mm
3.5	Out of Squareness or diagonal difference	1% of Width size permitted

4.0 SPECIAL TOLERANCES ON FLATNESS – ON BOTH AXIS :

- 4.1 For Plate thickness of 5 mm to 8 mm – For a span length of 4000mm the maximum flatness permitted shall be 10 mm.
- 4.2 For Plate thickness of 10 mm to 12 mm – For a span length of 4000mm the maximum flatness permitted shall be 6 mm.
- 4.3 For Plate thickness of 16 mm and up to 25 mm – For a span length of 4000mm the maximum flatness permitted shall be 4 mm.
- 4.4 For Plate thickness of more than 25 mm – Flatness shall be as per the respective specification / standard.



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5.0 NON DESTRUCTIVE TESTS :

- 5.1 The material shall be free from scales, laps, piping, cracks, laminar imperfection (single / multi plane inclusion bands or cluster) and any other injurious defects to raw materials.
- 5.2 All the plates of thickness 40mm and above (100%) shall be Ultrasonic Tested (UT) by Straight-Beam Ultrasonic Examination method for steel plates as per ASTM A-435 or ASTM A 578.
- 5.3 Supplier may choose any of the following method for UT and its corresponding acceptance norms, as applicable.


5.3.1 ACCEPTANCE NORMS:

5.3.1.1 As per clause no. 6.1 of ASTM A-435 (or)

5.3.1.2 As per clause no. 7.1 of ASTM A-578 (Acceptance Standard – Level A)

6.0 INSPECTION & TESTING

- 6.1 The verification of chemical composition shall be carried out by each cast wise or heat no wise and TCs shall be submitted for BHEL verification.
- 6.2 The verification of mechanical properties shall be carried out by each cast wise or heat no wise and testing units are as follows:
- 6.2.1 One Tensile Test for every 40 MT of plates from each heat or part thereof.
- 6.2.2 One Notched Bar Impact Test (3 Specimens) for every 40 MT of plates from each heat or part thereof.
- 6.3 In case of indigenous supplier the testing of materials shall be carried out either at works or at any of the NABL approved Labs, as per the clause no. 6.1 & 6.2 – subject to the Purchase Order Qty and test reports shall be shown to BHEL / BHEL's Authorized Inspection Agency (AIA) who will conduct the inspection at their works.
- 6.4 In addition to above clause no.6.3, the BHEL / BHEL's Authorized Inspection Agency (AIA) will witness the test, as per the clause no. 6.1 and 6.2 on random basis subject to 10% of offered qty – either at supplier's works or at NABL approved Labs and the physically witnessed test reports shall be sent to BHEL for verifications.
- 6.5 In case of foreign supplier the testing of materials shall be carried out either at works or at any of the internationally accredited Labs, as per clause no. 6.1 and 6.2 - 100% subject to the Purchase Order Qty and the test reports shall be sent to BHEL for their verification. These test reports shall be sent to BHEL well in advance – minimum 15 days advance prior to the actual dispatch of the materials from the country of origin.


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7.0 MARKING, LABELLING AND PACKAGING :

- 7.1 Each of sheet and plate shall be stenciled and hard stamped & bordered with white paint with the following details on top surface of the each plates.
- a) Purchase Order No.
 - b) Size & Quantity
 - c) Specification
 - d) Melt / Heat Number
 - e) Maker's / Mill's Identification / Logo / emblem
- 7.2 **Colour code** : One coat of yellow colour painting – minimum 100mm width shall be applied on each of stack of sheets and plates on both axis – on thickness side - viz., length wise and width wise at any preferable locations. If the plate is of single one then the yellow colour shall be applied through out the length on the thickness side.
- 7.3 The Coils and Sheets shall be coated with a suitable rust preventive fluid on both sides which can withstand marine corrosion and covered with polyethene sheets – thickness more than 20 microns shall be wrapped over the coil / sheet bundle, subsequently these bundles shall be again wrapped with HDPE sheets with suitable metal band at minimum four locations to avoid transit loss / damage to bundles.
- 7.4 The Plates shall be coated with rust inhibitive paint on both sides which can withstand marine corrosion and shall be bundled suitably for easy handling during shipment. Bundling of plates or delivering of plates separately both is acceptable.

8.0 INSPECTION DOCUMENTATION :

- 8.1 The supplier shall send the test certificates (in .pdf format) in English only to reach BHEL Ranipet minimum 15 days advance - before the physical receipt of materials at BHEL stores and it shall contain the following documents /information's:
- a) Purchase Order Number and Date
 - b) TDC Number with Rev. no and Date
 - c) Material Specification and Grade
 - d) Size, Number, Qty and Weight
 - e) Chemical Composition – Each Melt wise
 - f) Mechanical Properties – as per clause no. 6.0
 - g) Random Witness Test Report by BHEL / BHEL's AIA
 - h) Ultrasonic Testing Report for the plates > or = 40 mm thickness of plates
 - i) Heat Treatment Particulars if any.,

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9.0 AUDIT CHECK AT BHEL :

- 9.1 BHEL reserves the right, at their discretion to carry out audit checks for chemistry, heat treated condition and mechanical properties on the delivered plates..
- 9.2 If any plate is found to be defective during audit check test as per clause 9.1 or during subsequent processing at BHEL, such plates delivered against the PO are liable for rejection and has to be replaced at the risk and cost of supplier.

10.0 End Use :

- 10.1 These Sheets & Plates are intended for use in Gates & Dampers which are coming under Boiler Auxiliaries Products.

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(TO BE STAMPED IN ACCORDANCE WITH STAMP ACT AND THE EXPIRY DATE OF BG MUST BE AFTER 2 MONTHS FROM THE DATE OF COMPLETION OF SUPPLIES)

CONTRACT EXECUTION BANK GUARANTEE

In accordance of M/s. Bharat Heavy Electricals Limited (A Government of India undertaking, a company incorporated under the Companies Act 1956 having its Registered Office at "BHEL House", SIRI Fort, New Delhi 110 049) through its Boiler Auxiliaries Plant located at Ranipet – 632 406, (hereinafter called 'the Company') having entered into a contract with M/s.....
..... hereinafter called 'the said contractor' which term includes 'suppliers' for the purpose of this Bond and under the terms and conditions of the Contract No.....Dt.....between BHEL, Ranipet and as per the Contract, the Contractor / Supplier is to furnish a Contract Execution Bank Guarantee for Rs.....in words.....
.....for the due performance of the contract and for the fulfillment of all the terms and conditions of the contract.

Sign and seal of issuing bank
Please affix Non Judicial Stamp
here, as per Stamp Act

Bank Guarantee No.....Date.....Banker Name.....
Bank Guarantee Value Rs.....

1. We.....
.....
.....(Bank's name, Branch, Place – address to be mentioned [herein after referred to as the Bank) at the request of.....
.....(Contractor(s)] do hereby undertake to pay the company an amount not exceeding Rs.....in words
.....
.....against any loss or damage caused to or suffered or would be caused to or suffered by the company by reason of any breach by the said Contractor(s) of any of the terms and conditions contained in the said agreement.

2. We.....
.....(name of the bank with full address), do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Company stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Company by reason of breach by the said Contractor(s) of any of the terms and conditions contained in the said Agreement or by the reason of the Contractor(s) 'failure to perform' the said agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.....in words.....

Sign and seal of issuing bank

Bank Guarantee No.....Date.....Banker Name.....
Bank Guarantee Value Rs.....

3. We undertake to pay conditionally to the Company any money so demanded notwithstanding any dispute(s) raised by the Contractor in any suit, or proceedings pending before any Court or Tribunal or Arbitration or before any other authority relating thereto our liability under this present being absolute and unequivocal. The payment under this guarantee would not wait till the disputes have been decided by any Court or Tribunal or in the arbitration proceedings or by any other authority. The payment so made by us under this Bond shall be a valid discharge of liability for payment thereunder and the Contractor(s) shall have no claim against us for making such payment.

4. We.....(name of Bank), further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the Company under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till Purchase Department of the Company certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee.

5. (i) Unless a demand or claim under this guarantee is made on us in writing on or before(date) (After 2 months from the date of completion of supplies) we shall be discharged from all the liability under this guarantee thereafter. But where such claim or demand has been preferred by the Company with the Bank before the expiry of the said date, the claim shall be enforceable notwithstanding the fact that the said enforcement is effected after the said date. (ii) For the purpose of this clause, any letter making demand on the Bank by M/s. BHEL dispatched by Registered Post with Ack. Due or by Telegram or by any Electronic media addressed to the above mentioned address of the Bank shall be deemed to be the claim / demand in writing referred to above irrespective of the fact as to whether and when the said letter reaches the Bank, as also any letter containing the said demand or claim is lodged with the Bank personally.

Sign and seal of issuing bank

Bank Guarantee No.....Date.....Banker Name.....
Bank Guarantee Value Rs.....

6. We.....(name of the Bank), further agree with the company that the Company shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Company against the said Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by any reason of any such variation or extension being granted to the said Contractor(s) or for any forbearance, act or omission on the part of the company or any indulgence by the company to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating would, but for this provision, have effect of not so relieving us.

7. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

8. The guarantee herein contained shall not be determined or affected by the liquidation or winding up or insolvency of or change in the constitution of the Contractor, but shall in all respects and for all purpose be binding and operative until all payments of all moneys due or that may hereafter become due to the said company or settled irrespective of any liability or obligation of the Contractor under the said Contract.

9. It shall not be necessary for the company to proceed against the Contractor before proceeding against the guarantor-bank and the guarantee herein contained shall be enforceable against them notwithstanding any security, which the company may have obtained from the Contractor shall, at the time when proceedings are taken against the Guarantor hereunder be outstanding or unrealized.

10. Any claim or dispute arising under the terms of this document shall only be enforced or settled in the Courts at Ranipet, Tamilnadu Jurisdiction.

11. The Bank declares that it has powers to issue this Guarantee under the Bank's Memorandum and Articles of Association and the undersigned has full powers to do so on its behalf under the power granted to him by the proper authorities of the Bank.

12. We(name of Bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent of the company in writing.

In witness whereof we.....
(name of Bank) have hereunto setout Bank Seal the.....
day of.....month 2014.

Sign and seal of issuing bank.

Payment Mechanism at BHEL, Ranipet

(Effective for all tenders issued by BHEL Ranipet from 01 July 2011 onwards unless otherwise notified of change/s in writing given by an authorized official of BHEL, Ranipet)

BHEL, Ranipet's payment mechanism will be as follows: (All Bidders are requested to read this carefully and take note of it before submitting their offer)

All bills of Suppliers processed for payment by BHEL, Ranipet shall pass through the following milestones:

(1) Receipt of materials at BHEL, Ranipet Stores (evidenced by the Day-Book Number and Date generated at BHEL Stores, Ranipet) or Receipt of materials at Project Site / Destination specified in the Purchase Order (as evidenced by the acknowledgement given by the Consignee).

(2) Acceptance of the supplied materials at BHEL Stores, Ranipet. (Proof of evidence: Stores Receipt voucher - Short form "SRV", raised by BHEL Stores, Ranipet referenced by the SRV Number and Date)

(3) Receipt and Registration of the Bills / Invoices of the Supplier at BHEL, Ranipet Accounts Department. (evidenced by the ABS Number and Date)

(4) Receipt of clarifications, if any that may be required by BHEL, Ranipet Accounts or Purchase Department, from the Supplier. (As evidenced by the IOM Inward Date)

(5) Bill processing and passing.

(6) Payment release.

All these events are transparently available in the SCM web-site of BHEL, Ranipet,

{<http://bapscm.bhelrpt.co.in/purc>} which can be viewed by all registered supplier with a password.

Allowed Time frames:

A] From DB to SRV: 10 Days

B] From SRV to ABS: 15 Days

C] From ABS to Bill Pass: 07 Days (if Stage 4 above is not applicable)

OR

From IOM to Bill Pass: 07 Days (if Stage 4 above is applicable)

D] From Bill Pass to Payment Release: As per payment terms of the Purchase order.

All Suppliers payment/s would be released based on seniority of receipt of the processed bills at the payment section of BHEL, Ranipet Accounts Department.

The seniority would be based on the sequence of milestone events listed above.

In the sequence of the bill processing the preceding mile-stone seniority will be void, if the subsequent event occurs beyond the permitted time frame between two successive events.

Thus for example:

Start seniority would be with the DB date.

If the SRV date is greater than 10 days of the DB date, then the seniority of the DB date would be replaced by the SRV date.

If the ABS date is greater than 15 days of the SRV date, then the seniority would be reckoned by the ABS date.

If the Bill pass date is greater than 07 days of the ABS date then the seniority would be the date of inward receipt of the IOM.

The logics of these sequence is that SRV, ABS, IOM inward entry are dependent entirely on submission of correct documentation by Suppliers, as called for in the Purchase Order. If the documents are correctly submitted each of the milestone listed above will occur within BHEL, Ranipet within the timelines specified above.

Hence, in their own interest all Suppliers are requested to take note of this process and comply with the same.

Caution: Suppliers' payments would get delayed / affected if they fail to adhere to the submission of the documents specified in the Purchase Order / Contract, since the listed milestone events occurrence are contingent upon the availability of the requisite documents.