

Standard Bidding Document

Bid No. 03/0016/00-0/1-2026 for Material Required for the maintenance of
16 Nos. of Power Vans On DDP basis on over all Basis.= 62 items
(Goods)

National

Single Stage-Two Envelope

CORRIGENDUM # 1	CORR-P125533-001
Initiation Date	September 24, 2026



September 24, 2026

*Office of Chief Controller Purchase (Ministry of Railways), Assistant Controller Purchase
Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province).
Phone: +92-333-131-5696, Email: acp1@pakrail.gov.pk*

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REQUEST FOR BIDS

PROCUREMENT OF GOODS

1. The **Office of Chief Controller Purchase (Ministry of Railways)** has reserved Funds for the procurement planned for FY **2026-27**. The **Office of Chief Controller Purchase (Ministry of Railways)** intends to apply part of the proceeds of this Fund to cover eligible payments under the contract for the **"Bid No. 03/0016/00-0/1-2026 for Material Required for the maintenance of 16 Nos. of Power Vans On DDP basis on over all Basis.= 62 items"** with the reference of **"P125533"**
2. The **Office of Chief Controller Purchase (Ministry of Railways)** invites sealed Bids from eligible Bidders for procurement of goods described in the bidding documents on **EPADS v2.0**.
3. **Single Stage-Two Envelope** will be used by adopting **Least Cost Based Selection (LCBS)** Technique for the subject procurement, in line with the Public Procurement Rules, 2004 and any Regulations, Regulatory Guides, Procurement Guidelines or Instructions issued by the Authority from time to time.
4. All Bids must be accompanied by a Bid Security amounting described in Bid Security Section in Bidding Document in the form of **Pay Order, Call at Deposit, Bank Guarantee** or all bids must be accompanied by bid securing declaration in the format specified in the Bidding documents
5. E-Bidding documents, containing detailed terms & conditions, specifications and requirements etc. are available on **e-Pak Acquisition and Disposal System (EPADS)** at **<https://epads.gov.pk/opportunities/federal/procurements/125533>** for all the interested bidders registered on **EPADS v2.0**. Bidders are required to get themselves registered on **EPADS v2.0** to participate in Bidding process.
6. The e-bids, prepared in accordance with the instructions in the e-Bidding Documents, must be submitted through **EPADS v2.0** on or before **Monday, October 12, 2026 10:00 AM**. E-bids will be opened using **EPADS v2.0** on the same day at **Monday, October 12, 2026 10:30 AM**. Manual submission

of Bids shall not be entertained. Those vendors who have not yet registered on the new version of **EPADS v2.0**, may register themselves on <https://vendors.epads.gov.pk/>. A tutorial to explain the registration process is available at <https://www.youtube.com/watch?v=MNW6T38v7tc>

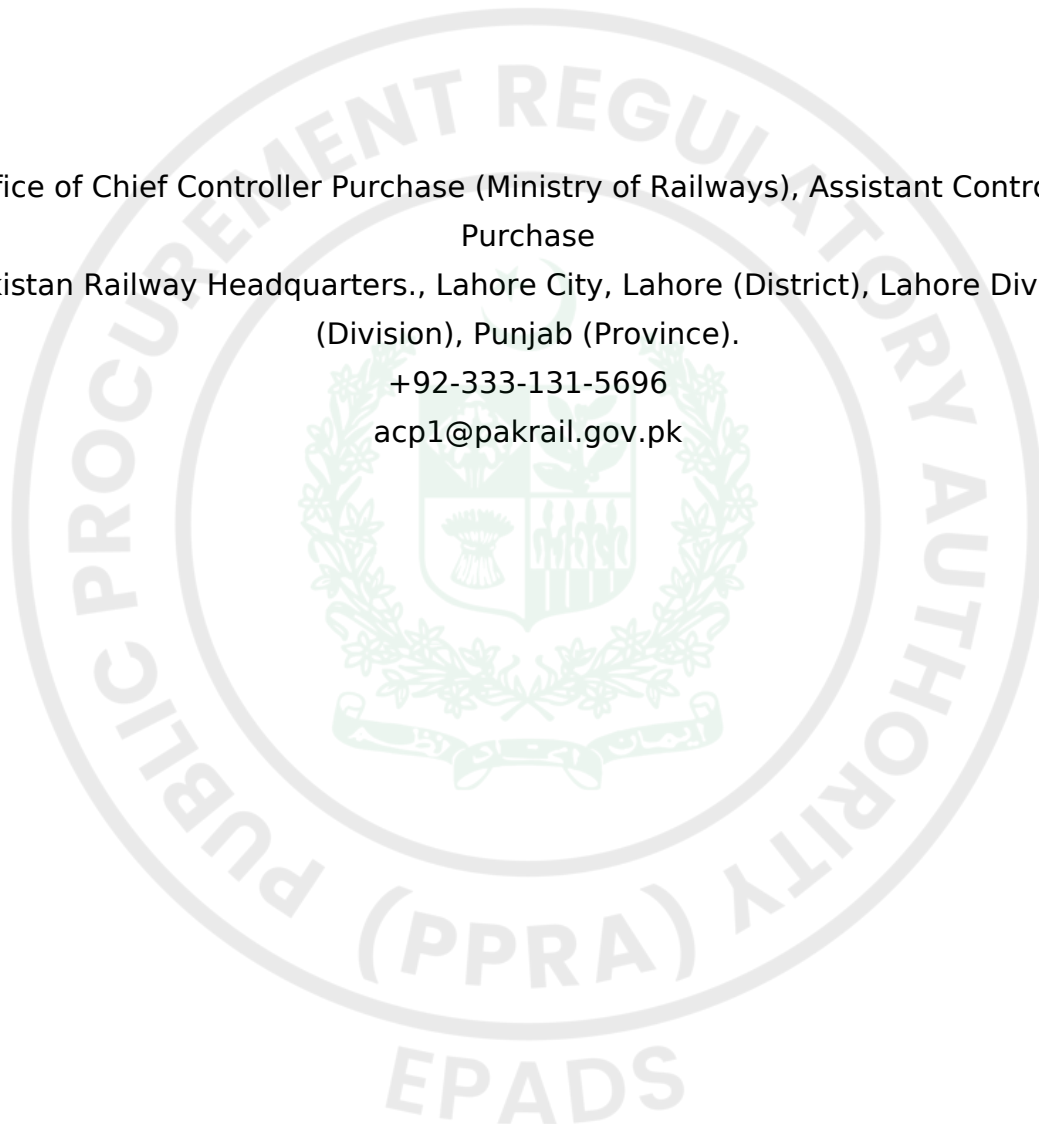
In terms of Rule 48 of Public Procurement Rules, 2004 Grievance Redressal Committee (GRC) is notified for the subject procurement and notification copy is available on the procuring agency's website and on Authority's website at (www.ppra.org.pk).

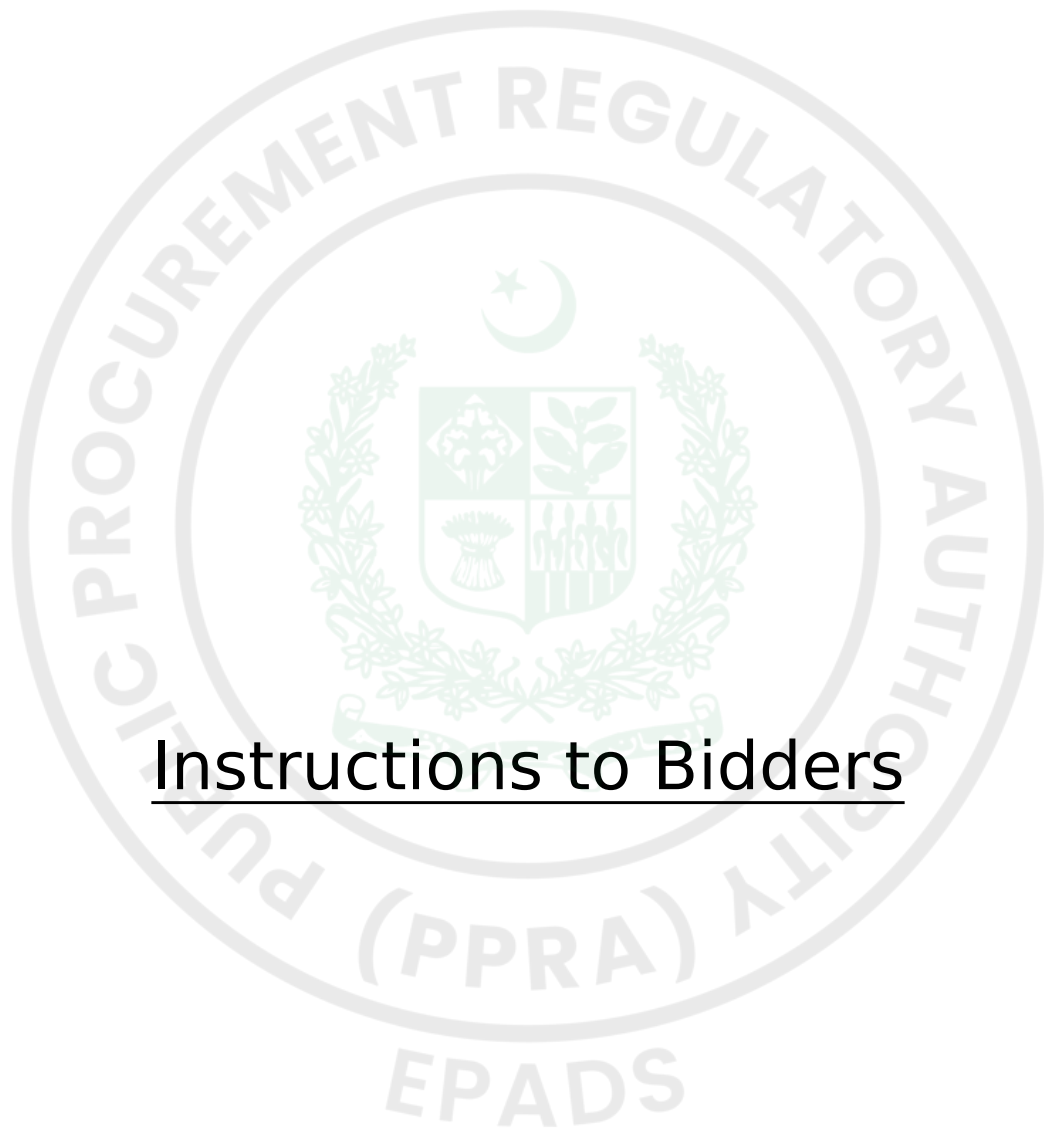
Office of Chief Controller Purchase (Ministry of Railways), Assistant Controller
Purchase

Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division
(Division), Punjab (Province).

+92-333-131-5696

acp1@pakrail.gov.pk





Instructions to Bidders

A. Introduction

1.Scope of Bids

1.1 The Procuring Agency (PA), as indicated in the **Bids Data Sheet (BDS)** invites Bids **through EPADS v2.0** for the provision of Goods for as specified in the BDS and **in Section V - Evaluation Criteria, Specifications & Schedule of Requirements**. The name, identification, and number of items/deliverables are provided in the **BDS**. The successful Bidders will be expected to provide the goods within the specified period and timeline(s) as stated in the **BDS**.

2. Source of Funds

2.1 Source of funds is referred in Clause-1 of Invitation for Bids.

3. Eligible Bidders

3.1 A Bidder may be natural person, company or firm or public or semi-public agency of Pakistan or any foreign country, or any combination of them with a formal existing agreement (on Judicial Papers) in the form of a joint venture, consortium, or association. In the case of a joint venture, consortium, or association, all members shall be jointly and severally liable for the execution of the Contract in accordance with the terms and conditions of the Contract. The joint venture, consortium, or association shall nominate a Lead Member as nominated in the BDS, who shall have the authority to conduct all business for and on behalf of any and all the members of the joint venture, consortium, or association during the Bidding process, and in case of award of contract, during the execution of the contract.

3.2 Verifiable copy of the agreement that forms a joint venture, consortium or association shall be required to be submitted as part of the Bid.

3.3 The appointment of Lead Member in the joint venture, consortium, or association shall be confirmed by submission of a valid Power of Attorney to the Procuring Agency.

3.4 Any bid submitted by the joint venture, consortium or association shall indicate the part of proposed contract to be performed by each party and each party shall be evaluated (or post qualified if required) with respect to its contribution only, and the responsibilities of each party shall not be substantially altered without prior written approval of the Procuring Agency and in line with

any instructions issued by the Authority.

(The limit on the number of members of JV or Consortium or Association may be prescribed in BDS, in accordance with the guidelines issued by the PPRA).

3.5 The invitation for Bids is open to all prospective suppliers, manufacturers, or authorized agents / dealers subject to any provisions of incorporation or licensing by the respective national incorporating agency or statutory body established for that particular trade or business. Procuring agencies shall specify the registration/licensing requirements for the foreign bidders keeping in view the requirement of that business.

3.6 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest with one or more parties in this Bidding process, if they:

1. are associated or have been associated in the past, directly or indirectly with a firm or any of its affiliates which have been engaged by the Procuring Agency to provide consulting services for the preparation of the design, specifications and other documents to be used for the procurement of the Goods to be purchased under this Invitation for Bids.
2. have controlling shareholders in common; or
3. receive or have received any direct or indirect subsidy from any of them; or
4. have the same legal representative for purposes of this Bid; or
5. have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the Bids of another Bidder, or influence the decisions of the Procuring Agency regarding this Bidding process; or
6. Submit more than one Bid in this Bidding process.

3.7 A Bidder may be ineligible if –

1. he is declared bankrupt or, in the case of company or firm, insolvent;
2. payments in favor of the Bidder is suspended in accordance with the judgment of a court of law other than a judgment declaring bankruptcy and resulting (in accordance with the national laws) in the total or partial loss of the right to administer and dispose of its property;

3. the Bidder is convicted, by a final judgment, of any offence involving professional conduct;

4. the Bidder is blacklisted locally or by international organizations and hence debarred due to involvement in corrupt and fraudulent practices, or performance failure or due to breach of Bid securing declaration.

3.8 As and when required, bidders shall provide to the Procuring Agency evidence of their eligibility, proof of compliance with the necessary legal requirements to carry out the contract effectively.

3.9 Bidders shall submit Bids relating to the nature, conditions and modalities of sub-contracting wherever the sub-contracting of any elements of the contract amounting to more than ten (10) percent of the Bid price is envisaged.

4. Eligible Goods and Related Services

4.1 All goods and related services to be supplied under the contract shall have their origin in eligible source countries, and all expenditures made under the contract will be limited to such goods and services. For purpose of this Bid, ineligible countries are the countries declared ineligible by the Federal Government.

5. One Bid per Bidder

5.1 A bidder shall submit only one Bid, in the same bidding process, either individually as a Bidder or as a member in a joint venture or any similar arrangement.

5.2 The Bidder shall not engage a subcontractor for any portion of the contract if the value of such subcontracting exceeds thirty percent (30%) of the total contract amount.

6. Cost of Bidding

6.1 Any cost incurred by the bidder relating to the preparation and submission of its Bid shall be borne by the bidder, and the Procuring Agency shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

B. Bidding Documents

7. Contents of Bidding Document

7.1 The Goods required, Bidding procedures, and terms and conditions of the contract are prescribed in the Bidding Documents. In addition to the Invitation for Bids, the Bidding documents which should be read in conjunction with any addenda issued in accordance with **ITB 9.1** include:

Section I -Invitation to Bids

Section II Instructions to Bidders (ITB)

Section III Bid Data Sheet (BDS)

Section IV Evaluation Criteria, Specifications, Schedule of Requirements

Section V Bid Forms

Section VI General Conditions of Contract (GCC)

Section VII Special Conditions of Contract (SCC)

Section VIII Contract Forms

7.2 The Bidder is expected to examine all instructions, forms, terms and specifications in the Bidding documents. Failure to furnish all the information required in the Bidding documents through **EPADS v2.0** will be at the Bidder's risk and may result in the rejection of his Bids.

8. Clarification of Bidding documents

8.1 A prospective Bidder requiring any clarification of the Bidding documents may notify the Procuring Agency through **EPADS v2.0**.

8.2 The Procuring Agency will within three (3) working days after receiving the request for clarification, respond to any request for clarification through **EPADS v2.0** provided that such request is received not later than three (03) days prior to the deadline for the submission of Bids as prescribed in **ITB 22**

8.3 Copies of the Procuring Agency's response will be forwarded to all identified Prospective Bidders through **EPADS v2.0**, including a description of the inquiry, but without identifying its source.

8.4 Should the Procuring Agency deem it necessary to amend the Bidding document as a result of a clarification, it shall do so following the procedure under **ITB 9**.

8.5 If indicated **in the BDS**, the Bidder's designated representative is invited at the Bidder's cost to attend a pre-Bid meeting at the place, date and time mentioned **in the BDS**. During this pre-Bid meeting, prospective Bidders may request clarification of the schedule of requirement, the Evaluation Criteria or any other aspects of the Bidding document.

8.6 Minutes of the pre-Bid meeting, if applicable, including the text of the questions asked by Bidders, including those during the meeting (without identifying the source) and the responses given, together with any responses prepared after the meeting will be uploaded on **EPADS v2.0**. Any modification to the Bidding documents that may become necessary as a result of the pre-Bid meeting shall be made by the Procuring Agency exclusively through the use of an Addendum pursuant to **ITB 9**. Non-attendance at the pre-Bid meeting will not be a cause for disqualification of a Bidder.

9. Amendment of Bidding documents

9.1 Before the deadline for submission of Bids, the Procuring Agency for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder or Pre-Bid meeting may modify the Bidding documents by issuing addenda through **EPADS v2.0**.

9.2 The Procuring Agency shall promptly publish the addendum through **EPADS v2.0**.

9.3 Any addendum issued including the notice of any extension of the deadline shall also be communicated through EPADS v2.0 to all the bidders who have already submitted their bids. Such bidders shall have the right to withdraw their already submitted bid and re-submit the revised bid prior to the original or extended bid submission deadline.

9.4 To give prospective Bidders reasonable time in which to take an addendum/corrigendum into account in preparing their Bids, the Procuring Agency may, at its discretion, extend the deadline for the submission of Bids through **EPADS v2.0**:

Provided that the Procuring Agency shall extend the deadline for submission of Bids, if such an addendum is issued within last three (03) days of the Bids submission deadline.

C. Preparation of Bids

10. Language of Bid

10.1 The Bid prepared by the bidder, as well as all correspondence and documents relating to the Bids exchanged by the Bidder and the Procuring Agency shall be written in the English language unless otherwise specified in the BDS. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate translation of the relevant pages in the English language unless otherwise specified in the **BDS**, in which case, for purposes of interpretation of the Bidder, the translation shall govern.

11. Documents and samples Constituting the Bid

11.1 The Bid prepared by the Bidder shall constitute the documents required in the **BDS**.

Details of sample(s) where applicable and requested in the BDS.

1. Documentary evidence established in accordance with ITB that the Bidder is eligible and/or qualified for the subject bidding process;
2. Documentary evidence establish that the Bidder has been authorized by the manufacturer to deliver the goods into Pakistan, where required and where the supplier is not the manufacturer of those goods;
3. Documentary evidence establish that the goods and related services to be supplied by the Bidder are eligible goods and services, and conform to the Bidding Documents;
4. Bid security or Bid Securing Declaration furnished in accordance with **ITB 18**.

12. Documents Establishing Eligibility of the Goods and Conformity to Bidding documents

12.1 To establish the conformity of the bidder to the Bidding document, the Bidder shall furnish as part of its Bids the documentary evidence that Goods provided conform to the technical specifications and standards.

13. Documents Establishing Eligibility and Qualification of the Bidder

13.1 The Bidder shall furnish, as part of its Bid, all those documents establishing the Bidder's eligibility to participate in the Bidding process and/or its qualification to perform the contract if its Bid is accepted.

14. Form of Bids

14.1 The Bidder shall fill the Form of Bid furnished in the Bidding documents. The Bids Form must be completed without any alterations to its format and no substitute shall be accepted.

15. Bids Prices

15.1 The Bids Prices quoted by the Bidder in the Form of Bid and in the Price Schedules shall conform to the requirements specified below or exclusively mentioned hereafter in the Bidding documents.

15.2 All items in the Schedule of Requirement must be listed and priced separately in the Price Schedule(s). If a Price Schedule shows items listed but not priced and neither explicitly denied, their prices shall be construed to be included in the prices of other items.

15.3 Items not listed in the Price Schedule shall be assumed not to be included in the Bid, and provided that the Bid is still substantially responsive in their absence or due to their nominal nature, the corresponding average price of the respective item(s) of the remaining substantially responsive Bidder(s) shall be construed to be the price of those missing item(s).

15.4 The Bid price to be quoted in the Form of Bid in accordance with **ITB 14.1** shall be the total price of the Bid.

15.5 The Bidder shall indicate on the appropriate Price Schedule, the unit prices (where applicable) and total Bid price of the Goods it proposes to provide under the contract.

15.6 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account. A Bid submitted with an adjustable price will be treated as non-responsive and shall be rejected.

16. Bids Currencies

16.1 Prices shall be quoted in Pakistani Rupees unless otherwise specified in the BDS in accordance with Rule 30 (2) of the Public Procurement Rules, 2004.

17. Bids Validity Period

17.1 Bids shall remain valid for the period specified in the **BDS** after the Bid submission deadline prescribed by the Procuring Agency. A Bid valid for a shorter period shall be rejected by the Procuring Agency as non-responsive. The period of Bid validity will be determined from the complementary Bid securing instrument, i.e. the expiry period of Bid Security or Bids Securing Declaration as the case may be.

17.2 The procuring agency shall ordinarily be under an obligation to process and evaluate the bid and to issue letter of award within the stipulated bid validity period.

17.3 Under exceptional circumstances, prior to the expiration of the initial Bid validity period, the Procuring Agency may request the Bidders' consent to an extension of the period of validity of their Bids only once through **EPADS v2.0**, for the period not more than the period of initial bid validity. The Bid Security provided under **ITB 18** shall also be suitably extended. A Bidder may refuse the request without forfeiting its Bid security or causing to be executed its Bid Securing Declaration. A Bidder agreeing to the request will not be required nor permitted to modify its Bid, but will be required to extend the validity of its Bid Security or Bid Securing Declaration for the period of the extension.

18. Bid Security or Bid Securing Declaration

18.1 The Bidder shall furnish as part of its Bid, a Bid Security in accordance with Rule 25 of the Public Procurement Rules, 2004.

18.2 The original Bid Security shall be enclosed within the sealed envelope and to be submitted physically before closing time for submission of bids. Whereas, scanned copy of bid security shall be uploaded electronically through EPADS v2.0 before closing hours for submission of bids.

18.3 The Bidder who failed to submit the original Bids security before the submission deadline shall be disqualified straightaway.

18.4 The Bid Security or Bid Securing Declaration is required to protect the Procuring Agency against the risk of Bidder's conduct which would warrant the security's forfeiture, pursuant to **ITB 18.7**.

18.5 The Bid Security shall be denominated in the local currency, and it shall be a Bank Draft in the name of the Procuring Agency and valid for twenty-eight (28) days beyond the end of the validity of the Bid. This shall also apply if the period

for Bids/Bid Validity is extended. In either case, the form must include the complete name of the Bidder.

18.6 The Bid Security shall be payable promptly upon written demand by the Procuring Agency in case any of the conditions listed in **ITB 18** are invoked.

18.7 Unsuccessful Bidders' Bid Security will be discharged or returned as promptly as possible, however in no case later than thirty (30) days after the expiration of the period of Bids Validity prescribed by the Procuring Agency pursuant to **ITB 17**. The Procuring Agency shall make no claim to the amount of the Bid Security, and shall promptly return the Bid Security document, after whichever of the following that occurs earliest:

- a. the expiry of the Bid Security;
- b. the entry into force of a procurement contract and the provision of a Performance Guarantee, for the performance of the contract if such a guarantee, is required by the Bid documents;
- c. the rejection by the Procuring Agency of all Bids;
- d. the withdrawal of the Bids prior to the deadline for the submission of Bids, unless the Bids documents stipulate that no such withdrawal is permitted.

18.8 The successful Bidder's Bids Security will be discharged upon the Bidder signing the contract, or furnishing the Performance Guarantee.

18.9 The Bid Security may be forfeited or the Bid Securing Declaration executed:

- a. if a Bidder:
- b. withdraws its Bid during the period of Bid Validity as specified by the Procuring Agency, and referred by the Bidder on the Form of Bids except as provided for in **ITB 17.2**; or
- c. does not accept the correction of errors; or
- d. in the case of a successful Bidder, if the Bidder fails:
- e. to sign the contract; or
- f. to furnish Performance Guarantee.

19. Withdrawal, Substitution, and Modification of Bid

19.1 Before Bid submission deadline, any Bidder may withdraw, substitute, or modify its Bid after it has been submitted through EPADS v2.0. Bids requested to be withdrawn, shall be returned unopened to the Bidders through **EPADS v2.0**.

20. Format and Signing of Bid

20.1 The Bidder shall prepare and submit Bids with due diligence after carefully reading all the terms and condition **before bid submission deadline** through EPADS v2.0.

D. Submission of Bids

21. Submission of Bids through EPADS v2.0

21.1 The Technical and Financial Bids if required to submitted, shall be submitted on **EPADS v2.0**.

22. Deadline for Submission of Bids

22.1 Bids shall be received by the Procuring Agency through **EPADS v2.0** before bid submission deadline.

22.2 The Procuring Agency may, under exceptional circumstances, extend the deadline for the submission of Bids, after recording reasons in writing and in an equal opportunity manner.

In such case, all rights and obligations of the Procuring Agency and the Bidders that were previously governed by the original deadline shall thereafter be subject to the revised deadline.

E. Opening and Evaluation of Bids

23. Opening of Bids

23.1 The Bid Evaluation Committee of the Procuring Agency shall open all Bids through the EPADS v2.0, on the date and time specified in the Bid Data Sheet (BDS).

23.2 The Bid Evaluation Committee **shall generate minutes through EPADS v2.0 containing brief details of bid opening process.** The record of the Bid opening shall include, as a minimum: the name of the Bidder, the Bid price if applicable, and the presence or absence of a Bid Security or Bid Securing Declaration.

23.3 The procuring agency shall live broadcast the opening of bids on national media or on their website or digital channels, if the volume of procurement exceeds five hundred million rupees in case of goods and services and one thousand million rupees in case of works.

23.4 In case the date of opening of bid has been declared as public holiday or the procuring agency fail to open bid due to any EPADS v2.0 related issues, the submission and opening of bids shall be shifted to the next working day on the same time.

23.5 In case of Single Stage One Envelope Procedure, the Bidders names, the Bid prices, the total amount of each Bid and, the presence or absence of Bid Security, Bid Securing Declaration and such other details as the Procuring Agency may consider appropriate, will be announced by the Bid Evaluation Committee.

24. Clarification of Bids

24.1 To assist in the examination, evaluation and comparison of Bids of the Bidders, the Procuring Agency may, ask any Bidder for a clarification of its Bid including breakdown of prices.

24.2 The request for clarification and the response shall be sought through EPADS v2.0 **before three days prior to the deadline for submission of bids.** No change in the prices or substance of the Bids shall be sought, offered, or permitted.

24.3 The alteration or modification in the BIDS which in any way affect the following parameters will be considered as a change in the substance of a Bids:

1. evaluation & qualification criteria;
2. required scope of work or specifications;
3. all securities requirements;
4. tax requirements;

5. terms and conditions of Bidding documents.

6. change in the ranking of the Bidder

24.4 From the time of Bids opening to the time of Contract award if any Bidder wishes to contact the Procuring Agency on any matter related to the Bids it should do so through **EPADS v2.0**.

25. Preliminary Examination of Bids

25.1 Prior to the detailed evaluation of Bids, the Procuring Agency will determine whether each Bid:

1. meets the eligibility criteria defined in **ITB 3**;
2. has been prepared as per the format and contents defined by the Procuring Agency in the Bidding documents;
3. is accompanied by the required securities; and
4. is substantially responsive to the requirements of the Bidding documents.

25.2 The Procuring Agency's determination of a Bid's responsiveness will be based on the contents of the Bid itself.

25.3 A substantially responsive Bid is one which conforms to all the terms, conditions, and specifications of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one that: -

1. affects in any substantial way the scope, quality, or performance of the Goods;
2. limits in any substantial way, inconsistent with the Bidding documents, the Procuring Agency's rights or the Bidders obligations under the Contract; or
3. if rectified, would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.

25.3 If a Bids is not substantially responsive, it will be rejected by the Procuring Agency and may not subsequently be evaluated for complete technical responsiveness.

26. Examination of Terms and Conditions; Technical Evaluation

26.1 The Procuring Agency shall examine the Bids to confirm that all terms and conditions specified in the **GCC** and the **SCC** have been accepted by the Bidder without any material deviation or reservation.

26.2 The Procuring Agency shall evaluate the technical aspects of the Bids submitted, to confirm that all requirements specified in Schedule of Requirements and Technical Specifications of the Bidding documents have been met without material deviation or reservation.

26.3 If after the examination of the terms and conditions and the technical evaluation, the Procuring Agency determines that the Bid is not substantially responsive in accordance with **ITB 25.2**, it shall reject the Bid.

27. Correction of Errors

27.1 Bids determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows: -

1. if there is a discrepancy between unit prices and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected, unless in the opinion of the Procuring Agency there is an obvious misplacement of the decimal point in the unit price, in which the total price as quoted shall govern and the unit price shall be corrected;
2. if there is an error in a total corresponding to the addition or subtraction of sub-totals, the sub-totals shall prevail and the total shall be corrected; and
3. where there is a discrepancy between the amounts in figures and in words, the amount in words will govern.
4. Where there is discrepancy between grand total of price schedule and amount mentioned on the Form of Bids, the amount referred in Price Schedule shall be treated as correct subject to elimination of other errors.

27.2 The amount stated in the Bid will, be adjusted by the Procuring Agency in accordance with the above procedure for the correction of errors and, with the concurrence of the Bidder, shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount, its Bid will then be rejected, and the Bid Security may be forfeited or the Bids Securing Declaration may be executed.

28. Conversion to Single Currency

28.1 To facilitate evaluation and comparison, the Procuring Agency will convert all Bids prices expressed in the amounts in various currencies in which the Bids prices are payable. For the purposes of comparison of bids quoted in different currencies, the price shall be converted into a single currency specified in the bidding documents. The rate of exchange shall be the selling rate prevailing on the date of opening of financial bids specified in the bidding documents, in accordance with weighted average customer exchange rates list issued by the State Bank of Pakistan on that day.

29. Evaluation of Bids

29.1 The Bids, quotations, or proposals shall be evaluated by the respective evaluation committees as per evaluation criteria described in the Bidding Documents in accordance with Rule 29 and 30 of the Public Procurement Rules, 2004.

1. Least Cost Based Selection (LCBS)

After meeting the requirements of eligibility, qualification and substantial responsiveness, the bid in compliance with all the mandatory (technical) specifications/requirements and/or requisite quality threshold (if any), and having lowest evaluated cost (or financial proposal) shall be considered Successful Bid.

2. Quality and Cost Based Selection (QCBS)

In such combination, there shall be some specific weightage of both the technical features and financial aspects of the proposal. The financial marks shall be awarded on the basis of inverse proportion calculations. The successful bid shall be declared, on the basis of combined evaluation.

3. Quality Based Selection (QBS)

After meeting the requirements of eligibility, qualification and substantial responsiveness the bid in compliance with all the mandatory (technical) specifications/requirements and attaining highest marks in the Technical Evaluation considering all other qualitative and/or quantitative parameters (or point rated criteria) for technical proposal(s) such as working methodology, implementation plan, resource allocation, additional functionalities, risk management approach, knowledge transfer techniques, post implementation methodology etc. shall be treated as highest ranked bid. Later on, the financial proposal of highest ranked bidder shall be opened, however, in case of failure to proceed further with such a bidder, the procuring agency may resort to second

highest bidder and so on.

29.2 In case of tie of bids, the bidders shall be provided an opportunity to offer their best and final monetary offer through EPADS v2.0. However, in no case the rates shall be higher than the original financial bids.

30. Domestic Preference

30.1 The procuring agency shall evaluate and compare bids, allow for preference to domestic bidders, while competing with the international bidders in accordance with the policies of Federal Government.

The percentage of preference, to be accorded shall be clearly mentioned in the bidding documents under the bid evaluation criteria.

31. Determination of Successful Bid

31.1 Selection technique will be adopted for determining the Successful Bid in accordance with the criteria referred in the BDS or prescribed in the separate section titled as Evaluation Criteria.

31.2 In case where the Procuring Agency adopts the Cost Based Evaluation Technique and, the Bid with the lowest evaluated price from amongst those which are eligible, compliant and substantially responsive shall be the Successful Bid.

31.3 The Procuring Agency may adopt the Quality & Cost Based Selection Technique due to the following two reasons:

1. Where the Procuring Agency knows about the main features, usage and output of the products; however not clear about the complete features, technical specifications and functionalities of the goods to be procured and requires the bidders to submit their proposals defining those features, specifications and functionalities; or
2. Where the Procuring Agency, in addition to the mandatory requirements and mandatory technical specifications, requires parameters specified in Evaluation Criteria to be evaluated while determining the quality of the goods.

31.4 In such cases, the Procuring Agency may allocate certain weightage to these factors as a part of Evaluation Criteria, and may determine the ranking of the bidders on the basis of combined evaluation in accordance with provisions of Rule 2(1)(h) of the Public Procurement Rules, 2004.

32. Abnormally Low Financial Bids

32.1 Where the Bid price is considered to be abnormally low, the Procuring Agency shall perform price analysis either during determination of Successful Bids or as a part of the post-qualification process.

32.2 The Procuring Agency may reject an Abnormally low financial bids.

32.3 In order to identify the Abnormally Low Bids (ALB) following approaches can be considered to minimize the scope of subjectivity:

1. Comparing the Bids price with the cost estimate;
2. Comparing the Bids price with the Bids offered by other Bidders submitting substantially responsive Bids; and
3. Comparing the Bids price with prices paid in similar contracts in the recent past either government- or development partner-funded.

32.4 The Procuring Agency will determine to its satisfaction whether the Bidder that is selected as having submitted the successful bid is qualified to perform the contract satisfactorily.

32.5 The determination will take into account the Bidder's financial, technical, and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, as well as such other information as the Procuring Agency deems necessary and appropriate. Factors not included in these Bidding documents shall not be used in the evaluation of the Bidders' qualifications.

32.6 Procuring Agency may seek "Certificate for Independent Price Determination" from the Bidder and the results of reference checks may be used in determining an award of contract.

Explanation: The Certificate shall be furnished by the Bidder. The Bidder shall certify that the price is determined keeping in view of all the essential aspects such as raw material, its processing, value addition, optimization of resources due to economy of scale, transportation, insurance and margin of profit etc.

32.7 An affirmative determination will be a prerequisite for award of the contract to the Bidder. A negative determination will result in rejection of the Bidder's Bids, in which event the Procuring Agency will proceed to the next ranked Bidder to make a similar determination of that Bidder's capabilities to

perform satisfactorily.

F. Award of Contract

33. Criteria of Award

33.1 The Procuring Agency will award the Contract to the Bidder whose Bids has been determined to be substantially responsive to the Bidding documents and who has been declared as Most Advantageous Bidder.

34. Negotiations

34.1 The procuring agency shall not engage in negotiations with respect to scope and price with the bidder except when the procuring agency conducts a procurement using direct **or negotiated** contracting or a request for proposals with evaluation based on quality alone.

34.2 The procuring agency may negotiate with the most advantageous bid with a view to streamline the work or task execution, at the time of contract finalization on methodology, work plan, staffing, finalizing payment arrangements, delivery arrangements, minor amendments to the special conditions of the contract.

35. Procuring Agency Right to reject all bids

35.1 The Procuring Agency reserves the right to reject all bids or proposals at any time prior to the issuance of the Letter of Award, without incurring any liability, in accordance with Rule 33 of the Public Procurement Rules, 2004.

36. Procuring Agency's Right to Vary Quantities at the Time of Award

36.1 The Procuring Agency reserves the right at the time of contract award to increase or decrease the **quantity of** Goods originally specified in these Bidding documents provided this does not exceed **by** 15%, without any change in unit price or other terms and conditions of the Bids and Bidding documents.

37. Notification of Award

37.1 Prior to the award of contract, the procuring agency shall announce and publish the result of bid evaluation on **EPADS v2.0** in accordance with Rule 35

of the Public Procurement Rules, 2004.

37.2 The Bidder whose Bids has been accepted will be notified of the award by the Procuring Agency prior to expiration of the Bids/Bid Validity period. The Letter of Award will state the sum that the Procuring Agency will pay the successful Bidder in consideration for the delivery of Goods as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price).

37.3 The Letter of award will constitute the formation of the Contract, subject to the Bidder furnishing the Performance Guarantee and signing of the contract.

38. Signing of Contract

38.1 Promptly after issuance of Letter of award, Procuring Agency shall send the successful Bidder the draft Contract, incorporating all terms and conditions as agreed by the parties to the contract.

38.2 Immediately after the Redressal of grievance by the GRC (if any), mandatory standstill period in accordance with Rule 35 of the Public Procurement Rules, 2004 and **after fulfillment of all condition's precedent** of the Contract Form, the successful Bidder and the Procuring Agency shall sign the Contract.

39. Corrupt & Fraudulent Practices

39.1 Procuring Agencies (including beneficiaries of Government funded projects and procurement) as well as Bidders/Contractors under Government financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts, and will avoid to engage in any corrupt and fraudulent practices.

F. Grievance Redressal & Complaint Review Mechanism

40. Constitution of Grievance Redressal

40.1 The Grievance Redressal Committee shall address the grievance, if any submitted by any party, including the bidder, in accordance with Rule 48 of the Public Procurement Rules, 2004 to be read with Redressal of Grievances Regulations, 2021.

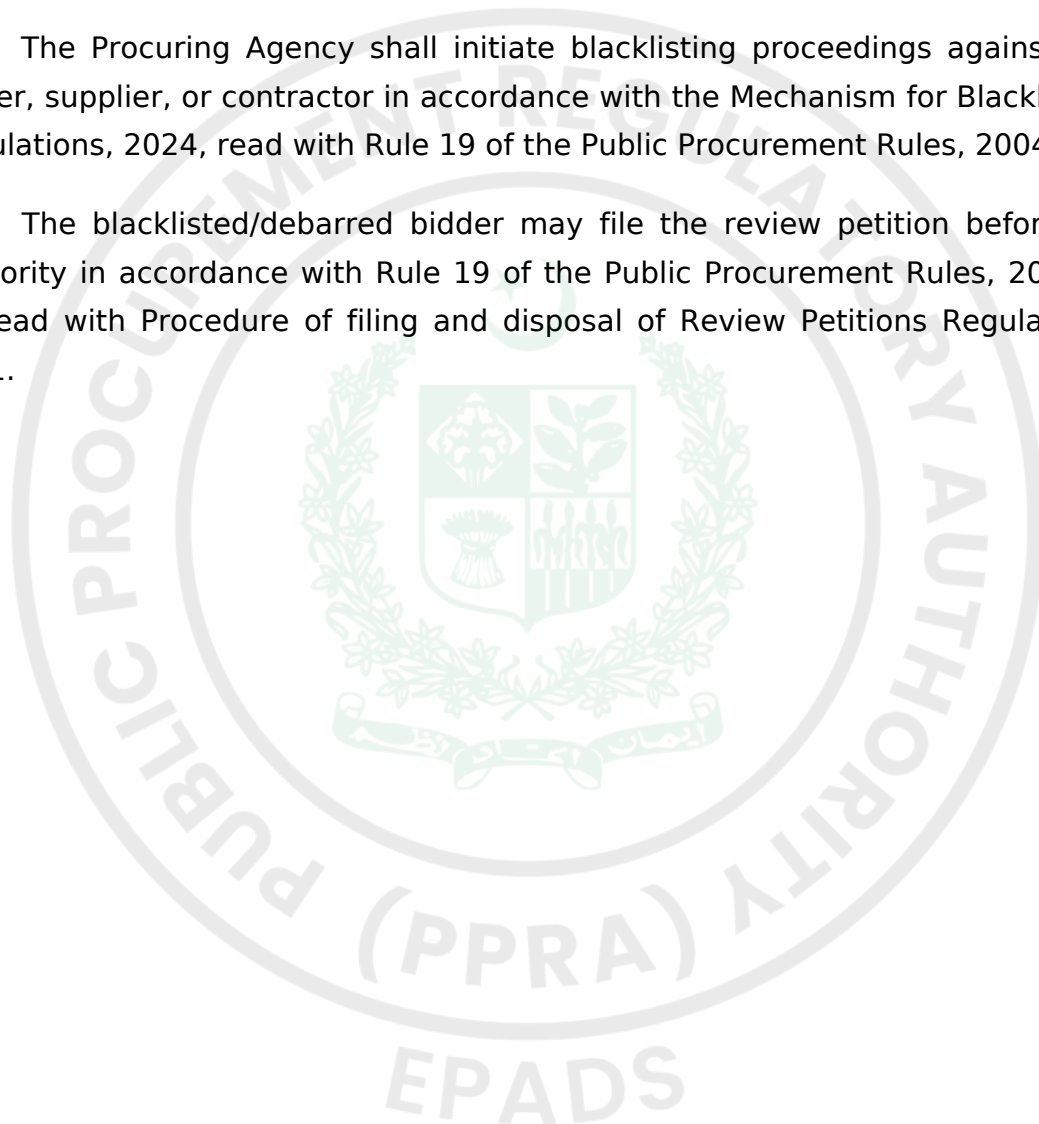
40.2 In case if any party or the bidder is not satisfied with the decision of the GRC or if it fails to decide within ten days, the bidder or the party may file an appeal before the Appellate Committee of the Authority in accordance with Rule 48 of the Public Procurement Rules, 2004 to be read with Redressal of Grievances Regulations, 2021.

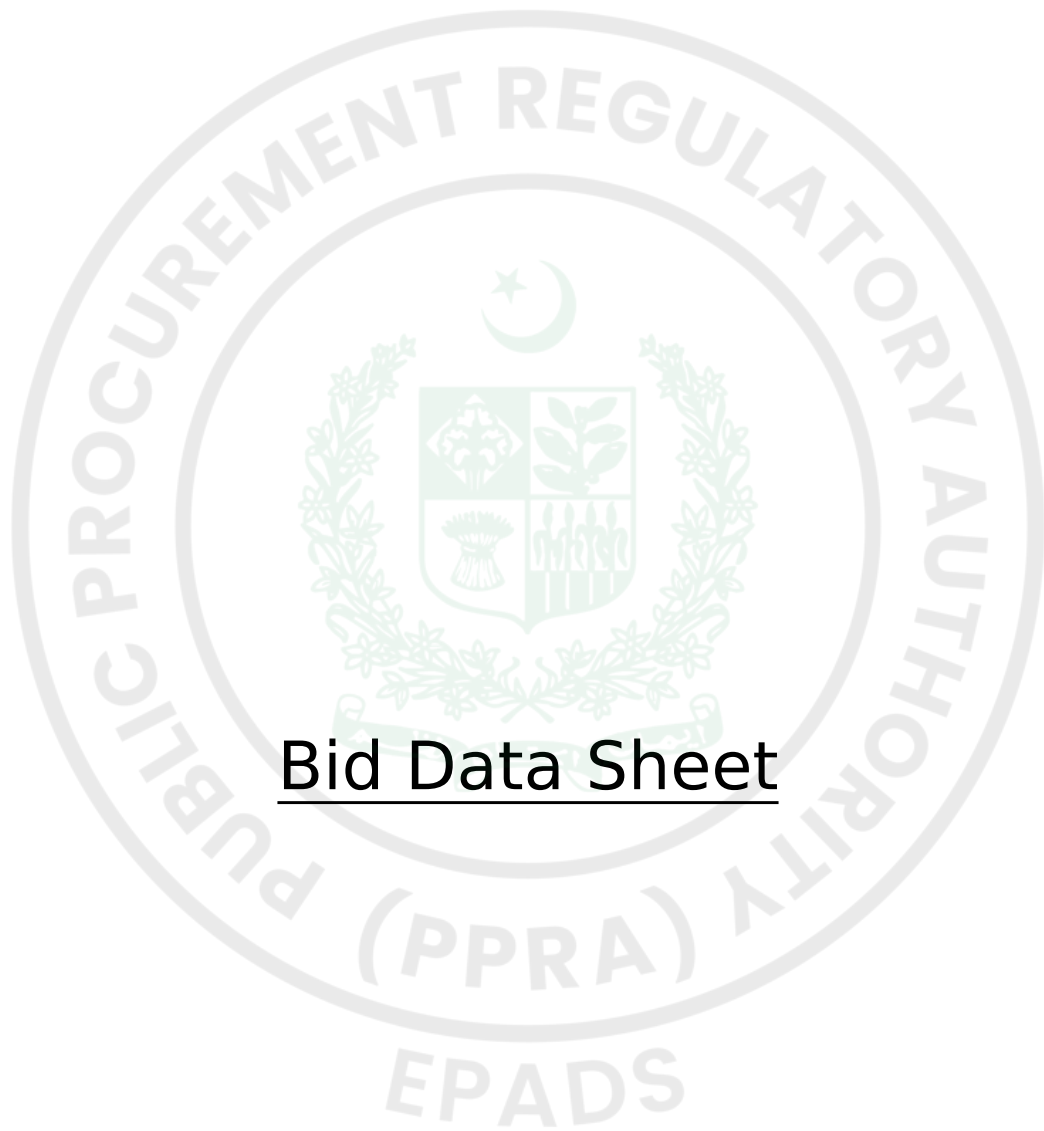
G. Mechanism of Blacklisting

41. Mechanism of Blacklisting

41.1 The Procuring Agency shall initiate blacklisting proceedings against any bidder, supplier, or contractor in accordance with the Mechanism for Blacklisting Regulations, 2024, read with Rule 19 of the Public Procurement Rules, 2004.

41.2 The blacklisted/debarred bidder may file the review petition before the Authority in accordance with Rule 19 of the Public Procurement Rules, 2004 to be read with Procedure of filing and disposal of Review Petitions Regulations, 2021.





Bid Data Sheet

Bids Data Sheet (BDS)

The following specific data for the procurement of Goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

BDS Clause Number

ITB Number

Amendments of, and Supplements to, Clauses in the Instruction to Bidders

A. Introduction

BDS Clause Number 1

ITB Number 1.1

Name of Procuring Agency: **Office of Chief Controller Purchase (Ministry of Railways)**

The subject of procurement is: **Bid No. 03/0016/00-0/1-2026 for Material Required for the maintenance of 16 Nos. of Power Vans On DDP basis on over all Basis.= 62 items**

Expected commencement date: **Thursday, December 31, 2026**

BDS Clause Number 2

ITB Number 2.1

Financial year for the operations of the Procuring Agency: **2026-27**

Name and identification number of the Contract: **P125533**

BDS Clause Number 3

ITB Clause Number 3.1

JV/Consortium or Association Allowed: **No**

Number of JV/Consortium Members: **Nil**

see section of eligibility criteria.

B. Bidding Documents

BDS Clause Number 4

ITB Number 8.1

The Bidders may seek clarifications through **EPADS v2.0** : Clarification Date: Tuesday, September 29, 2026

C. Preparation of Bids

BDS Clause Number 5

ITB Number 10.1

The Language of all correspondences and documents related to the Bids shall be in: **English**

List of documents required along with the bid: No

BDS Clause Number 6

ITB Number 11.1

Items/Lots and threre related documents:

See section items and Lots

BDS Clause Number 7

ITB Number 12.1

Items / Lots Specifications:

see section of items specifications.

BDS Clause Number 8

ITB Number 15.6

The price shall be **Fixed**.

BDS Clause Number 9

ITB Number 16.1

Currency of the Bids shall be : **PKR**

BDS Clause Number 10

ITB Number 17.1

The Bids/Bid Validity period shall be: **120 Days**

BDS Clause Number 11

ITB Number 18.1

The amount of Bid Security shall be as defined in Bid Security Section for items and lots given in **BDS 6**

The Bid Security shall be in the form of: **Pay Order, Call at Deposit, Bank Guarantee**

D. Submission of Bids

BDS Clause Number 12

ITB Number 20.1

Bid shall be submitted online on EPADS v2.0 whereas hard copy of the bid security should be submitted to the following;

Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). before bid submission deadline.

Bids that are not submitted on EPADS v2.0 shall be disqualified.

The deadline for Bids submission is: **Monday, October 12, 2026 10:00 AM**

E. Opening and Evaluation of Bids

BDS Clause Number 13

ITB Number 23.1

The Bids opening shall take place on **EPADS v2.0**.

Day : **Monday**

Date: **Monday, October 12, 2026**

Time : **10:30 AM**

BDS Clause Number 14

ITB Number 31.1

Selection technique adopted will be: **Least Cost Based Selection (LCBS)**
see Evaluation Criteria

F. Review of Procurement Decisions

BDS Clause Number 15

ITB Number 41.1

Grievance against this procurement shall be submitted online on EPADS v2.0.

Arbitrator shall be appointed by mutual consent of the both parties.

Eligibility Criteria

Bidder's Type	Required Registration
Individual / Individual Consultant	NADRA CITIZENSHIP (CNIC/NICOP)
Sole Proprietorship	FBR (NTN)
Partnership Firm	FBR (GSTN)
Company (Private Limited)	
Company (Public Limited)	
Company (Holding Company)	
Company (Limited by Guarantee)	
State Owned Enterprise (Private Limited)	
State Owned Enterprise (Public Limited)	
NGO / NPO	
IGO	

Evaluation Criteria

Eligible bidder(s) with substantially responsive bid(s) offering **Least Cost Based Selection (LCBS)** shall be consider for the award of contract(s).

Least Cost Based Selection (LCBS)

Weightage

Technical Evaluation %	
100	
Technical Marks	190
Passing Marks	190
Technical Evaluation Criteria	
Supply record to major clients with contact information for reference checks along with satisfactory performance reports therefrom. (Qualitative)(Doc Required)	10
List of relevant plant & machinery to manufacture the tendered item (s) along with company profile. (Qualitative)(Doc Required)	10
The bidder having sound financial health with minimum average turnover of Rs. 50.00 Million during last three (3) years (Qualitative)(Doc Required)	10
Having no any adverse performance record within Pakistan Railways or other Government Organization (Qualitative)(Doc Required)	10

The manufacturer must submit supply record along with performance report of 03 successful transaction of same/similar nature items supplied to other than Pakistan Railways. (Qualitative)(Doc Required)	10
The material shall be supplied by the manufacturer within 02 months. (Qualitative)(Doc Required)	10
The bidder must submit Performa invoice, authority letter and warranty certificate in original form the manufacturer. (Qualitative)(Doc Required)	10
The bidder must submit UIC/AAR certification required as per drawing (Qualitative)(Doc Required)	10
The bidder supplying material on FOR imported basis must submit the shipping documents along with packing list (Qualitative)(Doc Required)	10
The participant must confirm the participation in over all basis. (Qualitative)(Doc Required)	10
Is the offer un-conditional (Qualitative)(Doc Required)	10
Has the bidder confirmed single place of delivery as stipulated in this tender (Qualitative)(Doc Required)	10
Has the bidder confirmed delivery period/schedule and delivery terms as stipulated in this tender (Qualitative)(Doc Required)	10
Following warranty clause will be applicable on this procurement and bidder must quote their bid accordingly:	
(i) The seller warrants that the stores will be in accordance with the particulars mentioned in the purchase order (Qualitative)(Doc Required)	10
(ii) The seller warrants that the stores will be free from defects in material and workmanship (Qualitative)(Doc Required)	10

(iii) The seller's obligations under the warranties expressed in sub-paragraphs i and ii above shall be limited to replacement DAP General Stores Mughalpura or Reti line Karachi (as the case may be) free of cost stores which at the time of receipt by the consignee or under normal use and maintenance prove defective in material/workmanship or fail to comply with the required performance in the normal course of service. The warranty shall be valid for a period of 24 months from date of receipt of material or 18 months from the placement in service of complete unit whichever is earlier. (Qualitative)(Doc Required)	10
(iv) The warranty shall be in addition to the normal inspection. (Qualitative)(Doc Required)	10
The warranty period for Axle & Wheels is 42 months from the date of receipt or 36 months placement in service. (Qualitative)(Doc Required)	10
The warranty shall be covered against the 5% security deposit which shall be kept valid by the firm till expiry of the warranty period and retained by the Purchaser. (Qualitative)(Doc Required)	10

Items/Lots

Items Without Lots :

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
Solid Forged Wheel 920 mm for Chinese Coaches Drg. No. CME Sk 395/C (4)	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 128/Qty	128/Qty	245760 PKR	Any
Axle Finished machined CRC Coaches CME Sk. No. 402/C	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 64/Qty	64/Qty	129024 PKR	Any
Axle Finished Machine CNR Coaches AAR M101	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 12/Qty	12/Qty	24192 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
i). Primary Vertical Oil Damper for CRC Coaches Dispen 2364	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 104/Qty	104/Qty	29120 PKR	Any
i). Vertical Oil Damper for CRC Coaches Dispen 2365	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 52/Qty	52/Qty	14040 PKR	Any
i). Lateral Oil Damper for CRC Coaches Dispen 2175	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 26/Qty	26/Qty	6963 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
Dust Guard ring (CRC/CNR)	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 256/Qty	256/Qty	14080 PKR	Any
Bearing Assy. to SKF BCIB 322880AB for CRC and CNR Coaches	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 128/Qty	128/Qty	70400 PKR	Any
Bearing Assy. To SKF BCIB 322881AB for CRC and CNR Coaches	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 128/Qty	128/Qty	72960 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
"i). Yaw Damper for CNR Coaches Drg. No. CCKZ 69-36-000"	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 12/Qty	12/Qty	6000 PKR	Any
"i). Lateral Oil Damper for CNR Coaches Drg. No. CCKZ 69-37-000 Specification : Mech. No.601/12 Alt-1"	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 6/Qty	6/Qty	1800 PKR	Any
"i). Primary Vertical Oil Damper for CNR Bogie Drg No.421300003133"	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 128/Qty	128/Qty	40960 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
Leveling Valve Right for CNR Coaches Drg No. CCKZ69-43-00	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 6/Qty	6/Qty	15520 PKR	Any
Leveling Valve Left for CNR Coaches Drg No. CCKZ69-44-00	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 6/Qty	6/Qty	15520 PKR	Any
"Node Device Assembly Consisting of 05 Items (Drg: No. CCKZ 69-25-000 i). Acron Nut Drg: No. CKZ 69-25-001 ii). Axis of Rotation. Drg: No. CCKZ 69-25-000 iii). Dush Drg: No. CCKZ 69-25-003 iv). Washer v). Plain Washer"	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 12/Qty	12/Qty	4267 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
Air spring assembly for CNR Coaches	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 12/Qty	12/Qty	60000 PKR	Any
Brake Pad for Chinese Coaches (50% Left and 50% Right) UIC 541-3	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 256/Qty	256/Qty	8448 PKR	Any
Differential Valve	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 6/Qty	6/Qty	300 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
Air Brake Cylinder (Left) Drg: No. PD 1001C-00-00 with all parts i.e brake rearing , pad holder assy, bushes, brake hanger pin, pin for link,	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 24/Qty	24/Qty	80160 PKR	Any
Air Brake Cylinder (Right) Drg: No. PD1001C-00-00 with all parts i.e brake rearing , pad holder assy, bushes, brake hanger pin, pin for link,	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 24/Qty	24/Qty	80160 PKR	Any
Adjusting rod Assembly with Nut & bolt	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 12/Qty	12/Qty	350 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
Brake Cylinder Unit SP-13B For CRC Coaches	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 104/Qty	104/Qty	218400 PKR	Any
Seamless steel pipe 1", out side dia 33.7 x4 mm Din 2448, ST-35	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 400/Qty	400/Qty	4200 PKR	Any
Pipe Stainless Steel assembly 1100mm Dg-15 (1/2")	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 64/Qty	64/Qty	2062 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
Stainless Steel Flexible Filter pipe 650mm Dg-15(1/2")	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 128/Qty	128/Qty	4124 PKR	Any
Left side pad holder assy.(CCKZ55-50/10)	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 104/Qty	104/Qty	3952 PKR	Any
Right side pad holder assy, (CCKZ55-50/9)	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 104/Qty	104/Qty	3952 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
Lever hanger support Assembly	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 104/Qty	104/Qty	5720 PKR	Any
Inside lever assembly,	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 104/Qty	104/Qty	3744 PKR	Any
Outside lever Assembly	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 104/Qty	104/Qty	3744 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
Pad holder hanger Assembly	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 208/Qty	208/Qty	2496 PKR	Any
M.S. Threaded Nipple Set 1" CNR	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 12/Qty	12/Qty	79 PKR	Any
Stainless Steel Flexible pipes CNR	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 36/Qty	36/Qty	792 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
Brake Pad Holder Right CNR	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 24/Qty	24/Qty	1680 PKR	Any
Brake Pad Holder Left CNR	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 24/Qty	24/Qty	1680 PKR	Any
Lever Hanger Support Assembly CNR	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 24/Qty	24/Qty	1680 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
Inside Lever Assebmy CNR	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 24/Qty	24/Qty	1440 PKR	Any
Outside Lever Assebmy CNR	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 24/Qty	24/Qty	1440 PKR	Any
Pad Holder Link for CNR Coaches	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 48/Qty	48/Qty	634 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
Conductor brake valve NB-5 Valve CNR	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 208/Qty	208/Qty	104000 PKR	Any
Friction Ring TSK	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 104/Qty	104/Qty	728000 PKR	Any
Traction rod assembly	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 52/Qty	52/Qty	7436 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
Top Locating Seat	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 128/Qty	128/Qty	8960 PKR	Any
Bottom Locating Seat	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 128/Qty	128/Qty	7680 PKR	Any
Bolster Plate Spring top & bottom	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 256/Qty	256/Qty	6400 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
Traction Rod Bush CRC CCKZ 55-40-000	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 256/Qty	256/Qty	12800 PKR	Any
Bolt Assy: (M-16x100) for Brake Disc/Friction Ring to CME's Sk: No. 1179/CC	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 1024/Qty	1024/Qty	4854 PKR	Any
Bolt Assy (M24x100) for Brake Disc/Friction Ring to CME's Sk: No. 1180/CC	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 1600/Qty	1600/Qty	9600 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
Lower Plate Drg: no. CCKZ 75-22-002	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 512/Qty	512/Qty	12800 PKR	Any
Bolster side bearer Plate	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 64/Qty	64/Qty	4480 PKR	Any
Lower Plate	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 128/Qty	128/Qty	9216 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
Locking guard plae CNR	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 48/Qty	48/Qty	1680 PKR	Any
M.S. Sheet 8'x4'x3/16"	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 4368/Qty	4368/Qty	15288 PKR	Any
M.S. Sheet 8'x4'x1/8'	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 3360/Qty	3360/Qty	11760 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
M.S. Sheet 8'x4'x3/32" (5mm)	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 1776/Qty	1776/Qty	6216 PKR	Any
MS Channel to size 200x75x8.5mm	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 1920/Qty	1920/Qty	6720 PKR	Any
MS Channel to size 180x70x8mm	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 1328/Qty	1328/Qty	4648 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
MS Sheet 8x4x1/16" Steel Mild Sheet Plain Black 2438x1219x1.6 (16SWG) (05CuPCrNi)	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 2240/Qty	2240/Qty	10035 PKR	Any
M.S Sheet 8'x4'x3/16" (2440x1219x5mm) cehquared	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 3728/Qty	3728/Qty	16701 PKR	Any
M.S Black Pipe outer Dia 1" Inner Dia 3/4"	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 1488/Qty	1488/Qty	6666 PKR	Any

Item	UNSPSC	Delivery Schedule	Quantity	Bid Security	Manufacturer / Dealer Authorization
M.S Sheet Plain Black 2440 x 1220 x 2 mm (05CuPCrNi)	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 2240/Qty	2240/Qty	10035 PKR	Any
M.S Black Pipe outer Dia 1" Inner Dia 3/4"	Wheels	Address: Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province). Schedule: 2 Months Quantity: 1328/Qty	1328/Qty	5949 PKR	Any

Related Services of Goods:

No



Items/Lot Specification

Items Without Lots :

Item: Solid Forged Wheel 920 mm for Chinese Coaches Drg. No. CME Sk 395/C (4)

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
Stock Code/ SAP Code Description Drawing No./ Specs	208 Spl Solid Forged Wheel 920 mm for Chinese Coaches Drg. No. CME Sk 395/C (4) Drg. No. CME Sk 395/C (4)

Item: Axle Finished machined CRC Coaches CME Sk. No. 402/C

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	208 Spl Axle Finished machined CRC Coaches CME Sk. No. 402/C AAR M-101 grade F (Latest) DRG. No. CME Sk. No. 402/C

Item: Axle Finished Machine CNR Coaches AAR M101

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	208 Spl Axle Finished Machine CNR Coaches AAR M101 DRg. No. CCKZ 69-21-001

Item: i). Primary Vertical Oil Damper for CRC Coaches Dispen 2364

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	207 Spl i). Primary Vertical Oil Damper for CRC Coaches Dispen 2364 Dispen 2364

Item: i). Vertical Oil Damper for CRC Coaches Dispen 2365

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	207 Spl i). Vertical Oil Damper for CRC Coaches Dispen 2365 Dispen 2365

Item: i). Lateral Oil Damper for CRC Coaches Dispen 2175

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	207 Spl i). Lateral Oil Damper for CRC Coaches Dispen 2175 Dispen 2175

Item: Dust Guard ring (CRC/CNR)

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	201 Spl Dust Guard ring (CRC/CNR) As per sample

Item: Bearing Assy. to SKF BCIB 322880AB for CRC and CNR Coaches

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
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S/Code Description Drwaing/Specification	201 Spl Bearing Assy. to SKF BCIB 322880AB for CRC and CNR Coaches SKF BCIB 322880AB
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Item: Bearing Assy. To SKF BCIB 322881AB for CRC and CNR Coaches

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	201 Spl Bearing Assy. To SKF BCIB 322881AB for CRC and CNR Coaches SKF BCIB 322881AB

Item: "i). Yaw Damper for CNR Coaches Drg. No. CCKZ 69-36-000"

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	207 Spl "i). Yaw Damper for CNR Coaches Drg. No. CCKZ 69-36-000" CCKZ 69-36-000

Item: "i). Lateral Oil Damper for CNR Coaches Drg. No. CCKZ 69-37-000 Specification : Mech. No.601/12 Alt-1"

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	207 Spl "i). Lateral Oil Damper for CNR Coaches Drg. No. CCKZ 69-37-000 Specification : Mech. No.601/12 Alt-1" Drg. No. CCKZ 69-37-000

Item: "i). Primary Vertical Oil Damper for CNR Bogie Drg No.421300003133"

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	207 Spl "i). Primary Vertical Oil Damper for CNR Bogie Drg No.421300003133" Drg No.421300003133

Item: Leveling Valve Right for CNR Coaches Drg No. CCKZ69-43-00

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
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S/Code Description Drwaing/Specification	212 Spl Leveling Valve Right for CNR Coaches Drg No. CCKZ69-43-00 Drg No. CCKZ69-43-00
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Item: Leveling Valve Left for CNR Coaches Drg No. CCKZ69-44-00

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 Spl Leveling Valve Left for CNR Coaches Drg No. CCKZ69-44-00 Drg No. CCKZ69-44-00

Item: "Node Device Assembly Consisting of 05 Items (Drg: No. CCKZ 69-25-000 i). Acron Nut Drg: No. CKZ 69-25-001 ii). Axis of Rotation. Drg: No. CCKZ 69-25-000 iii). Dush Drg: No. CCKZ 69-25-003 iv). Washer v). Plain Washer"

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	207 Spl "Node Device Assembly Consisting of 05 Items (Drg: No. CCKZ 69-25-000 i). Acron Nut Drg: No. CKZ 69-25-001 ii). Axis of Rotation. Drg: No. CCKZ 69-25-000 iii). Dush Drg: No. CCKZ 69-25-003 iv). Washer v). Plain Washer" CCKZ 69-25-000 12

Item: Air spring assembly for CNR Coaches

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	207 Spl Air spring assembly for CNR Coaches CCKZ 69-35-000

Item: Brake Pad for Chinese Coaches (50% Left and 50% Right) UIC 541-3

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Brake Pad for Chinese Coaches (50% Left and 50% Right) UIC 541-3 CME Sk, No. 407/C

Item: Differential Valve

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
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S/Code Description Drwaing/Specification	212 SPL Differential Valve As per sample
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Item: Air Brake Cylinder (Left) Drg: No. PD 1001C-00-00 with all patrs i.e brake reaging , pad holder assy, bushes, brake hanger pin, pin for link,

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Air Brake Cylinder (Left) Drg: No. PD 1001C-00-00 with all patrs i.e brake reaging , pad holder assy, bushes, brake hanger pin, pin for link, Drg: No. PD 1001C-00-00

Item: Air Brake Cylinder (Right) Drg: No. PD1001C-00-00 with all patrs i.e brake reaging , pad holder assy, bushes, brake hanger pin, pin for link,

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Air Brake Cylinder (Right) Drg: No. PD1001C-00-00 with all patrs i.e brake reaging , pad holder assy, bushes, brake hanger pin, pin for link, Drg: No. PD1001C-00-00

Item: Adjusting rod Assembly with Nut & bolt

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Adjusting rod Assembly with Nut & bolt CCKZ 69-45-000

Item: Brake Cylinder Unit SP-13B For CRC Coaches

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Brake Cylinder Unit SP-13B For CRC Coaches SP-13B

Item: Seamless steel pipe 1", out side dia 33.7 x4 mm Din 2448, ST-35

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
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S/Code Description Drwaing/Specification	212 SPL Seamless steel pipe 1", out side dia 33.7 x4 mm Din 2448, ST-35 Din 2448, ST-35
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Item: Pipe Stainless Steel assembly 1100mm Dg-15 (1/2")

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Pipe Stainless Steel assembly 1100mm Dg-15 (1/2") as per sample

Item: Stainless Steel Flexible Filter pipe 650mm Dg-15(1/2")

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Stainless Steel Flexible Filter pipe 650mm Dg-15(1/2") as per sample

Item: Left side pad holder assy.(CCKZ55-50/10)

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Left side pad holder assy.(CCKZ55-50/10) as per sample

Item: Right side pad holder assy, (CCKZ55-50/9)

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Right side pad holder assy, (CCKZ55-50/9) as per sample

Item: Lever hanger support Assembly

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Lever hanger support Assembly CCKZ55-55-00

Item: Inside lever assembly,

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Inside lever assembly, CCKZ55-54-00

Item: Outside lever Assembly

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Outside lever Assembly CCKZ55-56-00

Item: Pad holder hanger Assembly

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Pad holder hanger Assembly CCKZ55-52-00

Item: M.S. Threaded Nipple Set 1" CNR

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL M.S. Threaded Nipple Set 1" CNR As per Sample

Item: Stainless Steel Flexible pipes CNR

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Stainless Steel Flexible pipes CNR As per Sample

Item: Brake Pad Holder Right CNR

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Brake Pad Holder Right CNR As per Sample

Item: Brake Pad Holder Left CNR

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Brake Pad Holder Left CNR As per Sample

Item: Lever Hanger Support Assembly CNR

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Lever Hanger Support Assembly CNR As per Sample

Item: Inside Lever Assebmy CNR

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
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S/Code Description Drwaing/Specification	212 SPL Inside Lever Assebmy CNR As per Sample
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Item: Outside Lever Assebmy CNR

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Outide Lever Assebmy CNR As per Sample

Item: Pad Holder Link for CNR Coaches

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Pad Holder Link for CNR Coaches (As per sample)

Item: Conductor brake valve NB-5 Valve CNR

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Conductor brake valve NB-5 Valve CNR NB-5 type

Item: Friction Ring TSK

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Friction Ring TSK CME sh 587 (3 sheets)

Item: Traction rod assembly

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	213 Spl Traction rod assembly Drg: no. CCKZ 55-38-000

Item: Top Locating Seat

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	201 Spl Top Locating Seat as per sample

Item: Bottom Locating Seat

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	201 Spl Bottom Locating Seat as per sample

Item: Bolster Plate Spring top & bottom

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	207 SPL Bolster Plate Spring top & bottom as per sample

Item: Traction Rod Bush CRC CCKZ 55-40-000

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	207 SPL Traction Rod Bush CRC CCKZ 55-40-000 CCKZ 55-40-000

Item: Bolt Assy: (M-16x100) for Brake Disc/Friction Ring to CME's Sk: No. 1179/CC

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	212 SPL Bolt Assy: (M-16x100) for Brake Disc/Friction Ring to CME's Sk: No. 1179/CC CME's Sk: No. 1179/CC

Item: Bolt Assy (M24x100) for Brake Disc/Friction Ring to CME's Sk: No. 1180/CC

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
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S/Code Description Drwaing/Specification	212 SPL Bolt Assy (M24x100) for Brake Disc/Friction Ring to CME's Sk: No. 1180/CC CME's Sk: No. 1180/CC
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Item: Lower Plate Drg: no. CCKZ 75-22-002

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	207 SPL Lower Plate Drg: no. CCKZ 75-22-002 Drg: no. CCKZ 75-22-002

Item: Bolster side bearer Plate

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	207 SPL Locking guard plae CNR As per sample

Item: Lower Plate

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	207 SPL Lower Plate As per sample

Item: Locking guard plae CNR

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	207 SPL Locking guard plae CNR As per sample

Item: M.S. Sheet 8'x4'x3/16"

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	705 Spl: M.S. Sheet 8'x4'x3/16" M5-55 CL-II

Item: M.S. Sheet 8'x4'x1/8'

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	705 Spl: M.S. Sheet 8'x4'x1/8' Specifcaiton NO. PMS HR-275

Item: M.S. Sheet 8'x4'x3/32" (5mm)

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	705 Spl: M.S. Sheet 8'x4'x3/32" (5mm) 05CuPCrNi

Item: MS Channel to size 200x75x8.5mm

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	705 Spl: MS Channel to size 200x75x8.5mm HR-275

Item: MS Channel to size 180x70x8mm

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	705 Spl: MS Channel to size 180x70x8mm HR-275

Item: MS Sheet 8x4x1/16" Steel Mild Sheet Plain Black 2438x1219x1.6 (16SWG) (05CuPCrNi)

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	705 Spl: MS Sheet 8x4x1/16" Steel Mild Sheet Plain Black 2438x1219x1.6 (16SWG) (05CuPCrNi) 05CuPCrNi

Item: M.S Sheet 8'x4'x3/16" (2440x1219x5mm) cehquared

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
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S/Code Description Drwaing/Specification	705 Spl: M.S Sheet 8'x4'x3/16" (2440x1219x5mm) chequered HR-275 Chequered (Diamond pattern)
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Item: M.S Black Pipe outer Dia 1" Inner Dia 3/4"

UNSPSC: Wheels

Specifications / Requirementss:

Title	Description
S/Code Description Drwaing/Specification	705 Spl: M.S Black Pipe outer Dia 1" Inner Dia 3/4" As per sample

Item: M.S Sheet Plain Black 2440 x 1220 x 2 mm (05CuPCrNi)

UNSPSC: Wheels

Specifications / Requirementss:

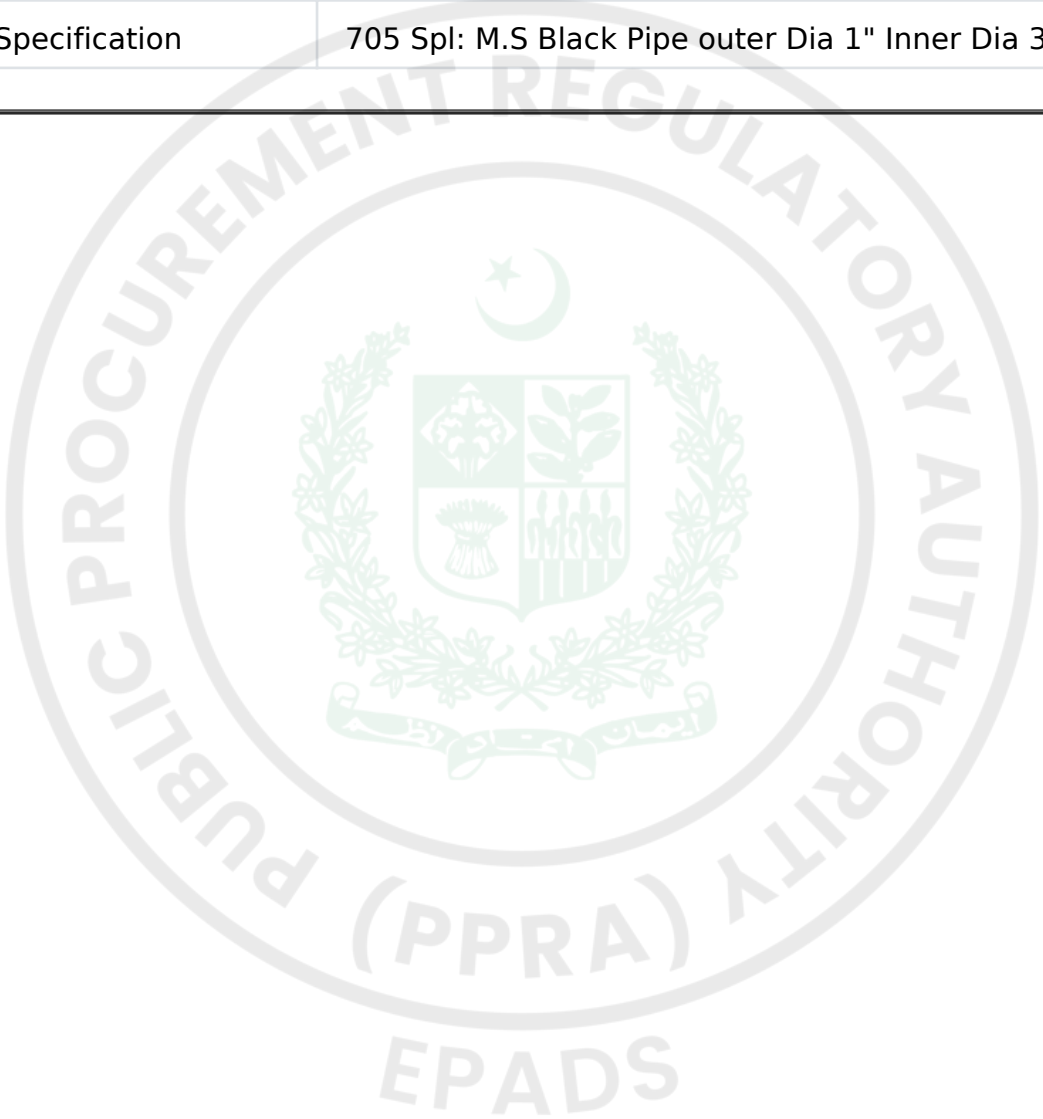
Title	Description
S/Code Description Drwaing/Specification	705 Spl: M.S Sheet Plain Black 2440 x 1220 x 2 mm (05CuPCrNi) 05CuPCrNi

Item: M.S Black Pipe outer Dia 1" Inner Dia 3/4"

UNSPSC: Wheels

Specifications / Requirementssss:

Title	Description
S/Code Description Drwaing/Specification	705 Spl: M.S Black Pipe outer Dia 1" Inner Dia 3/4" As per sample



Price Schedule

For Individual Items

#	Item Title	Quantity	Unit Price (PKR)	Total Price (PKR)	Delivery Location	Delivery Period / Year	Country of Origin
1							
2							

For Lots

#	Lot Title	Total Lot Price (PKR)	Country of Origin
1	[Lot 1 Title]		





General Conditions of Contract

A. General

1. Definitions

1.1 Unless the context otherwise requires, the following terms whenever used in this Contract shall have the same meaning and shall be interpreted as indicated

- a. "Applicable Law" means the laws and any other instruments having the force of law in the Government's Country, or in such other country as may be specified in the Special Conditions of the Contract (SC), as they may be issued and in force from time to time;
- b. "Procuring Agency" means:-
 - a. any Ministry, Division, Department or any Office of the Government;
 - b. any authority, corporation, body or organization established by or under a Law or which is owned or controlled by the Government;
- c. "The Contract" means an agreement enforceable by law;
- d. "The Contract Price" means the price payable to the Bidder under the Contract for the full and proper performance of its contractual obligations;
- e. "Ancillary Services" means those services ancillary to the provision of Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Bidder covered under the Contract;
- f. "GCC" means the General Conditions of Contract contained in this section;
- g. "SCC" means the Special Conditions of Contract by which the GCC may be amended or supplemented;
- h. "Day" means calendar day unless indicated otherwise.
- i. "Effective Date" means the date on which this Contract comes into force and effect.
- j. "The Bidder" means the individual or corporate body whose Bids to provide the Goods has been accepted by the Procuring Agency;
- k. "The Project Site," where applicable, means the place or places named in Bids Data Sheet and technical Specifications;
- l. "Government" means the Government of Pakistan;
- m. "Subcontractor" means any entity to which the Bidder subcontracts any part of the Goods.
- n. "Service" means any object of procurement other than goods or works;
- o. "Party" means the Procuring Agency or the Bidder, as the case may be, and "Parties" means both of them;
- p. "Foreign Currency" means any currency other than the currency of the country of the Procuring Agency;

q. "Completion Date" means the date of completion of the contract by the Bidder as certified by the Procuring Agency;

r. "In Writing" means communicated in written form with proof of receipt;

s. "Local Currency" means the currency of Pakistan;

2. Application and Interpretation

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

2.2 In interpreting these Conditions of Contract headings and marginal notes are used for convenience only and shall not affect their interpretations unless specifically stated; references to singular include the plural and vice versa; and masculine include the feminine. Words have their ordinary meaning under the language of the Contract unless specifically defined.

3. Applicable Law

3.1 The contract shall be governed and interpreted in accordance with the laws of Pakistan, unless otherwise specified in SCC.

4. Governing Language

4.1 The Contract as well as all correspondence and documents relating to the Contract exchanged between the Bidder and the Procuring Agency, shall be written in the **English language** unless otherwise stated in the **SCC**. Supporting documents and printed literature that are part of the Contract may be in another language provided these are accompanied by an accurate translation of the relevant passages in English, in which case, for purposes of interpretation of the Contract, this translation shall govern.

5. Notices

5.1 Any notice, request, or consent made pursuant to this Contract shall be in writing and shall be deemed to have been made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent by registered mail, telex, telegram, or facsimile to such Party at the address specified in the **SCC**.

6. Delivery/Location

6.1 The Goods shall be delivered to such locations as the Procuring Agency may approve and as specified in **SCC**.

7. Authorized Representatives / Authority of Member in charge

7.1 Any action required or permitted to be taken, and any document required or permitted to be executed, under this Contract by the Procuring Agency or the Bidder may be taken or executed by the officials specified in the **SCC**.

B. Commencement, Completion, Modification, and Termination of Contract

8. Effectiveness of Contract

8.1 This Contract shall come into effect on the date the Contract is signed by both parties and such other later date as may be stated in the **SCC**.

9. Commencement of Services

9.1 The Bidder shall confirm availability of Key Experts and begin carrying out the Services not later than the number of days after the Effective Date specified in the SCC.

10. Program

10.1 Before commencement of the Services, the Bidder shall submit to the Procuring Agency for approval a Program showing the general methods, arrangements, order and timing for all activities. The Services shall be carried out in accordance with the approved Program as updated.

11. Starting Date/Expiration Date

11.1 The Bidder shall start carrying out the Services Five (05) days after the date the Contract becomes effective, or at such other date as may be specified in the SCC.

11.2 Unless terminated earlier pursuant to Clause **GCC 15** hereof, this Contract shall expire at the end of such time period after the Effective Date as specified in the SCC.

12. Entire Agreement

12.1 This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.

13. Modification

13.1 Any modification or variation of the terms and conditions of this Contract, including any modification or variation of the scope of the Services, may only be made by written agreement between the Parties. However, each Party shall give due consideration to any Bids for modification or variation made by the other Party.

13.2 In cases of any modifications or variations, the prior written consent of the Procuring Agency is required.

14. Force Majeure

14.1 Definition

For the purposes of this Contract, “Force Majeure” means an event which is beyond the reasonable control of a Party and which makes a Party’s performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances.

14.2 No Breach of Contract

The failure of a Party to fulfill any of its obligations under the contract shall not be considered to be a breach of, or default under, this Contract in so far as such inability arises from an event of Force Majeure, provided that the Party affected by such an event (a) has taken all reasonable precautions, due care and reasonable alternative measures in order to carry out the terms and conditions of this Contract, and (b) has informed the other Party as soon as possible about the occurrence of such an event.

14.3 Extension of Time

Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result

of Force Majeure.

14.4 Payments

During the period of their inability to perform the Services as a result of an event of Force Majeure, the Bidder shall be entitled to continue to be paid under the terms of this Contract, as well as to be reimbursed for additional costs reasonably and necessarily incurred by them during such period for the purposes of the Services and in reactivating the Service after the end of such period.

15. Termination

15.1 By the Procuring Agency

The Procuring Agency may terminate this Contract in case of the occurrence of any of the events specified in paragraphs (a) through (e) of this Clause. In such an occurrence the Procuring Agency shall give at least thirty (30) calendar days' written notice of termination to the Bidder in case of the events referred to in (a) through (d); at least sixty (60) calendar days' written notice in case of the event referred to in (e);

- a. If the Bidder fails to remedy a failure in the performance of its obligations hereunder, as specified in a notice of suspension;
- b. If the Bidder becomes (or, if the Bidder consists of more than one entity, if any of its members becomes) insolvent or bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary;
- c. If the Bidder fails to comply with any final decision reached as a result of arbitration proceedings;
- d. If, as the result of Force Majeure, the Bidder is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days;
- e. If the Procuring Agency, in its sole discretion and for any reason whatsoever, decides to terminate this Contract;

15.2 By the Bidder

The Bidder may terminate this Contract, by not less than thirty (30) calendar days' written notice to the Procuring Agency, in case of the occurrence of any of the events specified in paragraphs (a) through (d) of this Clause.

- a. If the Procuring Agency fails to pay any money due to the Bidder pursuant to this Contract and not subject to dispute within forty-five (45) calendar days after receiving written notice from the Bidder that such payment is overdue.
- b. If, as the result of Force Majeure, the Bidder is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days.
- c. If the Procuring Agency fails to comply with any final decision reached as a result of arbitration.
- d. If the Procuring Agency is in material breach of its obligations pursuant to this Contract and has not remedied the same within forty-five (45) days (or such longer period as the Bidder may have subsequently approved in writing) following the receipt by the Procuring Agency of the Bidder's notice specifying such breach.

C. Obligations of the Bidder

16. General

16.1 Standard of Performance

1. The Bidder shall deliver the product and carry out the Services with all due diligence, efficiency and economy, in accordance with generally accepted professional standards and practices, and shall observe sound management practices, and employ appropriate technology and safe and effective equipment, machinery, materials and methods. The Bidder shall always act, in respect of any matter relating to this Contract or to the Services, as a faithful adviser to the Procuring Agency, and shall at all times support and safeguard the Procuring Agency's legitimate interests in any dealings with the third parties.

16.2 Law Applicable to Goods

The Bidder shall deliver the goods in accordance with the Contract and in accordance with the Law of Pakistan and shall take all practicable steps to ensure that any of its Experts and Sub-Bidders, comply with the Applicable Law.

17. Conflict of Interests

17.1 Bidder Not to Benefit from Commissions and Discounts.

The remuneration of the Bidder shall constitute the Bidder's sole remuneration in connection with this Contract or the Services, and the Bidder shall not accept for their own benefit any trade commission, discount, or similar payment in connection with activities pursuant to this Contract or to the Services or in the discharge of their obligations under the Contract, and the Bidder shall use their best efforts to ensure that the Personnel, any Subcontractors, and agents of either of them similarly shall not receive any such additional remuneration.

17.2 Bidder and Affiliates Not to be Otherwise Interested in Project

The Bidder agree that, during the term of this Contract and after its termination, the Bidder and its affiliates, as well as any Subcontractor and any of its affiliates, shall be disqualified from providing Goods for any project resulting from or closely related to the Services.

17.3 Prohibition of Conflicting Activities

Neither the Bidder nor its Subcontractors nor the Personnel shall engage, either directly or indirectly, in any of the following activities:

- a. during the term of this Contract, any business or professional activities in the Government's country which would conflict with the activities assigned to them under this Contract;
- b. during the term of this Contract, neither the Bidder nor their Subcontractors shall hire public employees in active duty or on any type of leave, to perform any activity under this Contract;

18. Confidentiality

18.1 Except with the prior written consent of the Procuring Agency, the Bidder and the Experts shall not at any time communicate to any person or entity any confidential information acquired in the course of the contract.

19. Insurance to be Taken Out by the Bidder

19.1 The Bidder(a) shall take out and maintain, and shall cause any Subcontractors to take out and maintain, at its (or the Subcontractors', as the case may be) own cost but on terms and conditions approved by the Procuring Agency, insurance against the risks, loss or damage, and for the coverage, as shall be specified in the SCC; and (b) at the Procuring Agency's request, shall provide evidence to the Procuring Agency showing that such insurance has been taken out and maintained and that the current premiums have been paid.

20. Bidder's Actions Requiring Procuring Agency's Prior Approval

20.1 The Bidder shall obtain the Procuring Agency's prior approval in writing before taking any of the following actions:

- (a) appointing such members of the Personnel not provided by the Bidder;
- (b) changing the Program of activities; and
- (c) any other action that may be specified in the SCC.

21. Reporting Obligations

21.1 The Bidder shall submit to the Procuring Agency the reports and documents in the numbers, and within the periods as prescribed by the Procuring Agency.

22. Liquidated Damages

22.1 If the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Procuring Agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the performance security (or guarantee) specified in SCC. Once the said maximum is reached, the Procuring Agency may consider termination of the Contract pursuant to **GCC Clause 15**.

22.2 Correction for Over-payment

If the Intended Completion Date is extended after liquidated damages have been paid, the Procuring Agency shall correct any overpayment of liquidated damages by the Bidder by adjusting the next payment certificate. The Bidder shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in SCC.

22.3 Lack of performance penalty

If the Bidder has not corrected a Defect within the time specified in the Procuring Agency's notice, a penalty for Lack of performance will be paid by the Bidder. The amount to be paid will be calculated as a percentage of the cost of having the Defect corrected, assessed as specified in the SCC.

23. Performance Guarantee

23.1 Within Seven (07) days from the issuance of acceptance letter from the Procuring Agency, the successful Bidder shall furnish the Performance Guarantee in shape of ----- at the discretion of the PA in the amount **specified in SCC**. In case the amount of Bids security is equal or greater than

23.2 The proceeds of the Performance Guarantee shall be payable to the Procuring agency as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

23.3 The Performance Guarantee shall be denominated in the currency of the Contract, or in a freely convertible currency acceptable to the Procuring agency and shall be in the acceptable form as specified in SCC.

23.4 The Performance Guarantee will be discharged by the Procuring agency and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless otherwise **specified in SCC**.

24. Fraud and Corruption

24.1 The Procuring Agency requires the Supplier to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the Bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

25. Sustainable Procurement

25.1 The Bidder shall conform to the sustainable procurement contractual provisions, if and as specified in the SCC.

D. Bidder's Personnel

26. Description of Personnel

26.1 The titles, agreed job descriptions, minimum qualifications, and estimated periods of engagement in the carrying out of the Services of the Bidder's Key Personnel. The Key Personnel listed by title as well as by name are hereby approved by the Procuring Agency.

27. Removal and/or Replacement of Personnel

27.1 Except as the Procuring Agency may otherwise agree, no changes shall be made in the Key Personnel. If, for any reason beyond the reasonable control of the Bidder, it becomes necessary to replace any of the Key Personnel, the Bidder shall provide as a replacement a person of equivalent or better qualifications.

27.2 If the Procuring Agency finds that any of the Personnel have (i) committed serious misconduct or have been charged with having committed a criminal action, or (ii) have reasonable cause to be dissatisfied with the performance of any of the Personnel, then the Bidder shall, at the Procuring Agency's written request specifying the grounds thereof, provide as a replacement a person with qualifications and experience acceptable to the Procuring Agency.

27.3 The Bidder shall have no claim for additional costs arising out of or incidental to any removal and/or replacement of Personnel.

E. Obligations of the Procuring Agency

28. Assistance and Exemptions

28.1 The Procuring Agency shall use its best efforts to ensure that the Government shall provide the Bidder such assistance and exemptions as specified in the SCC.

29. Change in the Applicable Law

29.1 If, after the date of this Contract, there is any change in the Applicable Law with respect to taxes and duties which increases or decreases the cost of the related Services rendered by the Bidder, then the remuneration and reimbursable expenses otherwise payable to the Bidder under this Contract shall be increased or decreased accordingly by agreement between the Parties, and corresponding adjustments shall be made to the amounts referred in the SCC.

30. Services and Facilities

30.1 The Procuring Agency shall make available to the Bidder and the Experts, for the purposes of the Services and free of any charge, the services, facilities and property described , at the times and in the manner specified in the SCC or terms of reference.

30.2 In case that such services, facilities and property shall not be made available to the Bidder, the Parties shall agree on (i) any time extension that it may be appropriate to grant to the Bidder for the performance of the Services, (ii) the manner in which the Bidder shall procure any such services, facilities and property from other sources, and (iii) the additional payments, if any, to be made to the Bidder as a result thereof.

F. Payments to the Bidder

31. Contract Price

31.1 The price payable shall be in Pakistani Rupees unless otherwise specified in the SCC. Prices charged by the Supplier for Goods delivered under the Contract shall not vary from the prices quoted by the Supplier in its Bid.

32. Terms and Conditions of Payment

32.1 Payments will be made to the Bidder according to the payment schedule stated in the SCC and as per actual invoice submitted by the Bidder.

32.2 Unless otherwise stated in the SCC, the advance payment shall be made against the provision by the Bidder of a bank guarantee for the same amount, and shall be valid for the period stated in the SCC. Any other payment shall be made after the conditions listed in the SCC for such payment have been met, and the Bidder have submitted an invoice to the Procuring Agency specifying the amount due.

33. Currency of Payment

33.1 Any payment under this Contract shall be made in the currency(ies) specified in the SCC.

G. Quality Control

34. Identifying Defects

34.1 The principle and modalities of Inspection of the Goods by the Procuring Agency shall be as indicated in the SCC. The Procuring Agency shall check the Bidder's performance and notify him of any Defects that are found. Such checking shall not affect the Bidder's responsibilities. The Procuring Agency may instruct the Bidder to search for a Defect and to uncover and test any service that the Procuring Agency considers may have a Defect. Defect Liability Period is as defined in the SCC.

35. Correction of Defects, and

Lack of Performance Penalty

35.1 The Procuring Agency shall give notice to the Bidder of any Defects before the end of the Contract. The Defects liability period shall be extended for as long as Defects remain to be corrected.

35.2 Every time notice a Defect is given, the Bidder shall correct the notified Defect within the length of time specified by the Procuring Agency's notice.

35.3 If the Bidder has not corrected a Defect within the time specified in the Procuring Agency's notice, the Procuring Agency will assess the cost of having the Defect corrected, the Bidder will pay this amount, and a Penalty for Lack of Performance.

36. Taxes and Duties

36.1 A Supplier shall be entirely responsible for all taxes, duties, fees, etc., incurred until delivery of the contracted Goods to the Procuring Agency.

H. Settlement of Disputes

37. Alternate Dispute Resolution

37.1 The disputes between the parties to the contract may be settled in accordance with Public Procurement Rules, 2004.

37.2 The procuring agency shall refer the matter to the Chief Justice Islamabad High Court or Managing Director PPRA or the Secretary Ministry of Law & Justice for appointment of Arbitrator.

37.3 The fee for the Arbitrator shall be specified in Pak Rupees as determined by the appointing authority which shall be borne and shared equally by the contracting parties.



Special Conditions of Contract

SECTION VIII. SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

Number of GC Clause

Amendments of, and Supplements to, Clauses in the General Conditions of Contract

Number of GC Clause 1

Definitions

The Procuring Agency is: Office of Chief Controller Purchase (Ministry of Railways), Assistant Controller Purchase Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province).

The Supplier is:

The title of the subject procurement is: Bid No. 03/0016/00-0/1-2026 for Material Required for the maintenance of 16 Nos. of Power Vans On DDP basis on over all Basis.= 62 items

Number of GC Clause 3

Applicable/Governing Law:

The Contract shall be interpreted in accordance with the laws of Islamic Republic of Pakistan

Number of GC Clause 4

Language:

The language of the Contract, all correspondence and communications to be given, and all other documentation to be prepared and supplied under the Contract shall be in **English**.

Number of GC Clause 5

Notices:

The addresses for the notices are:

Procuring Agency:

Office of Chief Controller Purchase (Ministry of Railways), Assistant Controller Purchase Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province).

+92-333-131-5696

acp1@pakrail.gov.pk

Contractor/ Bidder:

[Name, address and telephone number].

The Contractor/ Bidder's Representative(s)

[Name, address, telephone number and e-mail address]

Number of GC Clause 7.1

The Authorized Representatives are:

For the Procuring Agency:

Office of Chief Controller Purchase (Ministry of Railways), Assistant Controller Purchase
Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab
(Province).

+92-333-131-5696

acp1@pakrail.gov.pk

For the Bidder:

Name:

Designation:

Address:

Number of GC Clause 8

Effectiveness of the contract

Number of GC Clause 9

Commencement of Contract:

Number of GC Clause 11.2

Expiration of Contract:

Number of GC Clause 15

Termination

In the event of termination of the contract due to any reason as already defined in the General Conditions of Contract, the Bidder shall be responsible for providing to the Authority the Goods till the time of alternate arrangements.

Number of GC Clause 17

Conflict of Interest:

The Procuring Agency reserves the right to determine on a case-by-case basis whether the Bidder should be disqualified from providing goods or services due to a conflict of a nature described in Clause GCC 17.

Number of GC Clause 22

Liquidated Damages

If the Bidder fails to provide services as required under the contract or in case of any data loss/data breach or any incident compromising the data security or other such failures related to any services, the Bidder shall pay to the Procuring Agency as Liquidated Damages at a rate of **0.07% to 10.00%** of the Contract value, in accordance with the extent of performance failure & the cost of investigating such incidents as judged by the Authority.

Number of GC Clause 23

Performance Guarantee:

The amount of performance guarantee shall be **5.00%** of the contract price in acceptable form of **Pay Order, Call at Deposit, Bank Guarantee**

Number of GC Clause 32

Payment terms:

Payment will be made to the Bidder against the procured Goods and services according to the actual invoice or running bills submitted by the Bidder against the services provided within the time given in the conditions of the contract.

Number of GC Clause 33

Currency of Payment:

All the payment to be released to the contractor/Bidder shall be in Pakistani Rupees.

Number of GC Clause 34

Identifying Defects:

The Authority reserves the right at any time to inspect the premises of the provider to inspect the goods and monitor the goods being provided.

Inspections & Tests Requirements

For being Brand New, bearing relevant reference numbers of the equipment (Certificate from supplier)

For Physical Fitness having No Damages (Certificate from supplier)

For the Country of Origin as quoted by the Supplier (Certificate from manufacturer)

For conformance to specifications and performance parameters, through Prior to delivery inspection (Inspection Report by Procurement Committee / Inspection Team)

For successful operation at site after complete installation, testing and commissioning of the equipment (Installation, Testing and Commissioning Report by Procurement Committee / Inspection Team)

Third Party Testing shall be carried out by Pre-Qualified firms, with the selection of Specific tests and samples determined by the products nature, applicable specification/standards and PR Requirements. All Related Expenses shall be borne by the bidder. 1. M/s Bureau Veritas Pakistan (Private) Limited, 2. M/s SGS Pakistan (Private) Limited 3. M/s TÜV Austria Bureau of Inspection & Certification (Pvt.) Ltd., 4. M/s TÜV Rheinland Arabia LLC 5.M/s Sunworth Inspection and Technology (Pvt.) Ltd.

Delivery & Documents

Copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;

Original and two copies of the usual transport document (for example, a negotiable bill of lading, a non-negotiable sea waybill, an inland waterway document, an air waybill, a railway consignment note, a road consignment note, or a multimodal transport document) which the buyer may require to take the goods;

Copies of the packing list identifying contents of each package;

Insurance Certificate;

Manufacturer's or Supplier's Valid Warranty Certificate;

Inspection Certificate issued by the Nominated Inspection Agency (if any), and the Supplier's Factory Inspection Report;

Certificate of Origin.

The above documents would be required even if the equipment has already been imported and is available with the supplier ex-stock

Number of GC Clause 37

Following is the guidance for Dispute Resolution

- i. If any dispute of any kind whatsoever shall arise between the Authority and the Bidder in connection with or arising out of the Contract, including without prejudice to the generality of foregoing, any question regarding its existence, validity, termination and the execution of the Contract – whether during developing phase or after their completion and whether before or after the termination, abandonment or breach of the Contract – the parties shall seek to resolve any such dispute or difference by mutual diligent negotiations in good faith within 14 (fourteen) days following a notice sent by one Party to the other Party in this regard.
- ii. At future of negotiation the dispute shall be resolved through mediation and mediator shall be appointed with the mutual consent of the both parties.
- iii. At the event of failure of mediation to resolve the dispute relating to this contract such dispute shall finally be resolved through binding Arbitration by sole arbitrator in accordance with Arbitration Act 1940. The arbitrator shall be appointed by mutual consent of the both parties. The Arbitration shall take place in Islamabad, Pakistan and proceedings will be conducted in English language.
- iv. The cost of the mediation and arbitration shall be shared by the parties in equal proportion however the both parties shall bear their own costs and lawyer's fees regarding their own participation in the mediation and arbitration. However, the Arbitrator may make an award of costs upon the conclusion of the arbitration making any party to the dispute liable to pay the costs of another party to the dispute.
- v. Arbitration proceedings as mentioned in the above clause regarding resolution of disputes may be commenced prior to, during or after completion of the contract.

Notwithstanding any reference to the arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree that the Authority shall pay the Bidder any monies

due to the Bidder.

Rules of procedure for arbitration proceedings:

Any dispute between the Authority and a Bidder who is a national of the Islamic Republic of Pakistan arising in connection with the present Contract shall be referred to adjudication or arbitration in accordance with the laws of the Islamic Republic of Pakistan including Arbitration Act 1940, however above provision shall prevail in referring the case to the Arbitrator.

Place of Arbitration and Award:

The arbitration shall be conducted in English language and place of arbitration shall be at Islamabad. The award of the arbitrator shall be final and shall be binding on the parties.





Bid Securing Declaration

Form 9: Bid Securing Declaration

Date: *[insert date (as day, month and year)]*

Bid No.: **P125533**

To: **Office of Chief Controller Purchase (Ministry of Railways), Assistant Controller Purchase Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province).**

We, the undersigned, declare that:

We understand that, according to your conditions, Bids must be supported by a Bid Securing Declaration.

We accept that we will be blacklisted and henceforth cross debarred for participating in respective category of public procurement proceedings for a period of (not more than) six months, if fail to abide with a bid securing declaration, however without indulging in corrupt and fraudulent practices, if we are in breach of our obligation(s) under the Bid conditions, because we:

1. have withdrawn or modified our Bid during the period of Bid Validity specified in the Form of Bid;
2. Disagreement to arithmetical correction made to the Bid price; or
3. having been notified of the acceptance of our Bid by the Procuring Agency during the period of Bid Validity, (i) failure to sign the contract if required by Procuring Agency to do so or (ii) fail or refuse to furnish the Performance Security or to comply with any other condition precedent to signing the contract specified in the Bidding Documents.

We understand this Bid Securing Declaration shall expire if we are not the successful

Bidder, upon the earlier of (i) our receipt of your notification to us of the name of the successful Bidder; or (ii) twenty-eight (28) days after the expiration of our Bid.



Contract Form

SECTION IX: CONTRACT FORMS

THIS AGREEMENT made the ____ day of _____ 20____ between **Office of Chief Controller Purchase (Ministry of Railways), Assistant Controller Purchase Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province).**

(hereinafter called “the Procuring Agency”) of the one part and [name of Bidder] of [city and country of Bidder] (hereinafter called “the Bidder”) of the other part:

WHEREAS the Procuring Agency invited Bids for provision of goods, viz., **Bid No. 03/0016/00-0/1-2026 for Material Required for the maintenance of 16 Nos. of Power Vans On DDP basis on over all Basis.= 62 items (P125533)** and has accepted a Bids by the Bidder for the provision of Goods in the sum of [contract price in words and figures] (hereinafter called “the Contract Price”).

NOW THIS CONTRACT WITNESSETH AS FOLLOWS:

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

2. The following documents shall be deemed to form and be read and construed as part of this Contract, In the event of any ambiguity or conflict between the Contract Documents listed below, the order of precedence shall be the order in which the Contract Documents are listed below:-

1. This form of Contract;
2. the Form of Bids and the Price Schedule submitted by the Bidder;
3. the Schedule of Requirements;
4. the Technical Specifications;
5. the Special Conditions of Contract;
6. the General Conditions of the Contract;
7. the Procuring Agency’s Letter of Acceptance; and
8. [add here: any other documents]

3. In consideration of the payments to be made by the Procuring Agency to the Bidder as hereinafter mentioned, the Bidder hereby covenants with the Procuring Agency to provide the Goods related services and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Procuring Agency hereby covenants to pay the Bidder in consideration of the provision of Goods and the remedying of defects therein, the Contract Price or such other sum as may become payable under the

provisions of the contract at the times and in the manner prescribed by the contract.

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

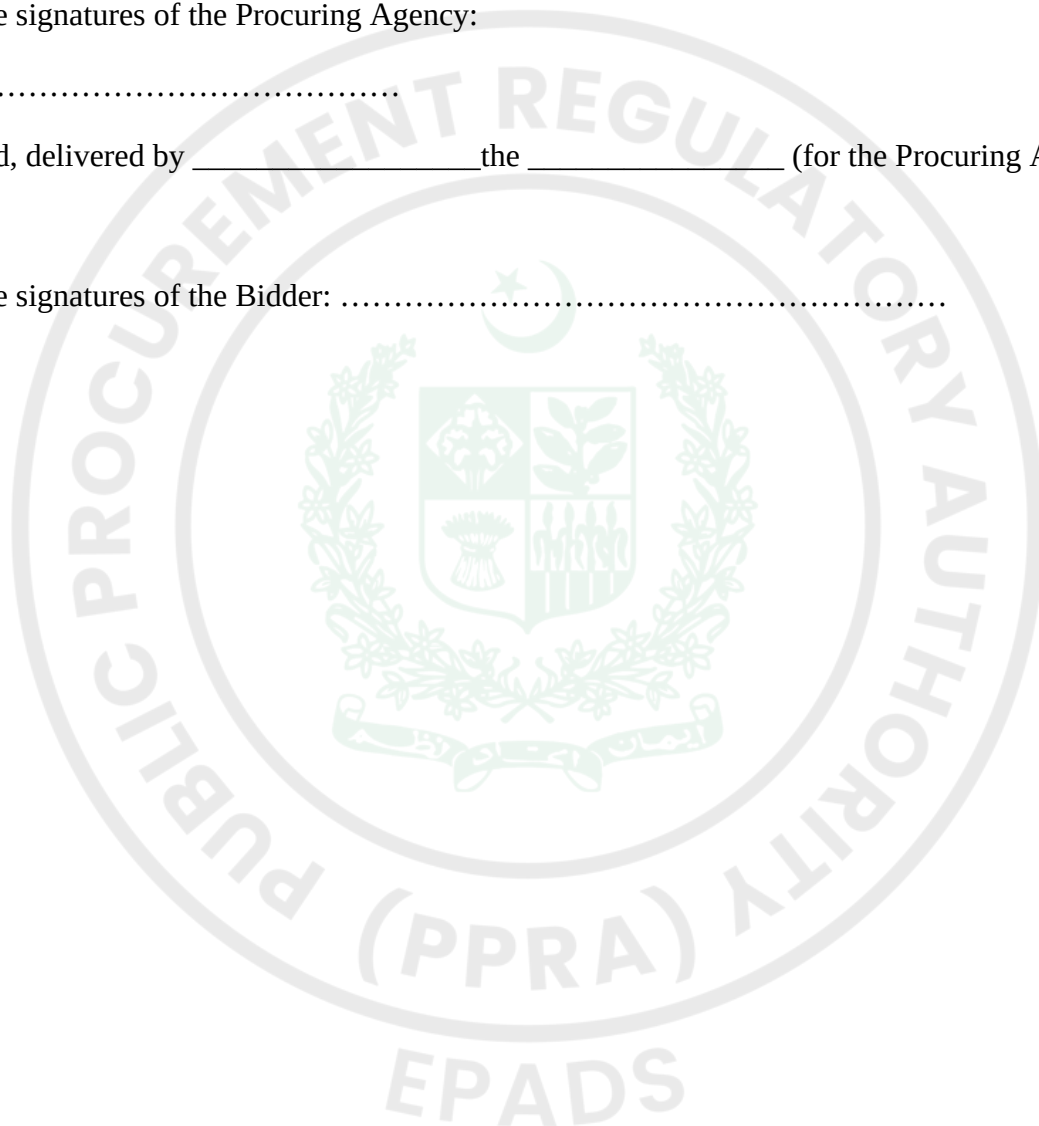
Signed, sealed, delivered by _____ the _____ (for the Procuring Agency)

Witness to the signatures of the Procuring Agency:

.....

Signed, sealed, delivered by _____ the _____ (for the Procuring Agency)

Witness to the signatures of the Bidder:





Integrity Pact

Integrity Pact

DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC. PAYABLE BY THE SUPPLIERS OF GOODS, SERVICES & WORKS IN CONTRACTS WORTH RS.10.00 MILLION OR MORE

Contract

Number: Contract

Value: Contract Title:

Dated:

[Name of Supplier] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan or any administrative subdivision or agency thereof or any other entity owned or controlled by it (GoP) through any corrupt business practice.

Without limiting the generality of the foregoing [Name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fee etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultations fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

[Name of Supplier] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representative or warranty.

[Name of Supplier] accepts full responsibility and strict liability for making and false declaration, not making full disclosure, misrepresenting fact or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other right and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, [Name of Supplier] agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by [Name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.



Performance Guarantee Form

Performance Guarantee Form

To: **Office of Chief Controller Purchase (Ministry of Railways), Assistant Controller Purchase Pakistan Railway Headquarters., Lahore City, Lahore (District), Lahore Division (Division), Punjab (Province).**

WHEREAS *[name of Bidder]* (hereinafter called “the Bidder”) has undertaken, in pursuance of Contract No. *[reference number of the contract]* dated *[insert date]* for provision of Goods (hereinafter called “the Contract”).

AND WHEREAS it has been stipulated by you in the said Contract that the Bidder shall furnish you with a Bank Guarantee by a reputable bank for the sum specified therein as security for compliance with the Bidder’s performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Bidders guarantee:

THEREFORE, WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Bidder, up to a total of *[amount of the guarantee in words and figures]*, and we undertake to pay you, upon your first written demand declaring the Bidder to be in default under the Contract and without cavil or argument, any sum or sums within the limits of *[amount of guarantee]* as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the: *[insert date]*

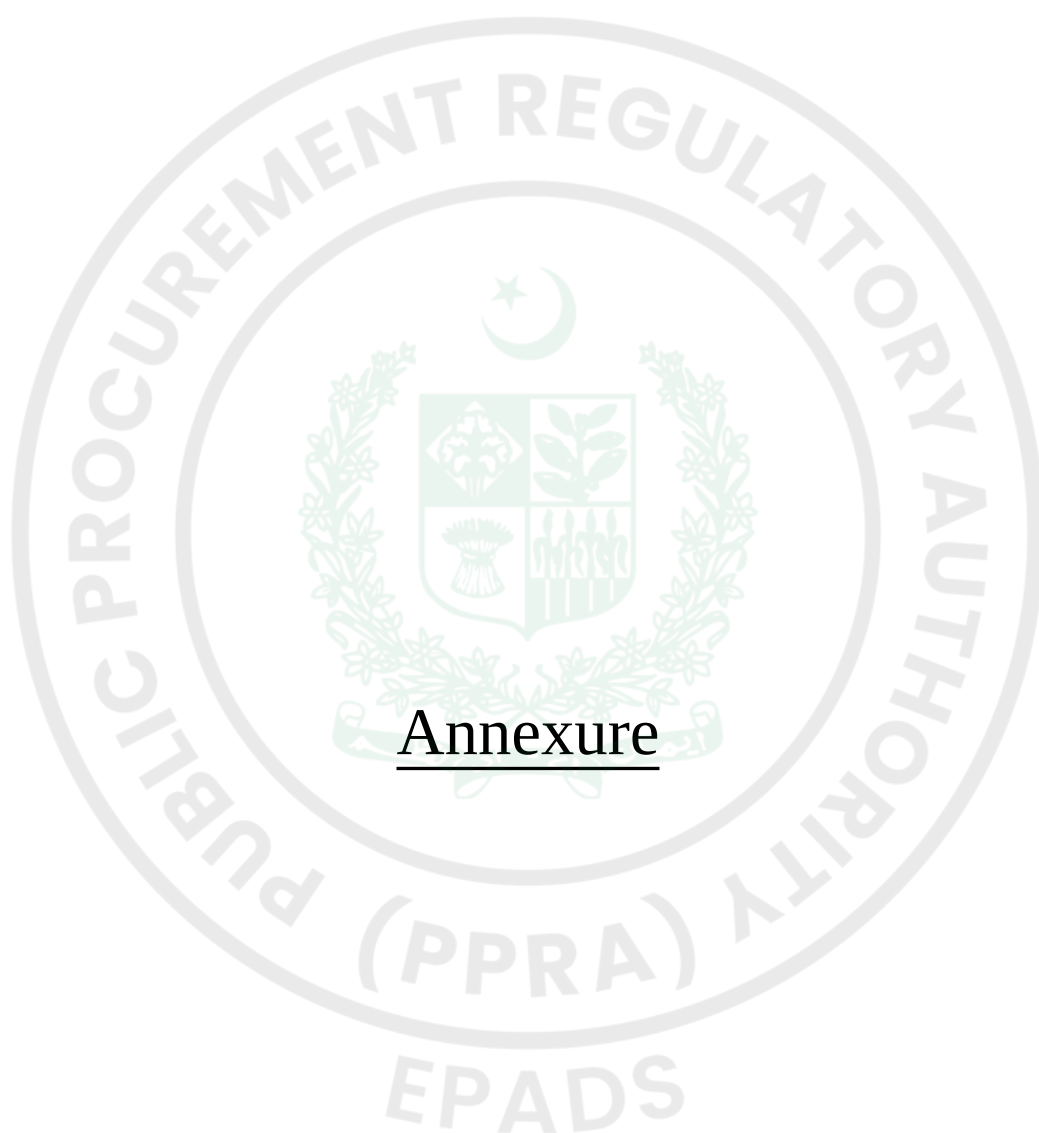
Signature and seal of the Guarantors

[name of bank or financial institution]

[address]

[date]





Annexure

Drawings and relevant technical specifications

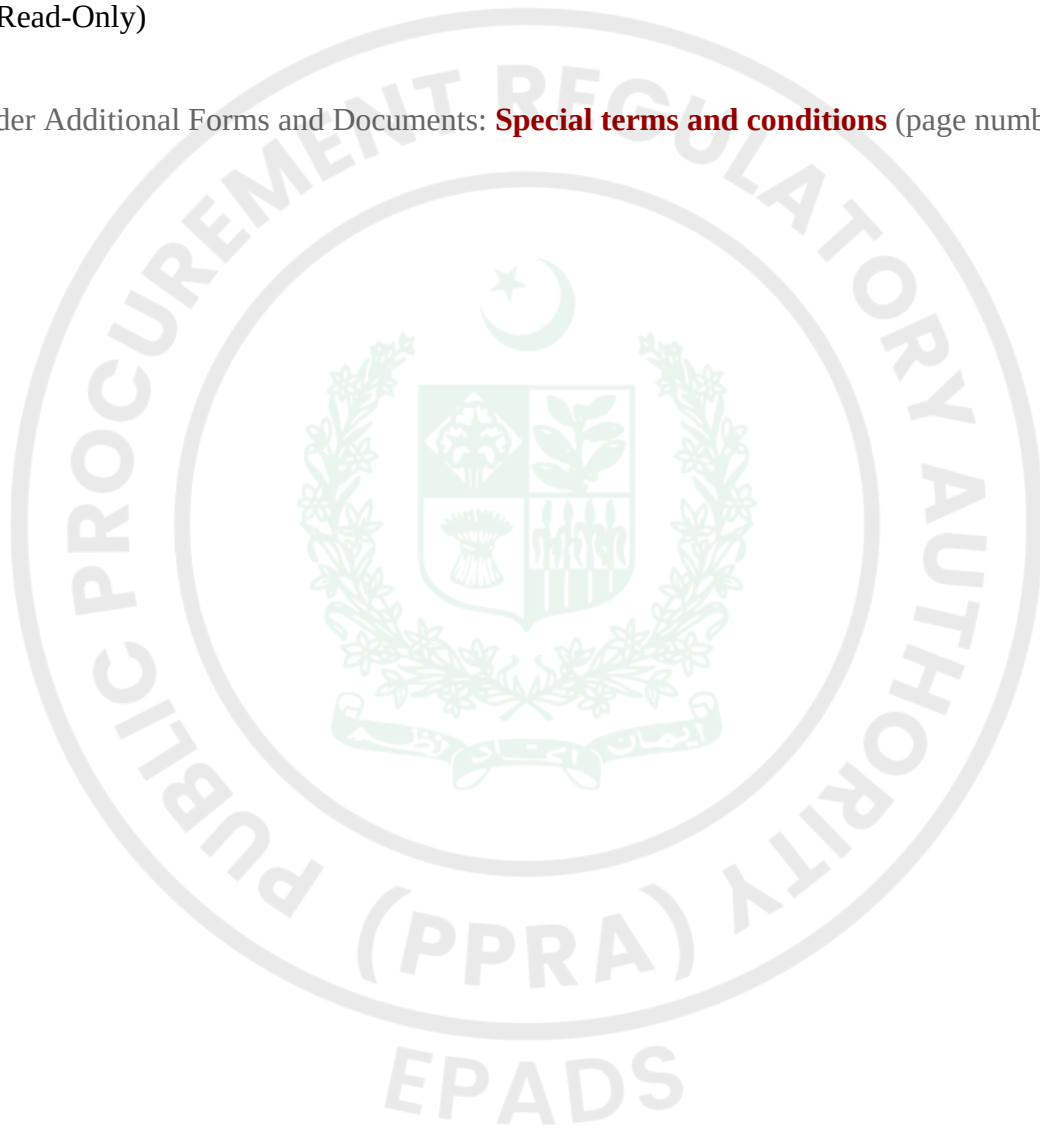
Information (Read-Only)

See Form Under Additional Forms and Documents: **Drawings and relevant technical specifications** (page number: 111)

Special terms and conditions

Information (Read-Only)

See Form Under Additional Forms and Documents: **Special terms and conditions** (page number: 151)





Procurement Forms

Past Experience and Completed Contracts

See Form Under Additional Forms and Documents: **Past Experience and Completed Contracts** (page number: 153)

Financial Capacity and Net Worth Evaluation Form

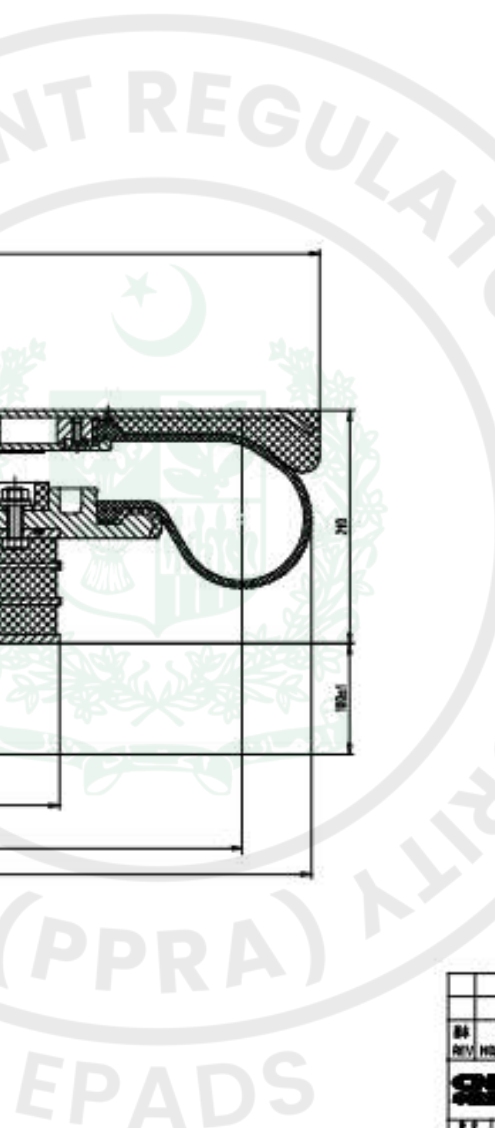
See Form Under Additional Forms and Documents: **Financial Capacity and Net Worth Evaluation Form** (page number: 154)







Additional Forms and Documents



LEAD (45%)

◆◆◆◆◆

2. 由總店向各分店 (DISTRIBUTION) 發貨

5.0	5.0
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3. 在代码清单 1 中，我们使用 `System.out.println()` 来打印输出。

Table 1. Demographic characteristics of the study population

1. *Journal of the American Medical Association*, 2000; 283: 2686-2692.

4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843

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| 10 | |
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4. 結構關係的判斷

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|---|---|---|---|---|---|---|---|---|-----|

6. 中国标准出版社, TB/T 3814-2008.

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1. 主幹幹線道路(国道、主要地方道、市道、町道、村道) 2. 支線道路(町道、村道、市道、町道、村道)

中實業自衛隊。

THE UNDERLIES COMMON DIFFERENCE IS ACCORDING TO GRADE N OF GBT

④ 本分册附外卷《正合式四角号码》。

11. 某企业为增值税一般纳税人，适用的增值税税率为17%。该企业2012年12月31日资产负债表上“预收账款”项目金额为200万元。2013年1月1日，该企业“预收账款”明细科目余额如下表所示：

11. 由右端輸入其值至圖中空白處。可填：可填如左：11.0000 圖中左邊：0.0000 0.0000

林德曼和普里查德，见上页。图由詹姆斯·H·范德普尔提供。

● 本文介紹了「大正」時期日本對華的經濟政策，以及日本對華經濟政策的演變過程。作者認為，日本對華經濟政策的演變，是日本對華經濟政策演變的必然結果。作者認為，日本對華經濟政策的演變，是日本對華經濟政策演變的必然結果。

THE FRONT IS PAINTER THE COVER IS 100% POLYESTER. THE THICKNESS IS 1.5MM.

SMOOTH. THE OTHER METAL PARTS ARE PAINTED BY PROTECTION GREASE.

10. 基金重点投资对象 ET XL 和 ET XL 200 基金由美国内与瑞德基金公司发行。

OTHER DISBURSEMENT IS ATTRIBUTED TO THE TECHNICAL CORRECTION ACT-7X/LAW

[illegible][illegible]



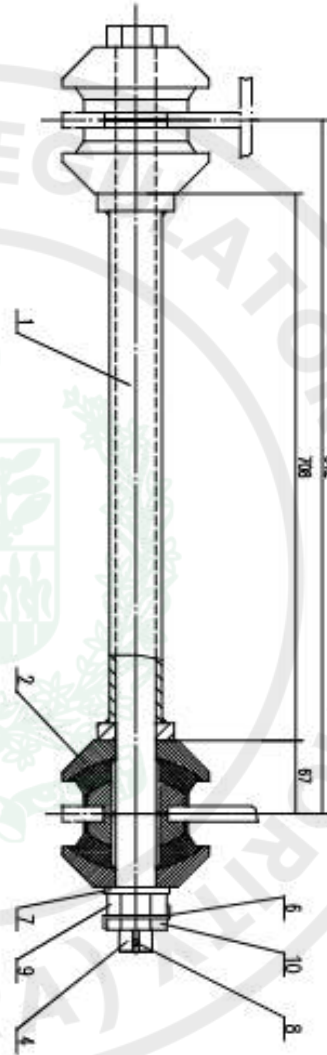
MOLES

1. 使用溫度範圍: $-1+70^{\circ}\text{C}$.
THE OPERATION TEMPERATURE RANGE IS $-40^{\circ}\text{C}+70^{\circ}\text{C}$.
2. 軸向剛度 $\leq 4.0\text{ MN/m}$, 彎曲剛度 $\leq 10.0\text{ MN/m}$
THE AXIAL RIGIDITY IS $\leq 3.5\pm 0.2\text{ MN/m}$, AND BEND RIGIDITY IS $11\pm 0.2\text{ MN/m}$.
3. 使用新膠料製造面須光滑, 不允许存在裂紋
THE NEW TYPE OF RUBBER MATERIALS IS ADOPTED TO PRODUCE AND THE SURFACE MUST BE SMOOTH WITHOUT CRACK.
4. 橡皮应符合下列要求: 變形小於5%, 抗拉強度不小於 16.0 MPa , 斷裂伸長率不小於5%, 老化係數不小於
硬度邵爾 70 ± 5 .

5. 金属与橡胶的粘接强度应满足下列要求：

THE JOINING STRENGTH BETWEEN METAL AND RUBBER SHOULD BE MORE THAN 5 MPa.

| | |
|----|----|
| 单位 | 姓名 |
| 日期 | 签字 |

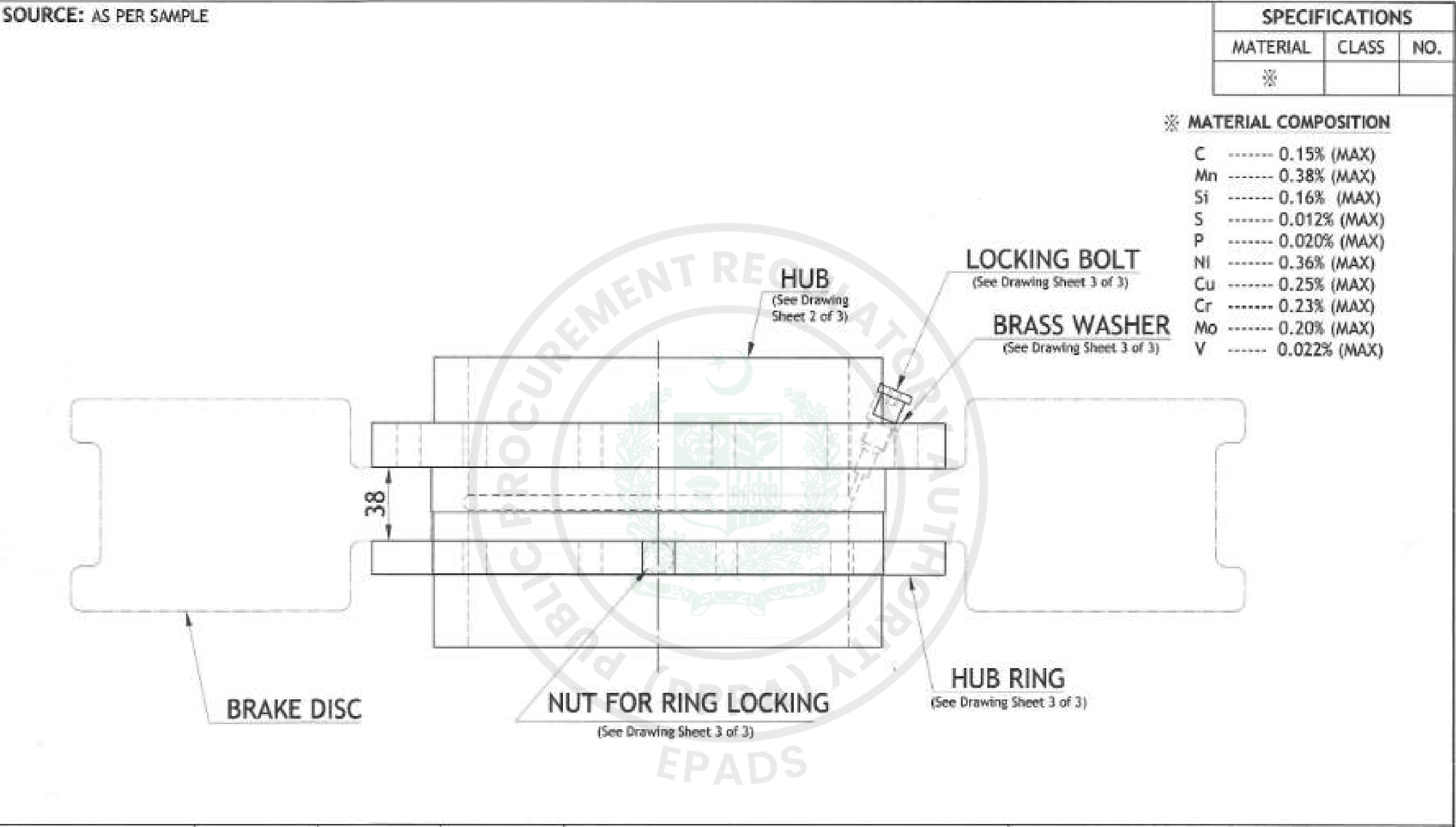


- 技/要求
NOTES
1. 牵引杆、牵引杆的肩？
THE ANGLE SHOULD BE TOLERANCE TO THE SHOULDER OF
WHEEL DURING ASSEMBLY.
 2. 牵引杆C、D、E、F、G、H、I、J、K、L、M、N、O、P、Q、R、S、T、U、V、W、X、Y、Z、AA、AB、AC、AD、AE、AF、AG、AH、AI、AJ、AK、AL、AM、AN、AO、AP、AQ、AR、AS、AT、AU、AV、AW、AX、AY、AZ、BA、BB、BC、BD、BE、BF、BG、BH、BI、BJ、BK、BL、BM、BN、BO、BP、BQ、BR、BS、BT、BU、BV、BW、BX、BY、BZ、CA、CB、CC、CD、CE、CF、CG、CH、CI、CJ、CK、CL、CM、CN、CO、CP、CQ、CR、CS、CT、CU、CV、CW、CX、CY、CZ、DA、DB、DC、DD、DE、DF、DG、DH、DI、DJ、DK、DL、DM、DN、DO、DP、DQ、DR、DS、DT、DU、DV、DW、DX、DY、DZ、EA、EB、EC、ED、EE、EF、EG、EH、EI、EJ、EK、EL、EM、EN、EO、EP、EQ、ER、ES、ET、EU、EV、EW、EX、EY、EZ、FA、FB、FC、FD、FE、FF、FG、FH、FI、FJ、FK、FL、FM、FN、FO、FP、FQ、FR、FS、FT、FU、FV、FW、FX、FY、FZ、GA、GB、GC、GD、GE、GF、GG、GH、GI、GJ、GK、GL、GM、GN、GO、GP、GQ、GR、GS、GT、GU、GV、GW、GX、GY、GZ、HA、HB、HC、HD、HE、HF、HG、HH、HI、HJ、HK、HL、HM、HN、HO、HP、HQ、HR、HS、HT、HU、HV、HW、HX、HY、HZ、IA、IB、IC、ID、IE、IF、IG、IH、II、IJ、IK、IL、IM、IN、IO、IP、IQ、IR、IS、IT、IU、IV、IW、IX、IY、IZ、JA、JB、JC、JD、JE、JF、JG、JH、JI、JJ、JK、JL、JM、JN、JO、JP、JQ、JR、JS、JT、JU、JV、JW、JX、JY、JZ、KA、KB、KC、KD、KE、KF、KG、KH、KI、KJ、KK、KL、KM、KN、KO、KP、KQ、KR、KS、KT、KU、KV、KW、KX、KY、KZ、LA、LB、LC、LD、LE、LF、LG、LH、LI、LJ、LK、LL、LM、LN、LO、LP、LQ、LR、LS、LT、LU、LV、LW、LX、LY、LZ、MA、MB、MC、MD、ME、MF、MG、MH、MI、MJ、MK、ML、MM、MN、MO、MP、MQ、MR、MS、MT、MU、MV、MW、MX、MY、MZ、NA、NB、NC、ND、NE、NF、NG、NH、NI、NJ、NK、NL、NM、NN、NO、NP、NQ、NR、NS、NT、NU、NV、NW、NX、NY、NZ、OA、OB、OC、OD、OE、OF、OG、OH、OI、OJ、OK、OL、OM、ON、OO、OP、OQ、OR、OS、OT、OU、OV、OW、OX、OY、OZ、PA、PB、PC、PD、PE、PF、PG、PH、PI、PJ、PK、PL、PM、PN、PO、PP、PQ、PR、PS、PT、PU、PV、PW、PX、PY、PZ、QA、QB、QC、QD、QE、QF、QG、QH、QI、QJ、QK、QL、QM、QN、QO、QP、QQ、QR、QS、QT、QU、QV、QW、QX、QY、QZ、RA、RB、RC、RD、RE、RF、RG、RH、RI、RJ、RK、RL、RM、RN、RO、RP、RQ、RR、RS、RT、RU、RV、RW、RX、RY、RZ、SA、SB、SC、SD、SE、SF、SG、SH、SI、SJ、SK、SL、SM、SN、SO、SP、SQ、SR、SS、ST、SU、SV、SW、SX、SY、SZ、TA、TB、TC、TD、TE、TF、TG、TH、TI、TJ、TK、TL、TM、TN、TO、TP、TQ、TR、TS、TT、TU、TV、TW、TX、TY、TZ、UA、UB、UC、UD、UE、UF、UG、UH、UI、UJ、UK、UL、UM、UN、UO、UP、UQ、UR、US、UT、UU、UV、UW、UX、UY、UZ、VA、VB、VC、VD、VE、VF、VG、VH、VI、VJ、VK、VL、VM、VN、VO、VP、VQ、VR、VS、VT、VU、VV、VW、VX、VY、VZ、WA、WB、WC、WD、WE、WF、WG、WH、WI、WJ、WK、WL、WM、WN、WO、WP、WQ、WR、WS、WT、WU、WV、WW、WX、WY、WZ、XA、XB、XC、XD、XE、XF、XG、XH、XI、XJ、XK、XL、XM、XN、XO、XP、XQ、XR、XS、XT、XU、XV、XW、XX、XY、XZ、YA、YB、YC、YD、YE、YF、YG、YH、YI、YJ、YK、YL、YM、YN、YO、YP、YQ、YR、YS、YT、YU、YV、YW、YX、YY、YZ、ZA、ZB、ZC、ZD、ZE、ZF、ZG、ZH、ZI、ZJ、ZK、ZL、ZM、ZN、ZO、ZP、ZQ、ZR、ZS、ZT、ZU、ZV、ZW、ZX、ZY、ZZ

| | | | | | | |
|---|--------------|-----|---|---------------|------|-----|
| 7 | CKZ25-38-004 | 牵引杆 | 1 | 牵引 55-0235-B | 0.2 | |
| 6 | CKZ25-38-003 | 止动板 | 1 | 牵引 1.5-0235-C | 0.3 | |
| 5 | CKZ25-38-002 | 牵引杆 | 1 | 牵引 1.2-0235-A | | 牵引杆 |
| 4 | CKZ25-38-001 | 牵引杆 | 1 | 牵引 53-400r | 6.21 | |
| 3 | | | | | | |
| 2 | CKZ25-40-000 | 牵引杆 | 4 | 牵引 2.34 | 9.36 | |
| 1 | CKZ25-38-000 | 牵引杆 | 1 | 牵引 3.24 | | |

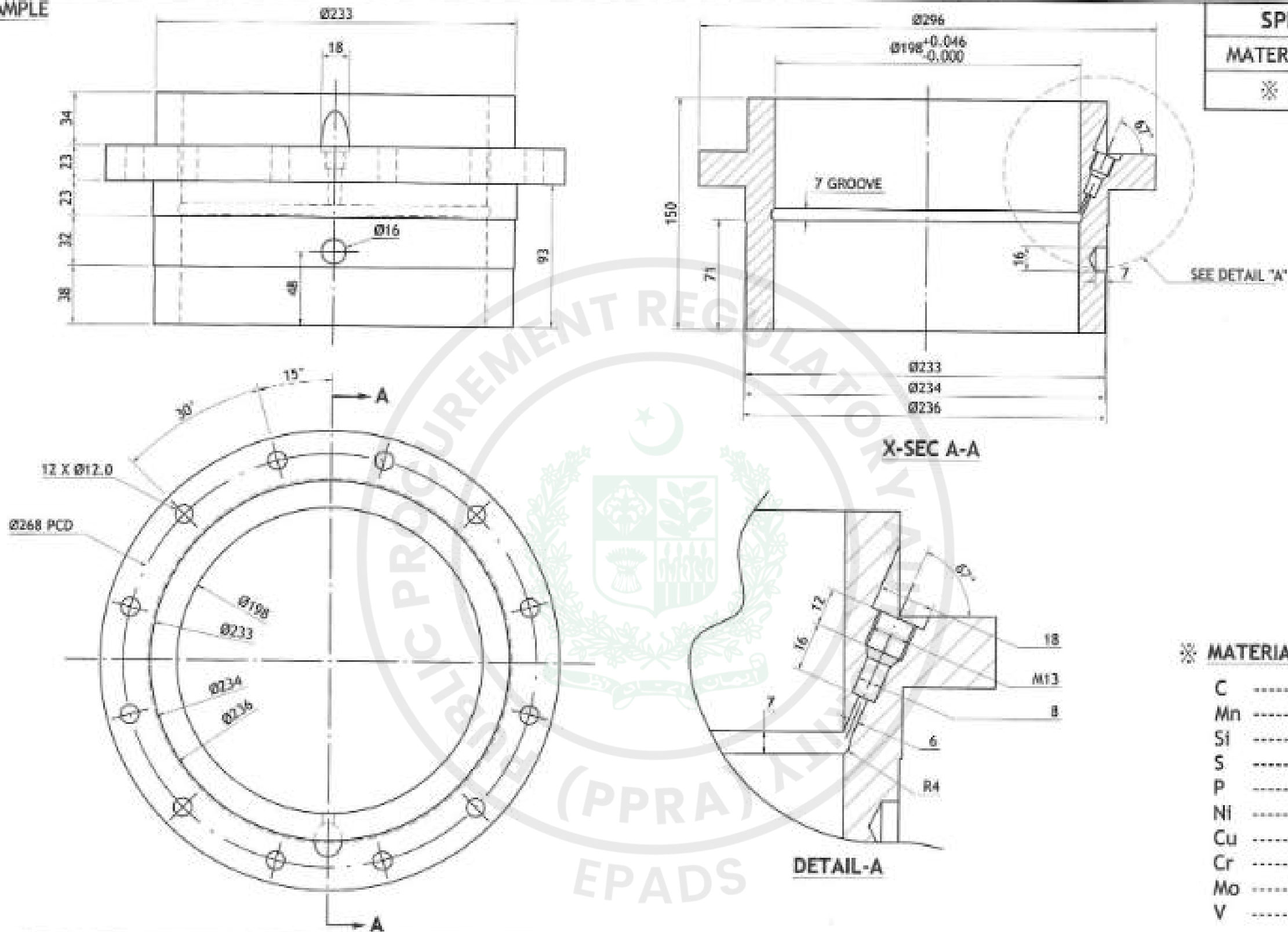
| 序号 | 代号 | 名称 | 数量 | 材料 | 重量 | 备注 |
|----|--------------|-----|----|----|----|----|
| 1 | CKZ25-38-000 | 牵引杆 | 1 | | | |
| 2 | CKZ25-40-000 | 牵引杆 | 4 | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
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| 11 | | | | | | |

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|----|-----------------|-----|--------|-----|--|--|
| 11 | 17862 | 牵引杆 | 0.01kg | 牵引杆 | | |
| 10 | 182/181721-2000 | 牵引杆 | 1 | 牵引杆 | | |
| 9 | 182/18170-2000 | 牵引杆 | 1 | 牵引杆 | | |
| 8 | 182/191-2000 | 牵引杆 | 1 | 牵引杆 | | |



| | | | | | | | | | | |
|---|-----------------------|---------------|---------------|--|--------------------|--|-------|-----------|--------------------|--------------|
| MACHINING SYMBOLS | | | | NOTE:
1:- ALL DIMENSIONS ARE IN MILLIMETERS
2:- SPECIFICATION AS PER TEST REPORT OF PSQCA.
(S.No. 31/6 to 31/7, C.No. 215-W/305-XXIII(PBU)) | PR 5'-6" Gauge C&W | HUB FOR TSK BOGIES
ASSEMBLY DRAWING | PR.HQ | | | |
| | ROUGH MACHINED | FINE MACHINED | FINE FINISHED | | | | | | | |
| | Drawn By: M. Bilal | LET: REF: | | | | | | | | |
| | Checked By: Zahid Ali | ALTERATIONS | | | | | | | | |
| C.No. (File)
215-W/305-XXIII
(PBU) (PP-) | DATE & INITIAL | | | HD: D/MAN | SDO/MECH. | VACANT | K.F. | DY: CME/C | CME SK: NO:587/C&W | SHEET
1/3 |

SOURCE: AS PER SAMPLE



SPECIFICATIONS

| MATERIAL | CLASS | NO. |
|----------|-------|-----|
| ※ | | |

※ MATERIAL COMPOSITION

| | | |
|----|-------|--------------|
| C | ----- | 0.15% (MAX) |
| Mn | ----- | 0.38% (MAX) |
| Si | ----- | 0.16% (MAX) |
| S | ----- | 0.012% (MAX) |
| P | ----- | 0.020% (MAX) |
| Ni | ----- | 0.36% (MAX) |
| Cu | ----- | 0.25% (MAX) |
| Cr | ----- | 0.23% (MAX) |
| Mo | ----- | 0.20% (MAX) |
| V | ----- | 0.022% (MAX) |

MACHINING SYMBOLS

| | | |
|----------------|---------------|---------------|
| | | |
| ROUGH MACHINED | FINE MACHINED | FINE FINISHED |

NOTE:

- 1:- ALL DIMENSIONS ARE IN MILLIMETERS
- 2:- SPECIFICATION AS PER TEST REPORT OF PSQCA.
(S.No. 31/6 to 31/7, C.No. 215-W/305-XXIII(PBU))

PR

5'-6" Gauge

C&W

HUB
FOR TSK BOGIES

| | |
|---------------------------------|----------------|
| Drawn By: M. Bilal | LET: REF: |
| Checked By: Zahid Ali | ALTERATIONS |
| C.No. (File) | DATE & INITIAL |
| 215-W/305-XXIII
(PBU) (PP-) | |

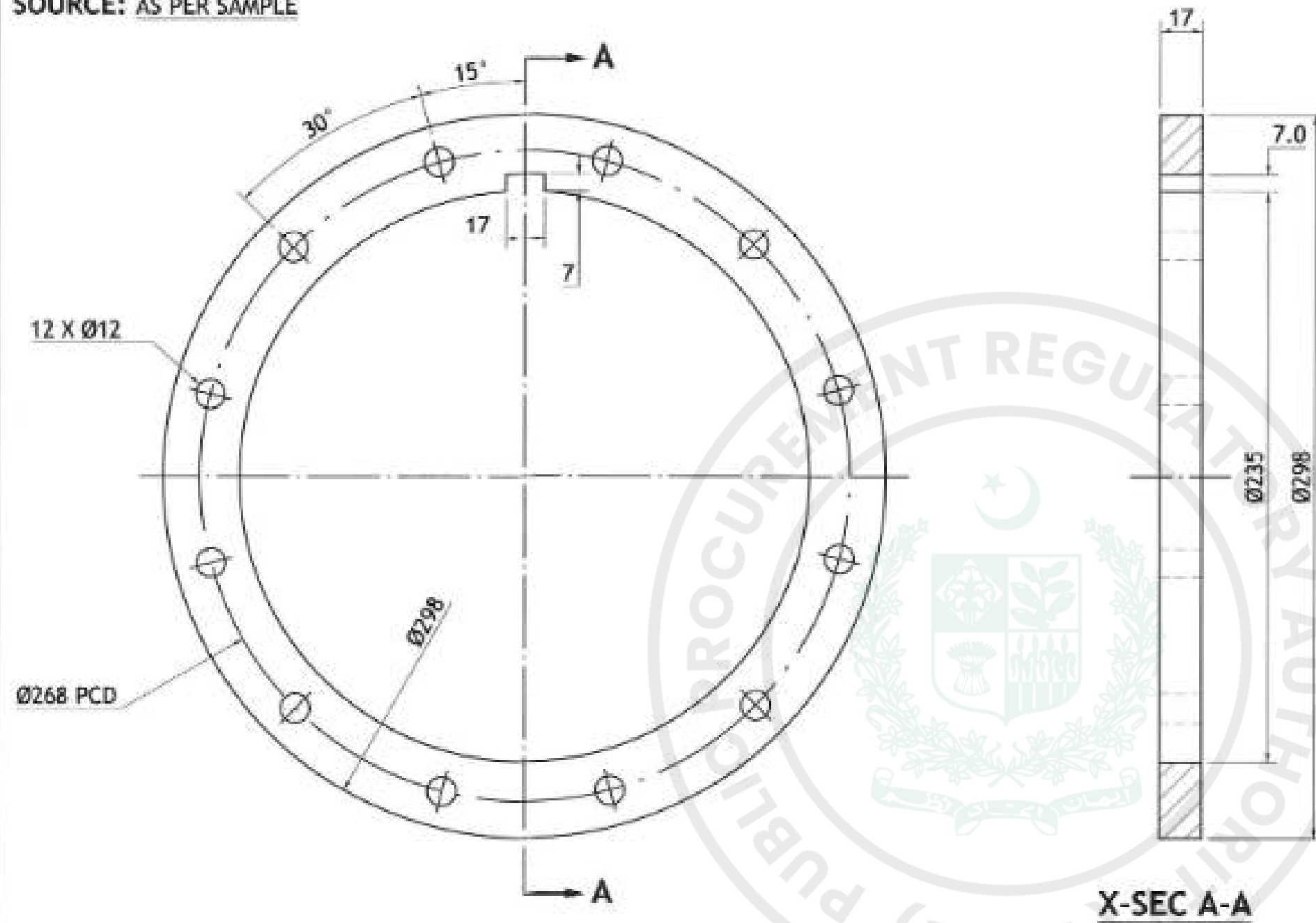
| | | | |
|-----------|-----------|------------|-----------|
| HD: D/MAN | SDO/MECH. | VACANT | K.T. |
| | | SME/DESIGN | DY: CME/C |

CME SK: NO:587/C&W

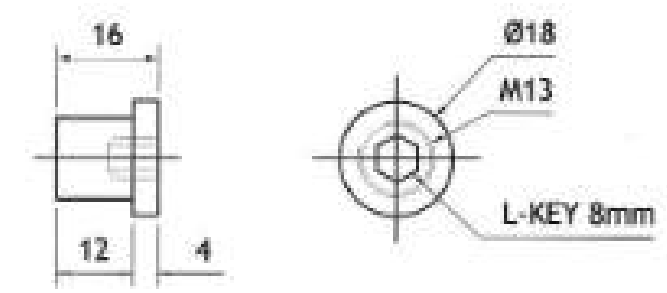
SHEET
2
3

PR.HQ

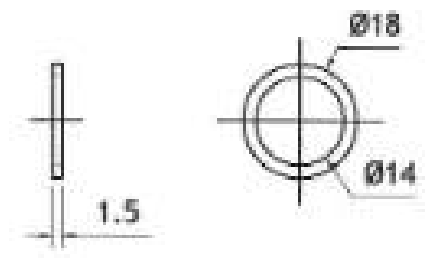
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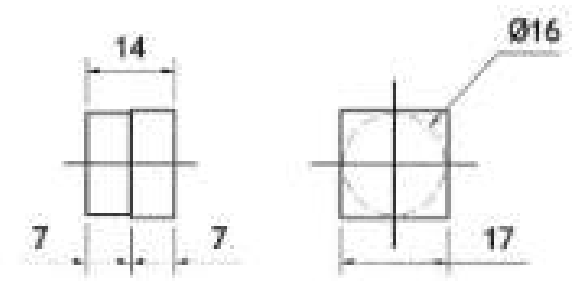
RING OF HUB



LOCKING BOLT



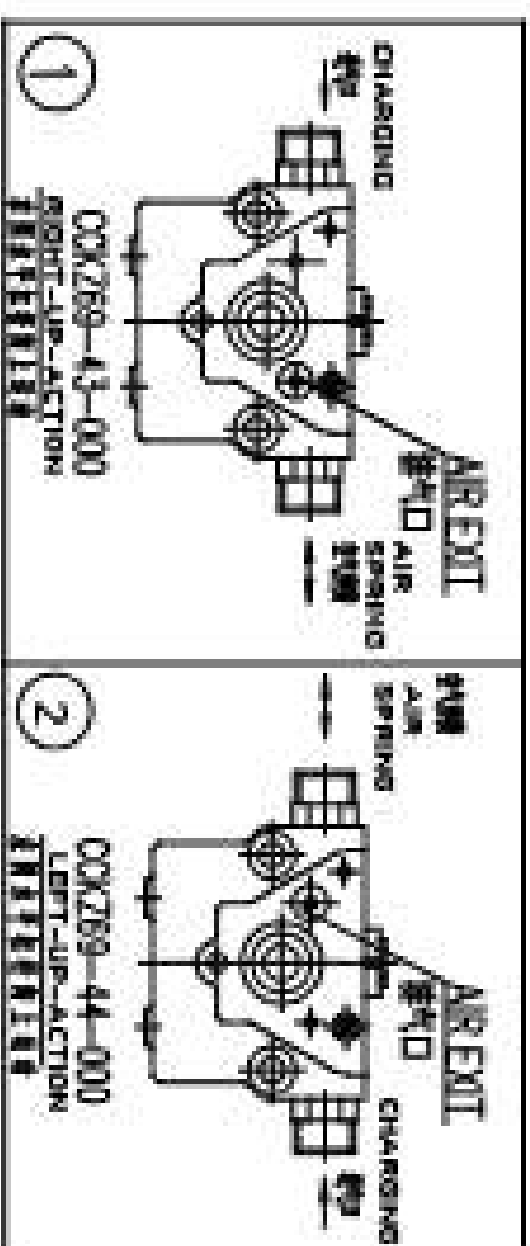
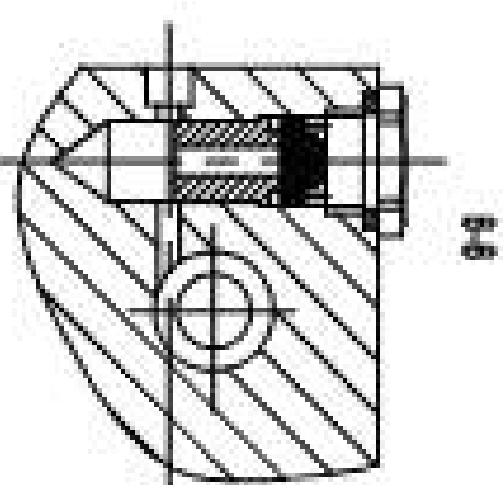
BRASS WASHER



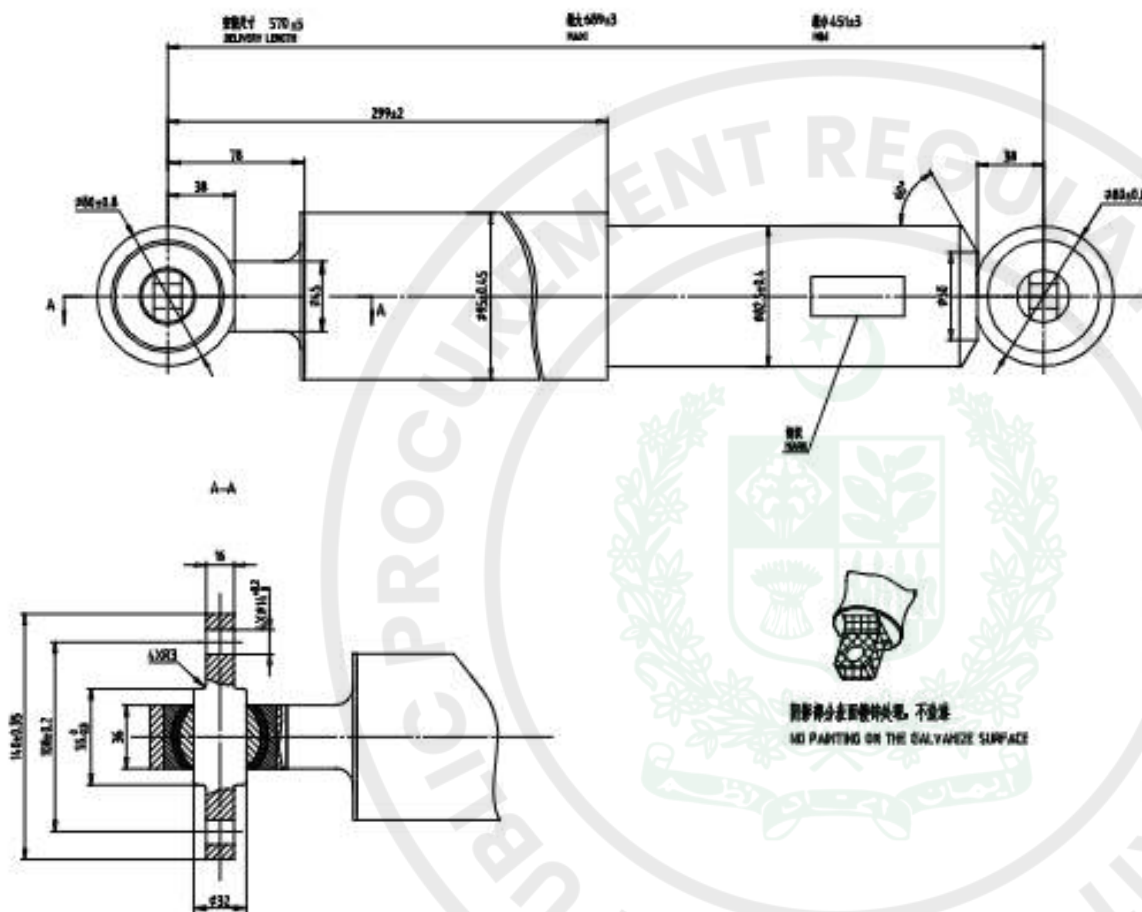
RING LOCKING PIN

| | | | | | | | |
|--|--|--|--|---|--|--------------------------------------|-----------------|
| MACHINING SYMBOLS
Drawn By: M. Bilal
Checked By: Zahid Ali
C.No. (File)
215-W/305-XXIII
(PBU) (PP-) | | LET: REF:
ALTERATIONS
DATE & INITIAL | ROUGH MACHINED
FINE MACHINED
FINE FINISHED | NOTE:
1:- ALL DIMENSIONS ARE IN MILLIMETERS | PR
5'-6" Gauge
HUB PARTS
FOR TSK BOGIES | C&W
CME SK: NO:587/C&W | SHEET
3
3 |
| | | | | HD: D/MAN
SDO/MECH.
VACANT
SME/DESIGN
DY: CME/C | | | |

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Page 118 of 155

7C-69ZK00



技术要求

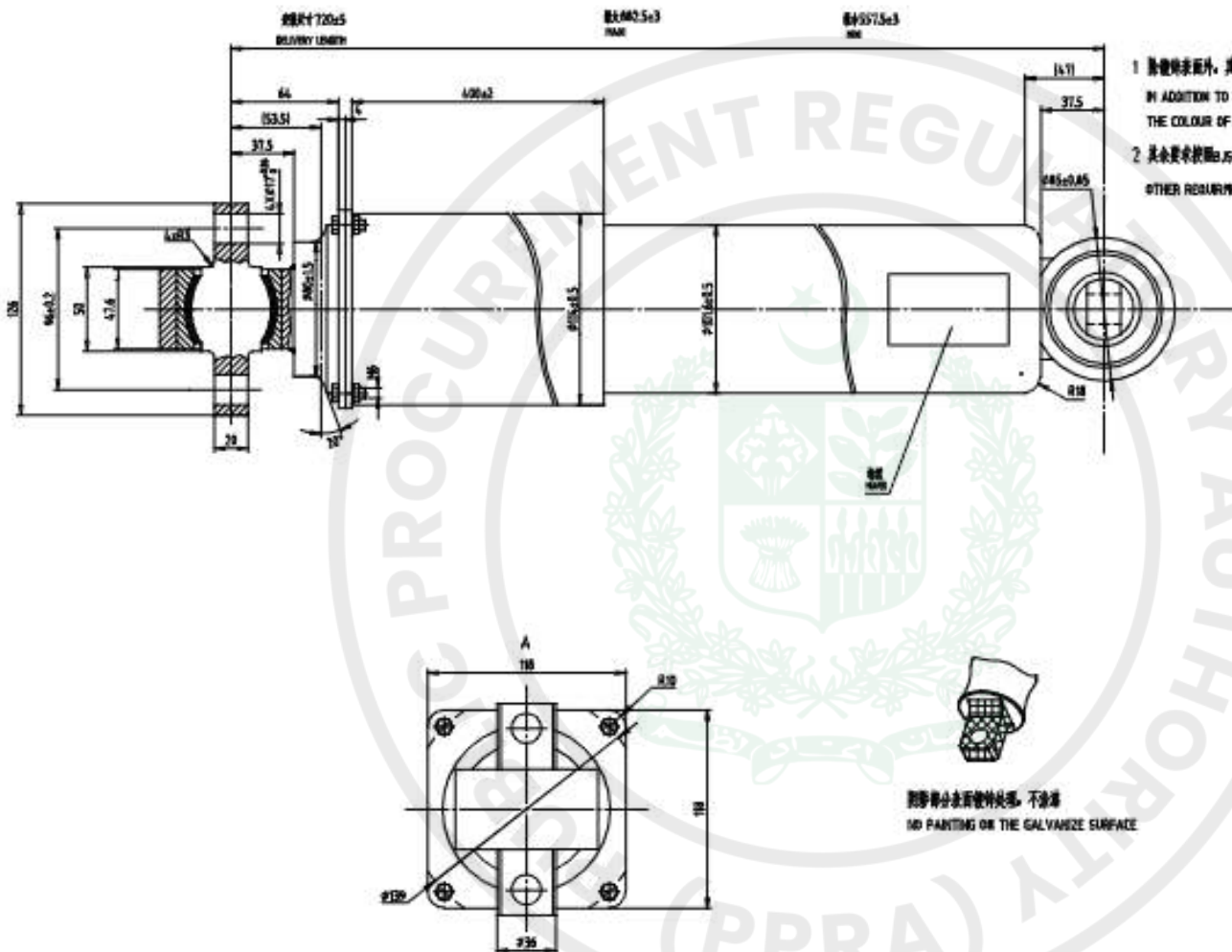
NOTE

- 除镀锌表面外,其余表面均要求涂底、面漆。底漆颜色RAL3012,厚度60-80μm;面漆颜色RAL9005,厚度80-120μm。IN ADDITION TO GALVANIZED SURFACE, THE OTHERS SHOULD BE PAINTED WITH PRIMER AND TOP PAINTING. THE COLOUR OF THE PRIMER AND TOP PAINTING IS RAL3012 AND RAL9005, THE THICKNESS IS 60~80μm AND 80~120μm.
- 其余要求按照BUST-ZXJ-001《转向架液压减振器技术规范》执行。OTHER REQUIREMENTS ARE ACCORDING TO THE TECHNICAL SPECIFICATION OF CHOICE OF DAMPER BUST-ZXJ-001.

| 参数表 PARAMETER LIST | | |
|-------------------------------------|-------------|----------|
| 导向速度 VELOCITY(m/s) | 0.05 | 0.1 |
| 拉伸力 TENSION(N) | 1250±15% | 2000±15% |
| 压缩力 COMPRESSION(N) | 1250±15% | 2000±15% |
| 最大允许角度 MAX. ALLOWED ANGLE MOVEMENTS | | |
| 扭转变形 TORSIONAL | ≤15° | |
| 锥形角 CONICAL | ≤10° | |
| 径向刚度 RADIAL STIFFNESS | 17±5% kN/mm | |

| 图号 | 更改内容 | 日期 | 设计 | 图号 | 更改内容 | 日期 | 设计 | 图号 | 更改内容 | 日期 | 设计 |
|---|-----------------|------|-----|-----|-----------------|------|-----|---------------------------|-----------------|------|-----|
| REV | MODIFIED DOC NO | DATE | SGN | REV | MODIFIED DOC NO | DATE | SGN | REV | MODIFIED DOC NO | DATE | SGN |
|  昆明轨道交通车辆有限公司
KUNMING RAILENT CO., LTD. | | | | | | | | 横向液压减振器
LATERAL DAMPER | | | |
| 图例 | 材料表 | 图例 | 图例 | 图例 | 重量 | 比例 | 图例 | 文件编号
FILE NO
1 / 1 | | | |
| REV | REV | REV | REV | REV | REV | REV | REV | | | | |
| 图例 | 图例 | 图例 | 图例 | 图例 | 图例 | 图例 | 图例 | CCKZ69-37-000 | | | |
| 图例 | 图例 | 图例 | 图例 | 图例 | 图例 | 图例 | 图例 | 378196 | | | |

93-69ZK00



技术要求

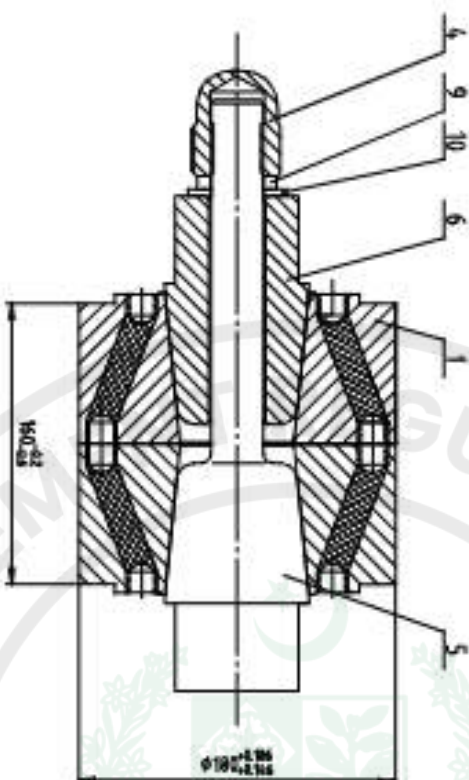
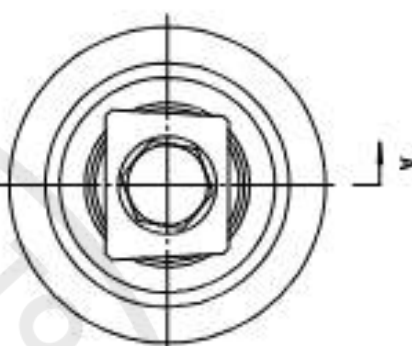
NOTE

- 除镀锌表面外,其余表面均要求涂底、面漆。底漆颜色RAL3012,厚度40-60μm;面漆颜色RAL9005,厚度80-120μm。IN ADDITION TO GALVANIZE SURFACE, THE OTHERS SHOULD BE PAINTED WITH PRIMER AND TOP PAINTING. THE COLOUR OF THE PRIMER AND TOP PAINTING IS RAL3012 AND RAL9005, THE THICKNESS IS 40-60μm AND 80-120μm.
- 其余要求按照JST-ZXJ-001《转向架用轴箱减振器技术规范》执行。OTHER REQUIREMENTS ARE ACCORDING TO THE TECHNICAL SPECIFICATION OF CHOICE OF DAMPER JST-ZXJ-001.

| 参数表 PARAMETER LIST | |
|-------------------------------------|-------------|
| 安装速度 VELOCITY(m/s) | 0.54 |
| 拉伸力 TENSION(N) | 1000±15N |
| 压缩力 COMPRESSION(N) | 1000±15N |
| 最大允许角度 MAX. ALLOWED ANGLE MOVEMENTS | |
| 扭转变形 TORSIONAL | ±14° |
| 锥度 CONICAL | ±12° |
| 径向刚度 RADIAL STIFFNESS | 57.14 kN/mm |

镀锌部分表面镀锌处理,不涂漆
NO PAINTING ON THE GALVANIZE SURFACE

| | | | | | | | | | | | | | |
|---|-----------------|------|-----|-----|-----------------|------|-----|-----|-----------------|------|-----|----------------------|--|
| | | | | | | | | | | | | | |
| 版本 | 更改内容 | 日期 | 设计 | 版本 | 更改内容 | 日期 | 设计 | 版本 | 更改内容 | 日期 | 设计 | | |
| REV | MODIFIED DOC NO | DATE | IGN | REV | MODIFIED DOC NO | DATE | IGN | REV | MODIFIED DOC NO | DATE | IGN | | |
|  万山铁路客车股份有限公司
WANSHAN RAILVEHICLE CO., LTD. | | | | | | | | | | | | 抗侧滚减振器
YAW DAMPER | |
| 重量 | 比例 | 图号 | 版本 | 重量 | 比例 | 图号 | | | | | | | |
| REV | MODIFIED DOC NO | DATE | IGN | REV | MODIFIED DOC NO | DATE | IGN | | | | | | |
| B | 18.42 | 14.2 | A2 | | | | | | | | | | |
| AutoCAD2004 | | | | | | | | | | | | CCKZ69-36-000 | |
| | | | | | | | | | | | | 378197 | |



技术要求
NOTES

1 序号4、9、10号基本后盖组：整组力矩为4.50-5.00N.m，螺栓头涂覆防锈面漆LT243。

NO.4, 9, 10 FASTENED AFTER THE CARBODY LOADING DOWN, THE FASTENED MOMENT SHOULD BE WITHIN 450-500NM. THE THREAD PAINTED LT243.

2. 同一桥面各位置于不同测点的位移记录, 同一桥上, 纵向测距 x 和垂向测距 y 和扭距 z 应 $\leq 3\text{MN}/\text{m}$, 纵向测距 x 和扭距 z 应 $\leq 0.5\text{MN}/\text{m}$ 。

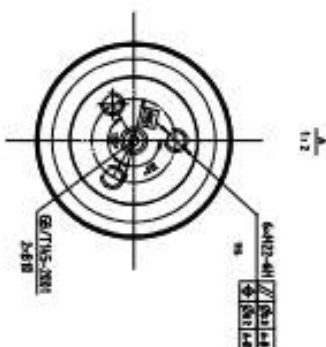
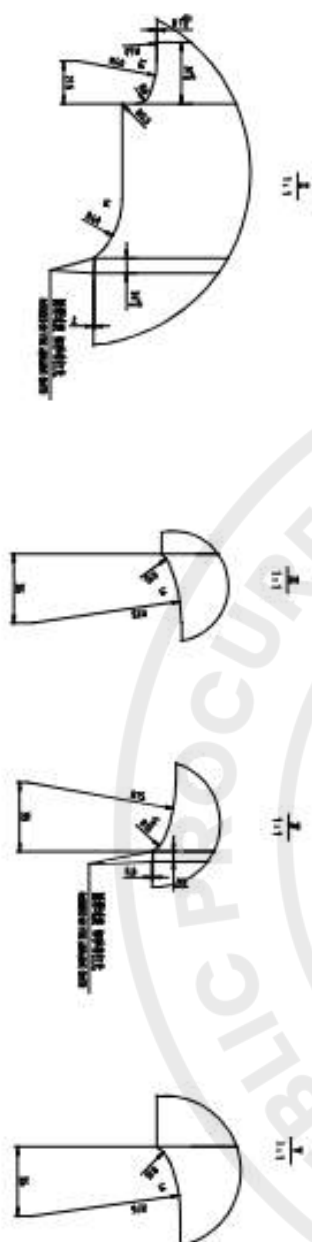
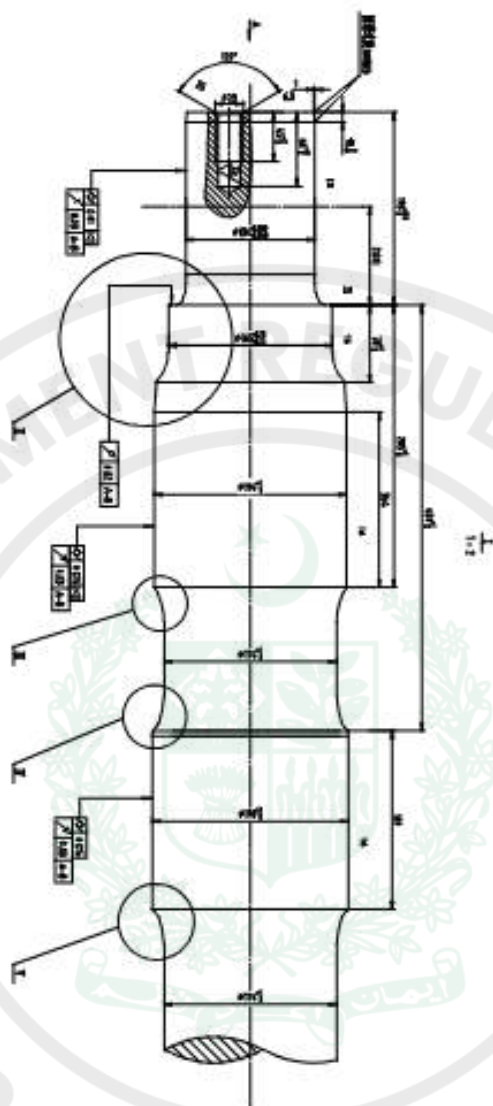
FOR ONE CAR, LATERAL STIFFNESS DIFFERENCE SHOULD BE NO MORE THAN 0.3MN/M,
LONGITUDINAL STIFFNESS DIFFERENCE SHOULD BE NO MORE THAN 0.5MN/M.

NO.13 IS USED FOR MATING SURFACE BETWEEN RUBBER LOCATING SLEEVE AND AXIS OF ROTATION OR BUSH, AND THE MATING SURFACE BETWEEN NUDE DEVICE AND LOCATING HOLE OF AXLE BOX.

| | | | | | | | |
|---------------------|----------|---------------|---------------------------------|------|------------------------|---------------------|-----------|
| 13 | 104052 | | 潤滑油 NLG MOE G-Grade Plus GREASE | LBS | | 0.02 | |
| 12 | 202643 | | 樂泰鎖固膠 LT243 LOCTITE 243 | MM | | 0.001 | |
| 11 | | | | | | | |
| 10 | 383642 | GB/T97.1-2002 | 平墊圈 30 PLAIN WASHER | 1 | 200HV | 0.054 | #ZnyC480h |
| 9 | 383867 | GB/T93-1987 | 彈簧墊圈 30 SPRING WASHER | 1 | 65Mn | 0.051 | #ZnyC480h |
| 8 | | | | | | | |
| 7 | | | | | | | |
| 6 | 378206 | CCKZ69-25-003 | 軸套 BUSH | 1 | 45 | 3.8 | |
| 5 | 378207 | CCKZ69-25-002 | 軸套 AXIS OF ROTATION | 1 | 45 | 5.8 | |
| 4 | 378213 | CCKZ69-25-001 | 玉米塞 ACORN NUT | 1 | 圓棒 5.3-4.5 ROUND STEEL | 0.52 | - |
| 3 | | | | | | | |
| 2 | | | | | | | |
| 1 | 378217 | CCKZ69-25-100 | 橡膠定位套 RUBBER LOCATING SLEEVE | 2 | | 9.82 | 外購 BUY |
| 附註 | 備註 | 說明 | 特 殊 | 數量 | 材料 | 重量 | 備註 |
| REF #PART/DRAWING# | DOC CODE | DESCRIPTION | QTY | MATE | WEIGHT | REMARKS | |
| | | | | | | | |
| | | | | | | | |
| 版本 | 更改詳情 | 日期 | 簽字 | 版本 | 更改詳情 | 日期 | 簽字 |
| REV MODIFIED DOC NO | DATE | SIGN | REV MODIFIED DOC NO | DATE | SIGN | REV MODIFIED DOC NO | DATE SIGN |

CR 长春轨道交通车务有限公司
CHANGCHUN RAILWAY VEHICLES CO., LTD.

节点装置
MODE DEVICE



OTHERS

NOTES

- [illegible]

SPECIFICATION:
AAH N-11-91-Encls "F" or (later)

| |
|-----|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 5 | |

[illegible]

MARKET SPECIFICATIONS OF FLAT-ROLLED CARBON STEEL PRODCUTS

| PRODUCT | STEEL QUALITY | STEEL GRADE DESIGNATION | CHEMICAL ANALYSIS (CAST ANALYSIS) % | | | | | | | MECHANICAL PROPERTIES | | | | | | | | | | REFERENCE STANDARD |
|-----------------------------------|---------------|-------------------------|-------------------------------------|--------|-------|-------|-------|--------|--|--|---------------------|---------------------|-----------------------|------------------------|-------|------|--------------|---|---|--------------------|
| | | | C MAX | Mn MAX | S MAX | P MAX | S MAX | Al MIN | YIELD STRESS MIN
(N/mm ²)
Re | TENSILE STRENGTH
N/mm ²
Max
Rm | ELONGATION % MIN | | | 180° BEND
MANDREL # | | | HARDNESS MAX | | | |
| | | | | | | | | | | | e < 3
Lo = 50 mm | 3 < e
Lo = 80 mm | e > 8
Lo = 5.65 So | e < 3,
3ca < 8 | e > 8 | HRB | HR30T | | | |
| HOT ROLLED STEEL SHEETS AND COILS | COMMERCIAL | HR1 | 0.15 | 0.60 | — | 0.05 | 0.05 | — | — | — | — | — | — | — | 1a | 2a | 1a | — | — | ISO 3573 76 |
| | DRAWING | HR2 | 0.12 | 0.50 | — | 0.04 | 0.04 | — | — | 430 | 26 | 28 | — | — | — | — | — | — | — | ISO 3573 76 |
| | | HR3 | 0.10 | 0.45 | — | 0.03 | 0.03 | — | — | 370 | 29 | 33 | — | — | — | — | — | — | — | do |
| | | HR4 | 0.08 | 0.45 | — | 0.03 | 0.03 | — | — | 300 | 29 | 33 | — | — | — | — | — | — | — | do |
| | STRUCTURAL | HR235 | 0.18 | — | — | 0.05 | 0.05 | — | 235 | 330 Min | 20 | 22 | — | 2a | 2a | — | — | — | — | ISO 4955 78 |
| | | HR275 | 0.21 | — | — | 0.05 | 0.05 | — | 275 | 370 Min | 17 | 18 | — | 3a | 3a | — | — | — | — | do |
| | | HR 355 | 0.22 | 1.60 | 0.55 | 0.05 | 0.05 | — | 355 | 450 Min | 16 | 16 | — | 3a | 3a | — | — | — | — | do |
| | WELD PIPE | HRT1 | 0.10 | 0.50 | 0.35 | 0.04 | 0.04 | — | — | 275 Min | 32 | 35 | 37 | 0a | 0.5a | 0.5a | — | — | — | JIS G3132 83 |
| | | HRT9LS | 0.10 | 0.50 | 0.04 | 0.04 | 0.04 | 0.02 | — | 275 Min | 30 | 35 | 37 | 0a | 0.5a | 0.5a | — | — | — | do |
| | | HRT2 | 0.18 | 0.60 | 0.35 | 0.04 | 0.04 | — | — | 143 Min | 27 | 30 | 32 | 1a | 1.5a | 1.5a | — | — | — | JIS G3132 83 |
| | | SLA | 0.21 | 0.80 | — | 0.04 | 0.05 | — | 207 | 331 Min | — | — | — | — | — | — | — | — | — | API 5L 83 |
| | | SLA LS | 0.21 | 0.90 | — | 0.04 | 0.05 | 0.02 | 207 | 331 Min | — | — | — | — | — | — | — | — | — | do |
| | | SLB | 0.26 | 1.15 | — | 0.04 | 0.05 | — | 241 | 413 Min | — | — | — | — | — | — | — | — | — | do |
| | | SLB LS | 0.26 | 1.15 | 0.07 | 0.04 | 0.05 | 0.02 | 241 | 413 Min | — | — | — | — | — | — | — | — | — | do |
| | | X 42 | 0.28 | 1.25 | — | 0.04 | 0.05 | — | 289 | 413 Min | — | — | — | — | — | — | — | — | — | do |
| | | X 46 | 0.30 | 1.35 | — | 0.04 | 0.05 | — | 317 | 434 Min | — | — | — | — | — | — | — | — | — | do |
| | | X 52 | 0.30 | 1.35 | — | 0.04 | 0.05 | — | 358 | 455 Min | — | — | — | — | — | — | — | — | — | do |

- Other steel grades can be produced against specific orders.
- 1 Kp/mm² = 9.80665 Mpa (N/mm²).
- Mechanical properties are indicated for finished products only.

Lo = gauge length of test piece in mm.

So = original cross-sectional area of gauge length.

a = thickness of steel sheet in mm.

b = thickness of bend piece.

EPADS

The main bearing beam parts of the CW8 open top wagon carbody (such as center beam, side beam, bolster, cross beam, etc.) are made of Q450NQR1 high-strength atmospheric corrosion resistant steel, and the side plate, end plate, floor, etc. are made of Q345NQR2 high-strength atmospheric corrosion resistant steel. See Table 1 and Table 2 for chemical composition and mechanical properties of materials.

Table 1 Chemical composition

| Mark | Chemical composition % | | | | | | | |
|----------|------------------------|-------------|-------------|--------------|--------|-------------|-------------|-------------|
| | C | Si | Mn | P | S | Cu | Cr | Ni |
| Q450NQR1 | ≤0.12 | ≤0.75 | ≤1.50 | ≤0.025 | ≤0.008 | 0.20 ~ 0.55 | 0.30 ~ 1.25 | 0.12 ~ 0.65 |
| Q345NQR2 | ≤0.12 | 0.25 ~ 0.75 | 0.20 ~ 0.50 | 0.060 ~ 0.12 | ≤0.020 | 0.25 ~ 0.50 | 0.30 ~ 1.25 | 0.12 ~ 0.65 |

Table 2 Mechanical property

| Mark | Yield strength (MPa) | Tensile Strength (MPa) | Elongation after fracture A (%) | Impact energy (-40℃) AKV (J) |
|----------|----------------------|------------------------|---------------------------------|------------------------------|
| Q450NQR1 | ≥450 | ≥550 | ≥20 | ≥60 |
| Q345NQR2 | ≥345 | ≥480 | ≥24 | ≥21 |

2.2 Underframe accessories

Underframe accessories are mainly composed of brake component mounting base, lever bracket, hand brake lifting socket and brake pipe lifting socket.

2.3 Braking device

2.3.1 Air brake unit

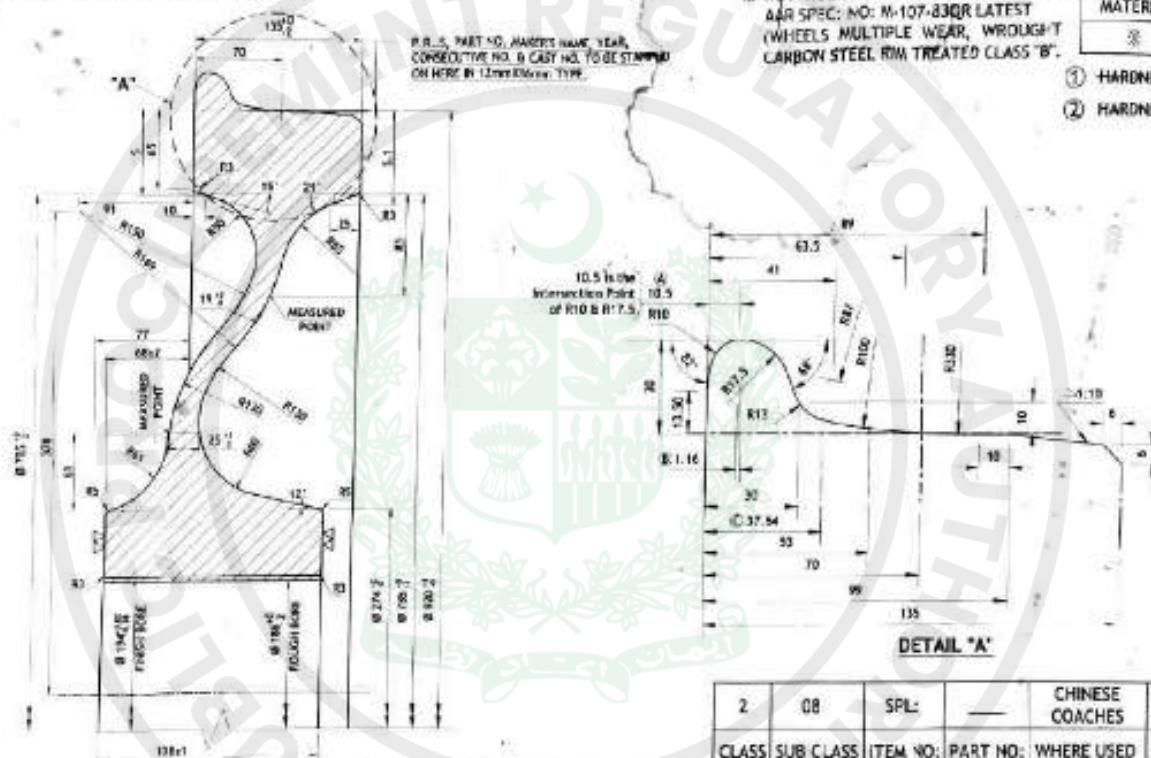
The air brake unit conforming to UIC standard is adopted, which is

SOURCE: AS PER CHINESE DRG: NO: CCK255-21-002

* M/T ROLLED/FORGED WHEEL AS PER
AAR SPEC: NO: M-107-83QR LATEST
(WHEELS MULTIPLE WEAR, WROUGHT
CARBON STEEL RIM TREATED CLASS "B".

| SPECIFICATIONS | | |
|----------------|-------|-----|
| MATERIAL | CLASS | NO. |
| 鋼 | | |

- ② HARDNESS (BHN) 310-341



| | | | | | | |
|-------|-----------|----------|----------|--------------------|---------------|---------|
| 2 | 08 | SPL: | — | CHINESE
COACHES | 390 Kg | |
| CLASS | SUB CLASS | ITEM NO: | PART NO: | WHERE USED | WT:
Approx | REMARKS |

| MACHINING SYMBOLS | ROUGH MACHINED | | FINE MACHINED | | FINE FINISHES |
|---------------------|--------------------|-----------------|-----------------|-----------------|-----------------|
|
ROUGH MACHINING |
FINE MACHINING |
FINE FINISH |
FINE FINISH |
FINE FINISH |
FINE FINISH |

NOTE:

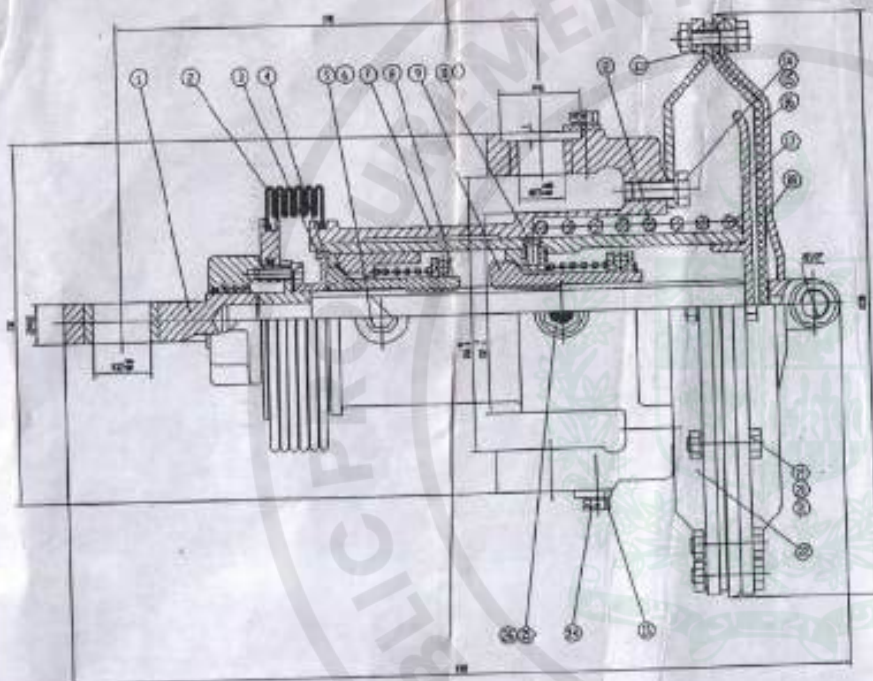
- 1:- 5, 5.1 ARE MEASURED DIMENSIONS
2:- ALL DIMENSIONS ARE IN MILLIMETERS

| | | | |
|-----------|-----------|------------|-----------|
| HD: D/MAN | SDO/MECH. | SME/DESIGN | DY: CME/C |
|-----------|-----------|------------|-----------|

| | | |
|---|-------------|-----|
| PR | 5'-6" Gauge | C&W |
| WHEEL
SOLID FORGED (920mm Dia) | | |

CME SK: NO:395/C①②③④

PREHO



Technical requirement

1. Size of the parts and flow lines with component in before assembly
 2. Lubricate of the moving surface with the second grade before assembly, the quality is about 40g/ea
 3. After assembled and tested it according to tested and inspection of the PDA brake cylinder.

| No | Code | Name | Unit | Material | Remark |
|-----|-------------|---------------|------|----------|--------|
| 1 | SP13-01-01 | main body | 1 | 65Mn | |
| 2 | SP13-01-02 | cover plate | 1 | 65Mn | |
| 3 | SP13-01-03 | seal ring | 1 | 65Mn | |
| 4 | SP13-01-04 | pin | 2 | 65Mn-A | |
| 5 | SP13-01-05 | return spring | 1 | 65Mn | |
| 6 | SP13-01-06 | seal ring | 1 | 65Mn | |
| 7 | SP13-01-07 | seal ring | 1 | 65Mn | |
| 8 | SP13-01-08 | seal ring | 1 | 65Mn | |
| 9 | SP13-01-09 | seal ring | 1 | 65Mn | |
| 10 | SP13-01-10 | seal ring | 1 | 65Mn | |
| 11 | SP13-01-11 | seal ring | 1 | 65Mn | |
| 12 | SP13-01-12 | seal ring | 1 | 65Mn | |
| 13 | SP13-01-13 | seal ring | 1 | 65Mn | |
| 14 | SP13-01-14 | seal ring | 1 | 65Mn | |
| 15 | SP13-01-15 | seal ring | 1 | 65Mn | |
| 16 | SP13-01-16 | seal ring | 1 | 65Mn | |
| 17 | SP13-01-17 | seal ring | 1 | 65Mn | |
| 18 | SP13-01-18 | seal ring | 1 | 65Mn | |
| 19 | SP13-01-19 | seal ring | 1 | 65Mn | |
| 20 | SP13-01-20 | seal ring | 1 | 65Mn | |
| 21 | SP13-01-21 | seal ring | 1 | 65Mn | |
| 22 | SP13-01-22 | seal ring | 1 | 65Mn | |
| 23 | SP13-01-23 | seal ring | 1 | 65Mn | |
| 24 | SP13-01-24 | seal ring | 1 | 65Mn | |
| 25 | SP13-01-25 | seal ring | 1 | 65Mn | |
| 26 | SP13-01-26 | seal ring | 1 | 65Mn | |
| 27 | SP13-01-27 | seal ring | 1 | 65Mn | |
| 28 | SP13-01-28 | seal ring | 1 | 65Mn | |
| 29 | SP13-01-29 | seal ring | 1 | 65Mn | |
| 30 | SP13-01-30 | seal ring | 1 | 65Mn | |
| 31 | SP13-01-31 | seal ring | 1 | 65Mn | |
| 32 | SP13-01-32 | seal ring | 1 | 65Mn | |
| 33 | SP13-01-33 | seal ring | 1 | 65Mn | |
| 34 | SP13-01-34 | seal ring | 1 | 65Mn | |
| 35 | SP13-01-35 | seal ring | 1 | 65Mn | |
| 36 | SP13-01-36 | seal ring | 1 | 65Mn | |
| 37 | SP13-01-37 | seal ring | 1 | 65Mn | |
| 38 | SP13-01-38 | seal ring | 1 | 65Mn | |
| 39 | SP13-01-39 | seal ring | 1 | 65Mn | |
| 40 | SP13-01-40 | seal ring | 1 | 65Mn | |
| 41 | SP13-01-41 | seal ring | 1 | 65Mn | |
| 42 | SP13-01-42 | seal ring | 1 | 65Mn | |
| 43 | SP13-01-43 | seal ring | 1 | 65Mn | |
| 44 | SP13-01-44 | seal ring | 1 | 65Mn | |
| 45 | SP13-01-45 | seal ring | 1 | 65Mn | |
| 46 | SP13-01-46 | seal ring | 1 | 65Mn | |
| 47 | SP13-01-47 | seal ring | 1 | 65Mn | |
| 48 | SP13-01-48 | seal ring | 1 | 65Mn | |
| 49 | SP13-01-49 | seal ring | 1 | 65Mn | |
| 50 | SP13-01-50 | seal ring | 1 | 65Mn | |
| 51 | SP13-01-51 | seal ring | 1 | 65Mn | |
| 52 | SP13-01-52 | seal ring | 1 | 65Mn | |
| 53 | SP13-01-53 | seal ring | 1 | 65Mn | |
| 54 | SP13-01-54 | seal ring | 1 | 65Mn | |
| 55 | SP13-01-55 | seal ring | 1 | 65Mn | |
| 56 | SP13-01-56 | seal ring | 1 | 65Mn | |
| 57 | SP13-01-57 | seal ring | 1 | 65Mn | |
| 58 | SP13-01-58 | seal ring | 1 | 65Mn | |
| 59 | SP13-01-59 | seal ring | 1 | 65Mn | |
| 60 | SP13-01-60 | seal ring | 1 | 65Mn | |
| 61 | SP13-01-61 | seal ring | 1 | 65Mn | |
| 62 | SP13-01-62 | seal ring | 1 | 65Mn | |
| 63 | SP13-01-63 | seal ring | 1 | 65Mn | |
| 64 | SP13-01-64 | seal ring | 1 | 65Mn | |
| 65 | SP13-01-65 | seal ring | 1 | 65Mn | |
| 66 | SP13-01-66 | seal ring | 1 | 65Mn | |
| 67 | SP13-01-67 | seal ring | 1 | 65Mn | |
| 68 | SP13-01-68 | seal ring | 1 | 65Mn | |
| 69 | SP13-01-69 | seal ring | 1 | 65Mn | |
| 70 | SP13-01-70 | seal ring | 1 | 65Mn | |
| 71 | SP13-01-71 | seal ring | 1 | 65Mn | |
| 72 | SP13-01-72 | seal ring | 1 | 65Mn | |
| 73 | SP13-01-73 | seal ring | 1 | 65Mn | |
| 74 | SP13-01-74 | seal ring | 1 | 65Mn | |
| 75 | SP13-01-75 | seal ring | 1 | 65Mn | |
| 76 | SP13-01-76 | seal ring | 1 | 65Mn | |
| 77 | SP13-01-77 | seal ring | 1 | 65Mn | |
| 78 | SP13-01-78 | seal ring | 1 | 65Mn | |
| 79 | SP13-01-79 | seal ring | 1 | 65Mn | |
| 80 | SP13-01-80 | seal ring | 1 | 65Mn | |
| 81 | SP13-01-81 | seal ring | 1 | 65Mn | |
| 82 | SP13-01-82 | seal ring | 1 | 65Mn | |
| 83 | SP13-01-83 | seal ring | 1 | 65Mn | |
| 84 | SP13-01-84 | seal ring | 1 | 65Mn | |
| 85 | SP13-01-85 | seal ring | 1 | 65Mn | |
| 86 | SP13-01-86 | seal ring | 1 | 65Mn | |
| 87 | SP13-01-87 | seal ring | 1 | 65Mn | |
| 88 | SP13-01-88 | seal ring | 1 | 65Mn | |
| 89 | SP13-01-89 | seal ring | 1 | 65Mn | |
| 90 | SP13-01-90 | seal ring | 1 | 65Mn | |
| 91 | SP13-01-91 | seal ring | 1 | 65Mn | |
| 92 | SP13-01-92 | seal ring | 1 | 65Mn | |
| 93 | SP13-01-93 | seal ring | 1 | 65Mn | |
| 94 | SP13-01-94 | seal ring | 1 | 65Mn | |
| 95 | SP13-01-95 | seal ring | 1 | 65Mn | |
| 96 | SP13-01-96 | seal ring | 1 | 65Mn | |
| 97 | SP13-01-97 | seal ring | 1 | 65Mn | |
| 98 | SP13-01-98 | seal ring | 1 | 65Mn | |
| 99 | SP13-01-99 | seal ring | 1 | 65Mn | |
| 100 | SP13-01-100 | seal ring | 1 | 65Mn | |

Appendix 4-2: SP13B brake cylinder unit

3.05CuPCrNi

TB1979

the ratio between yield strength and tensile strength of steel plate.

lower yield strength

tensile strength

table 2:

mechanical performance

TB1979 2003

technical performance of steel

| steel type | 交货状态 | 厚度
mm | 屈服强度
R_{eL}
MPa | 抗拉强度
R_m
MPa | 伸长率
$A_{g0.5}$ | 断面收缩率
Z
% | 180°冷弯试验
100°
d=3a |
|-------------|---------------|----------|-------------------------|----------------------|-------------------|-------------------|--------------------------|
| 09CuPtRE | deliver state | ≤16 | ≥345 | ≥480 | ≥24 | ≥40 | d=0 |
| 09CuPtRE-A | | ≤16 | ≥295 | ≥390 | ≥24 | ≥40 | d=0 |
| 09CuPtRE-B | | ≤16 | ≥345 | ≥480 | ≥24 | ≥40 | d=0 |
| 09CuPCrNi-A | hot rolling | ≤16 | ≥345 | ≥480 | ≥24 | ≥40 | d=0 |
| 09CuPCrNi-B | | ≤16 | ≥295 | ≥390 | ≥24 | ≥40 | d=0 |
| 09CuPtRE-A | cold rolling | ≤4 | ≥310 | ≥440 | ≥26 | ≥40 | d=0 |
| 09CuPtRE-B | | ≤4 | ≥265 | ≥402 | ≥27 | ≥40 | d=0 |

cold-bending test at 180°C temperature

elongation after being broken.

Remark: in the table 'd' is diameter of bending mandril, 'a' is the thickness of steel plate.

table 1: steel type and chemical composition

表1 钢的牌号及化学成分

| steel type | C | Si | Mn | P | S | Cu | Ti | Cr | Ni | RE* |
|-------------|--------|-----------|-----------|------------|--------|-----------|----------------------|-----------|-----------|-------------|
| 09CuPtRE | ≤0.12 | 0.20~0.40 | 0.20~0.50 | 0.000~0.12 | ≤0.020 | 0.25~0.50 | V
0.020
~0.080 | | | 0.010~0.040 |
| 09CuPtRE-A | ≤0.12 | 0.20~0.40 | 0.25~0.55 | 0.000~0.12 | ≤0.020 | 0.25~0.50 | Ti
0.030 | | | 0.010~0.040 |
| 09CuPtRE-B | ≤0.12 | 0.20~0.50 | 0.25~0.70 | 0.000~0.12 | ≤0.020 | 0.25~0.50 | Ti
0.030 | | | 0.010~0.040 |
| 09CuPCrNi-A | ≤0.12 | 0.25~0.75 | 0.20~0.50 | 0.000~0.12 | ≤0.020 | 0.25~0.50 | | 0.30~1.25 | 0.12~0.65 | |
| 09CuPCrNi-B | ≤0.12 | 0.10~0.40 | 0.20~0.50 | 0.000~0.12 | ≤0.020 | 0.25~0.45 | | 0.30~0.65 | 0.25~0.50 | |
| 05CuPCrNi | ≤0.080 | 0.25~0.50 | 0.20~0.50 | 0.000~0.12 | ≤0.020 | 0.25~0.50 | | 0.30~1.25 | 0.12~0.65 | |

05CuPrNi

*RE 值为成品钢中铈的含量。当 S≤0.01% 时，可保证有一定的铈含量。

*RE value is the thulium content in the finished product steel:

when sulphur is not more than 0.01% (S≤0.01%), it may ensure some thulium.

Price :— Re. 1 or 2s. or 32c. (postage extra).

No. M 5—55.

GOVERNMENT OF PAKISTAN.
MINISTRY OF COMMUNICATIONS.
(RAILWAY DIVISION.)



Sp 4 from S-Shop

| | | |
|----|-----------------|-----------|
| C | 0.2 to | 0.27 |
| Mn | 0.4 | 0.5 |
| Si | 0.25 | 0.35 |
| P | 0.05 | max 0.06% |
| S | | max 0.06% |

PAKISTAN RAILWAY
STANDARD SPECIFICATION

for

CLASS II STEEL PLATES, SECTIONS, BARS, ETC.

Serial No. M 5—55.

These Specifications are issued under the fixed Serial No. M 5 ; the final number indicates the year of original adoption as standard, or in the case of revision, the year of last revision.

Adopted, 1949 ; Revised, 1955.

1. The Plates, Sections and Bars shall be manufactured from Steel Quality of made by the Acid or Basic Open-Hearth, Electric, Duplex or Acid Bessemer Material. process and shall not show on analysis more than 0.06 per cent. of Sulphur or of Phosphorus.

2. All finished steel as sent from the mills shall be well and cleanly rolled to the dimensions, sections and weights specified or required, shall be sound and free from cracks, surface flaws, laminations, rough, jagged and imperfect edges and all other defects and shall be finished in a workmanlike manner.

Weights,
Margin
Over and
Under,
Tolerance
for
Hexagonal
Bars.

3. When the specified weight is not stated to be either a maximum or a minimum the rolling margins shall be as follows:—

| Description of material. | Rolling margin above or below the specified weight. | | Total Rolling Margin. | |
|--|---|-----------|-----------------------|-----------|
| | Per cent. | Per cent. | Per cent. | Per cent. |
| Plates— | | | | |
| Up to and including $\frac{1}{4}$ in. in thickness | 5 | | 10 | |
| Over $\frac{1}{4}$ in. in thickness | 2½ | | 5 | |
| Sections and Flat bars— | | | | |
| All thicknesses | 2½ | | 5 | |
| Round bars and Square bars— | | | | |
| Up to and including $\frac{3}{8}$ in. in diameter or thickness | 4 | | 8 | |
| Over $\frac{3}{8}$ in. in diameter or thickness | 2½ | | 5 | |

When a minimum weight is specified the rolling margin shall be wholly above such specified weight and when a maximum weight is specified the rolling margin shall be wholly below such specified weight. In both cases the rolling margin shall be equal to the total rolling margin given in the foregoing table for the appropriate description and thickness, or diameter, of the material.

Beams and Channels shall also be subject to the following maximum permissible upwards and downwards variation in the specified depth:—

| Specific Depth of Beam or Channel. | Variation. | |
|--|------------|------------|
| | Upwards. | Downwards. |
| Up to and including 12 in. | $1/8$ in. | $1/32$ in. |
| Over 12 in. and up to and including 16 in. | $5/32$ in. | $1/16$ in. |
| Over 16 in. and up to and including 24 in. | $3/16$ in. | $1/16$ in. |

Hexagonal Bars shall be subject to the tolerances specified in Table I appearing on last page.

Calculation
of Weight.

4. The weight of plates shall be calculated on the basis that steel weighs 40.8 lbs. per square foot per inch of thickness, and the weight of sections and bars on the basis that steel weighs 3.4 lbs. per square inch of sectional area per foot-run.

Lengths of
Sections and
Bars.

5. Sections or bars destined for stock may be one foot under or over specified "average" lengths. When sections or bars are specified to be cut to certain length they shall be cut within a margin of 1 inch under or 1 inch over the specified length, but if the Maker is required to take his cutting margin over and not under the length specified, the margin shall be within 2 inches over. When "exact" lengths are specified, the sections or bars shall be cold sawn or machined within a margin of $\frac{1}{8}$ inch over or under a length specified.

the material in each class for each variation in thickness of 0.2 inch above or below the thickness of the test piece first selected in such class.

(B) *For Tensile Tests, Clause 7, Sub-Sections (b) and (c).*—One tensile test shall be made from the finished steel from each cast unless the quantity of the steel from one cast exceeds 25 tons, in which case a second tensile test shall be made. When more than one diameter or thickness of bar is required or specified one additional test shall be made from each diameter or thickness of bar ordered, if desired by the Purchaser or by the Inspecting Officer.

Cold Bend Test Pieces

9. Bend tests of all steel shall be made from test pieces prepared as follows:— Bend test pieces shall be sheared or cut lengthwise or crosswise from plates and lengthwise from sections and flat, round, square and hexagonal bars and when the section permits, shall not be less than $1\frac{1}{2}$ inches wide. In cases where the section is less than $1\frac{1}{2}$ inches wide, or if the Maker so desires, round, square, flat and hexagonal bars shall be bent in the full section of the bar as rolled.

In all bend tests the rough edge or arris caused by shearing may be removed by filing or grinding, and samples 1 inch in thickness and above may have edges machined, but the test pieces shall receive no other preparation.

The test pieces shall not be annealed, or otherwise subjected to heat treatment, unless the material from which they are cut is similarly treated in which case the test pieces shall be similarly and simultaneously treated with the material before testing.

Cold Bend Tests.

10. For cold bend tests, except in the case of round bars 1 inch in diameter and under the test piece shall withstand, without fracture being doubled over either by pressure or by blows from a hammer until the internal radius is not greater than $1\frac{1}{2}$ times the thickness of the test piece, and the sides are parallel.

In the case of round bars, 1 inch in diameter and under, the internal radius of the bend shall be not greater than the diameter of the bar.

For sections having flanges less than 2 inches wide these bend tests may be made from the flattened section.

11. For every 5 tons, or part of 5 tons, of material presented for inspection, the following cold bend tests shall be taken from the material from each cast included therein:—

| From each type of Section and from flat bars. | From plates. | From each diameter of round, each thickness of square bars, and each size of hexagonal bars. |
|---|-------------------------------|--|
| 1 lengthwise | 1 lengthwise and 1 crosswise. | 1 lengthwise. |

Except that for the first 5 tons, or part of 5 tons, one additional test shall be taken from each type of section and from flat bars, and from each diameter or thickness of square bar.

12. The Maker shall supply an analysis of each cast of steel when required to do so by the Purchaser or by the Inspecting Officer, but samples may also be taken by the Purchaser or by the Inspecting Officer, and at the expense of the Purchaser may be subjected to complete analysis by a metallurgist appointed by him. **Tests by Chemical Analysis.**

13. Should a tensile test piece break outside the middle-half of its gauge length, the test may, at the Maker's option, be discarded and another test be made of the same plate, section, or bar. In all other cases should any of the test pieces first selected not fulfil the tests applicable to the description of material to be tested, two additional test pieces may be taken; and should either of them fail to fulfil such tests, all steel from the cast from which the test pieces have been taken may be rejected. The additional tests shall be carried out in the same manner in all respects as the tests hereinbefore required to be made in the first instance. **Additional Tests before Rejection.**

14. The Maker shall mark the ingots, billets, slabs, ~~plates~~ sections, bars, etc., in such a way as to enable all finished steel to be traced to the original cast. Every facility for tracing the steel to the original cast shall be given to the Purchaser and to the Inspecting Officer. **Identification of Casts.**

15. The Inspecting Officer or the Purchaser shall have free access to the works of the Maker at all reasonable times, he shall be at liberty to inspect the manufacture at any stage and to reject material that does not conform to the terms of this Specification. **Inspection.**

16. The Maker shall supply the material required for testing free of charge and shall, at his own cost, furnish and prepare the necessary test pieces and supply labour and appliances for such testing as may be carried out on his premises in accordance with this Specification. Failing facilities at his own works for making the prescribed tests, the Maker shall bear the cost of carrying out the tests elsewhere. **Testing Facilities.**

17. (a) *When no inspection has taken place.*—In the case of any steel which has not been inspected at the Maker's works, the Maker or Merchant, as the case may be, shall supply the Purchaser or the Inspecting Officer with a **Maker's Certificate.**

6. The tensile strength and elongation of all steel shall be determined from British Standard Test Pieces cut lengthwise and crosswise from plates and lengthwise from sections and bars.

The test pieces shall not be annealed, or otherwise subjected to heat treatment, unless the material from which they are cut is similarly treated. In which case the test pieces shall be similarly and simultaneously treated with the material before testing.

Any straightening of test pieces which may be required shall be done cold.

The rolled surface of the steel wherever practicable shall be retained on two opposite sides of the test piece, but in the case of bars having diameters or sides not exceeding 3 inches the bars may be reduced by turning.

7. The tensile breaking strength of all steel determined from the British Standard Test Pieces hereinafter referred to, shall be as follows:—

(a) *Plates, Sections (e.g., Angles, Tees, Joists, Channels, etc.) and Flat Bars.*—The tensile breaking strength of all plates, sections and flat bars shall be between the limits of 28 and 33 tons per square inch of section. The elongation measured on the British Standard Test Piece A shall not be less than 20 per cent. for steel of 0.375 inch in thickness and upwards, and not less than 16 per cent. for steel below 0.375 inch thickness. For plates, sections and flat bars under 0.25 inch in thickness, bend tests only shall be required.

(b) *Round and Square Bars.*—The tensile breaking strength of round and square bars shall be between the limits of 28 and 33 tons per square inch of section, with an elongation of not less than 20 per cent. measured on the British Standard Test Piece B, or not less than 24 per cent. measured on the British Standard Test Piece B1. For bars under 3/8 inch in diameter or thickness, for concrete reinforcement the elongation measured on test piece B shall be not less than 16 per cent. For bars under 0.375 inch dia. or thickness for other purposes bend tests only shall be required. The Bars may be tested the full size as rolled.

(c) *Hexagonal bars.*—The tensile breaking strength of hexagonal bars shall be between the limits of 28 and 33 tons per sq. inch of section, with an elongation of not less than 20 per cent. measured on British Standard Test Piece B, or not less than 24 per cent. measured on British Standard Test Piece B1.

8. (A) *Tensile Tests, Clause 7, Sub-Section (a).*—One tensile test shall be made from the finished steel from each cast up to 25 tons of plates, test being made for each class. A second tensile test shall be made of the material in any class when the quantity in that class exceeds 25 tons.

When plates, sections of flat bars of more than one thickness are rolled from the same cast, one additional tensile test shall be made from

with a certificate stating the process of manufacture and a test sheet signed by the Maker giving the results of each of the mechanical tests applicable to the description of material purchased, and if and when required of the chemical analysis also. Each test sheet shall indicate the numbers or identification marks of the casts to which it applies, corresponding with the numbers to be found on the plates, sections, bars, etc.

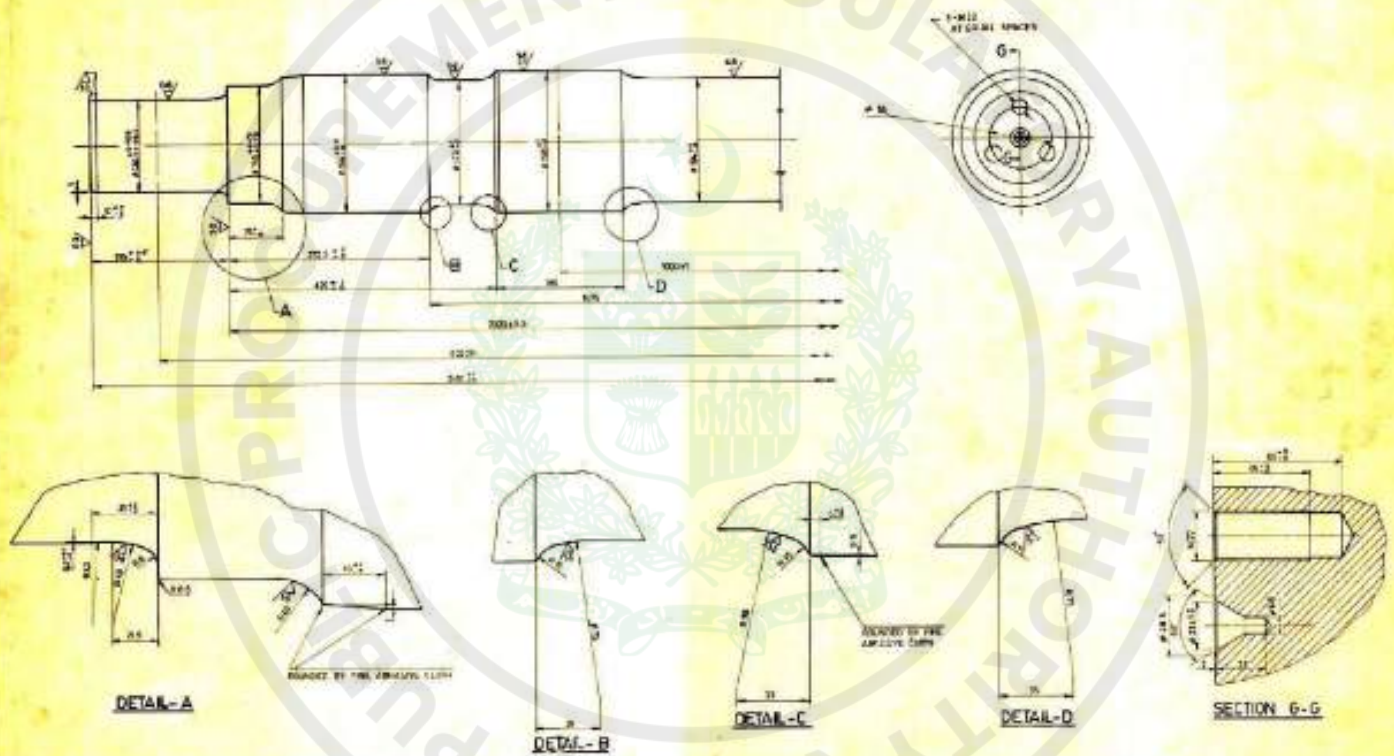
(b) *When Steel is taken from Stock.*—Where any steel is taken from a Merchant's stock, the Purchaser or the Inspecting Officer may either (i) have the steel tested at a place appointed by the Purchaser and at his own expense or (ii) the Merchant shall satisfy the Purchaser or the Inspecting Officer by means of numbers or identification marks on the steel, combined with a Maker's certificate, that such steel has been tested and complies with the whole of the tests and requirements of this Specification applicable to the description of material required or specified.

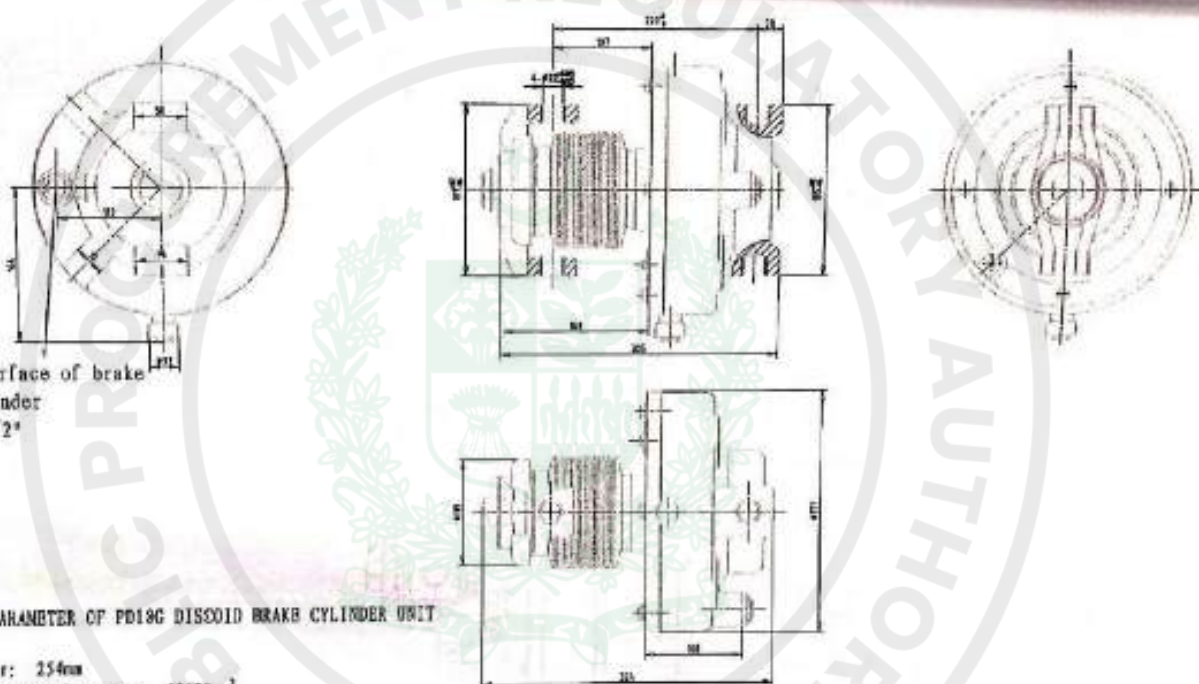
Table I.
Tolerances for Hexagonal Bars.

| Min. width across flats. | Tolerance±. | Corresponding hexagonal
nut or bolt head.
Nominal size. |
|--------------------------|-------------|---|
| •505 | •020 | 1/4 |
| •550 | •020 | 5/16 |
| •690 | •020 | 3/8 |
| •800 | •020 | 7/16 |
| •900 | •020 | 1/2 |
| •990 | •020 | 9/16 |
| 1•080 | •020 | 5/8 |
| 1•180 | •020 | 11/16 |
| 1•280 | •020 | 3/4 |
| 1•370 | •020 | 13/16 |
| 1•460 | •020 | 7/8 |
| 1•560 | •020 | 15/16 |
| 1•650 | •020 | 1 |
| 1•830 | •030 | 1 1/8 |
| 2•020 | •030 | 1 1/4 |
| 2•190 | •030 | 1 3/8 |
| 2•380 | •030 | 1 1/2 |
| 2•550 | •030 | 1 5/8 |
| 2•730 | •030 | 1 3/4 |
| 3•120 | •030 | 2 |

SOURCE AS PER CCK DRG NO CCK2 35.21.081

| |
|------------------------------------|
| SPECIFICATION |
| 8. AIR INLET, UNDRUNDED PORE LAYER |
| ON 18x1 18x5 - 18x5 |





MAIN PARAMETER OF PD13G DISCOLD BRAKE CYLINDER UNIT

1. diameter: 254mm
2. plunger effective area: 50670mm²
3. plunger ineffective volume: 0.16 L
4. distance of action A: 2~7mm
5. max adjust ability of brake distance of action: 130-B mm
(E-elastic distortion)
6. max brake distance of plunger action: 20mm
7. max one-setting distance: 20-A mm
8. max working pressure: 800kPa
9. weight: 27kg

| | | | | | | | | |
|-----|----|----|----|------|----|----|--|---------------------------------------|
| | | | | | | |  株式会社 日立製作所 | |
| 品名 | 数量 | 単位 | 用途 | 保管場所 | 検査 | 検査 | 検査 | FDK discoid brake cylinder unit(left) |
| 品番 | | | 品番 | | | | | |
| 材料 | | | 工程 | | | | | |
| 主材料 | | | 材料 | | | | | PD1001C-00-00 |
| | | | 材料 | | | | | |
| | | | | | | | | |



NOTES

1. **WORKING INSTRUCTIONS**
1. Fold all ends of pipe into line.
2. **INSTALLATION INSTRUCTIONS**
2. Use down entrance end of hose should chamber full and remove the sharp edges and burrs.

| Year | L |
|------|---|
| 2000 | 0 |
| 2001 | 0 |
| 2002 | 0 |
| 2003 | 0 |
| 2004 | 0 |

| SPECIMEN DESCRIPTION | | | | | | | |
|-----------------------|------|-------|-------|-----------------------|--------|--------|--------|
| Q125 400 CARBIDE W/1 | | | | | | | |
| C | SI | MN | P | S | CU | MO | N |
| 0.0001 | 0.25 | 0.008 | 0.005 | 0.0001 | 0.0001 | 0.0001 | 0.0001 |
| MECHANICAL PROPERTIES | | | | | | | |
| TENSILE STRENGTH | | | | 450 N/mm ² | | | |
| YIELD POINT | | | | 230 N/mm ² | | | |
| ELONGATION | | | | 22% | | | |

[illegible]



2. 將A和B之液，置入蒸餾水之加蓋燒
瓶(200ml)中，使成液不致干涸。
(燒瓶口宜加蓋)

2. The two sets are disjoint because they have no common elements.
Set A = {1, 2, 3, 4, 5} and Set B = {6, 7, 8, 9, 10}

2. 研究風土民情與土地、自然環境之關係

The 2019 report was published.

CHEMICAL COMPOSITION

26 230-460 (08 1152-109)

| C | SI | MR | S | N | CF | CU | MO | V |
|-----------|-----------|-----------|-----------|-------|-------|-------|-------|-------|
| 0.80% MAX | 0.80% MAX | 0.80% MAX | 0.04% MAX | 0.30% | 0.35% | 0.35% | 0.80% | 0.80% |

MECHANICAL PROPERTIES

| | |
|------------------|---------------------|
| TENSILE STRENGTH | 450 N/mm^2 |
| YIELD POINT | 230 N/mm^2 |
| ELONGATION | 12% |

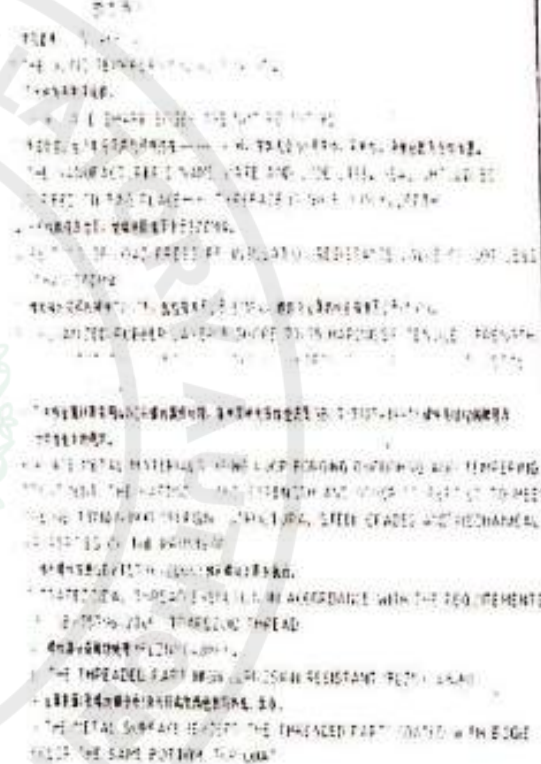
长春客车厂
CHANGCHUN DIE CASTING

肉餅土仔相送

WASTE LAND SCORING

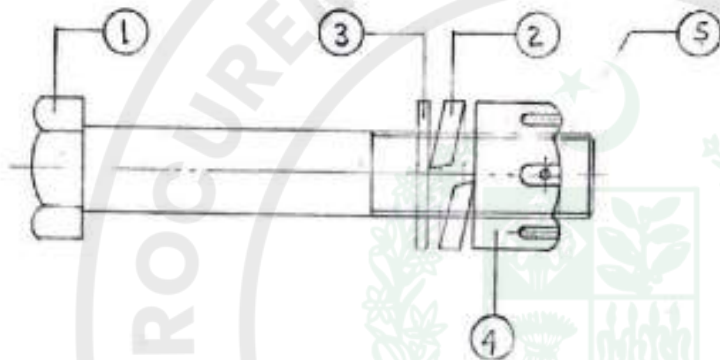
QCKZ55-54-00

| | | | | | | | |
|-----------------------|---|------------------------------|---------|----------------|---|---------------|---|
| CME'S SK. NO. 1179/CC | | S.D.O. (M) | | S.M.E./DESIGN | | DY.C.M.E/C | |
| DATE: 25.09.2009 | | SCALE: | | S.D.O. (M) | | S.M.E./DESIGN | |
| BOLT ASSEMBLY | | FOR BRAKE DISC/FRICTION RING | | DF CRC COACHES | | SCALE: | |
| 1576 GAUGE | | F.R. | | S.D.O. (M) | | S.M.E./DESIGN | |
| CME'S SK. NO. | | DESCRIPTION | | QTY | | UNIT | |
| 1 | 1 | BOLT M-16 (GB 5181-86) | 1160/CC | 1 | 1 | 1 | 1 |
| 2 | 1 | WASHER 16 (GB 5181-86) | 1161/CC | 1 | 1 | 1 | 1 |
| 3 | 1 | FLEXIBLE BUSH (YB-03-04) | 1162/CC | 1 | 1 | 1 | 1 |
| 4 | 2 | TAPER WASHER (YB-03-04) | 1163/CC | 2 | 2 | 2 | 2 |
| 5 | 1 | NUT M-16 (GB 5181-86) | 1164/CC | 1 | 1 | 1 | 1 |
| 6 | 1 | PIN 4x35 (GB 91-86) | 1165/CC | 1 | 1 | 1 | 1 |



GR
SINGAPORE
SINGAPORE

LOWE



S/C No. 212.16750

| REF. NO. | NO. PER SET | DESCRIPTION | C.M.E.S.K. NO. |
|----------|-------------|---------------------------------|----------------|
| 5 | 1 | PIN 5x40 (GB 91-86) | 1123/CC |
| 4 | 1 | NUT M-24 (GB 6170-86) | 1167/CC |
| 3 | 1 | WASHER M-24 (GB 93-87) | — |
| 2 | 1 | SPRING WASHER M-24 (GB 97.1-85) | 1166/CC |
| 1 | 1 | BOLT M-24x100 (YB-03-05) | 1165/CC |

| | |
|----------|----------------|
| DESIGNER | REF. |
| T.B.V. | 11 |
| C.B.V. | 11 |
| CASE NO. | DATE & INITIAL |
| FILE NO. | |

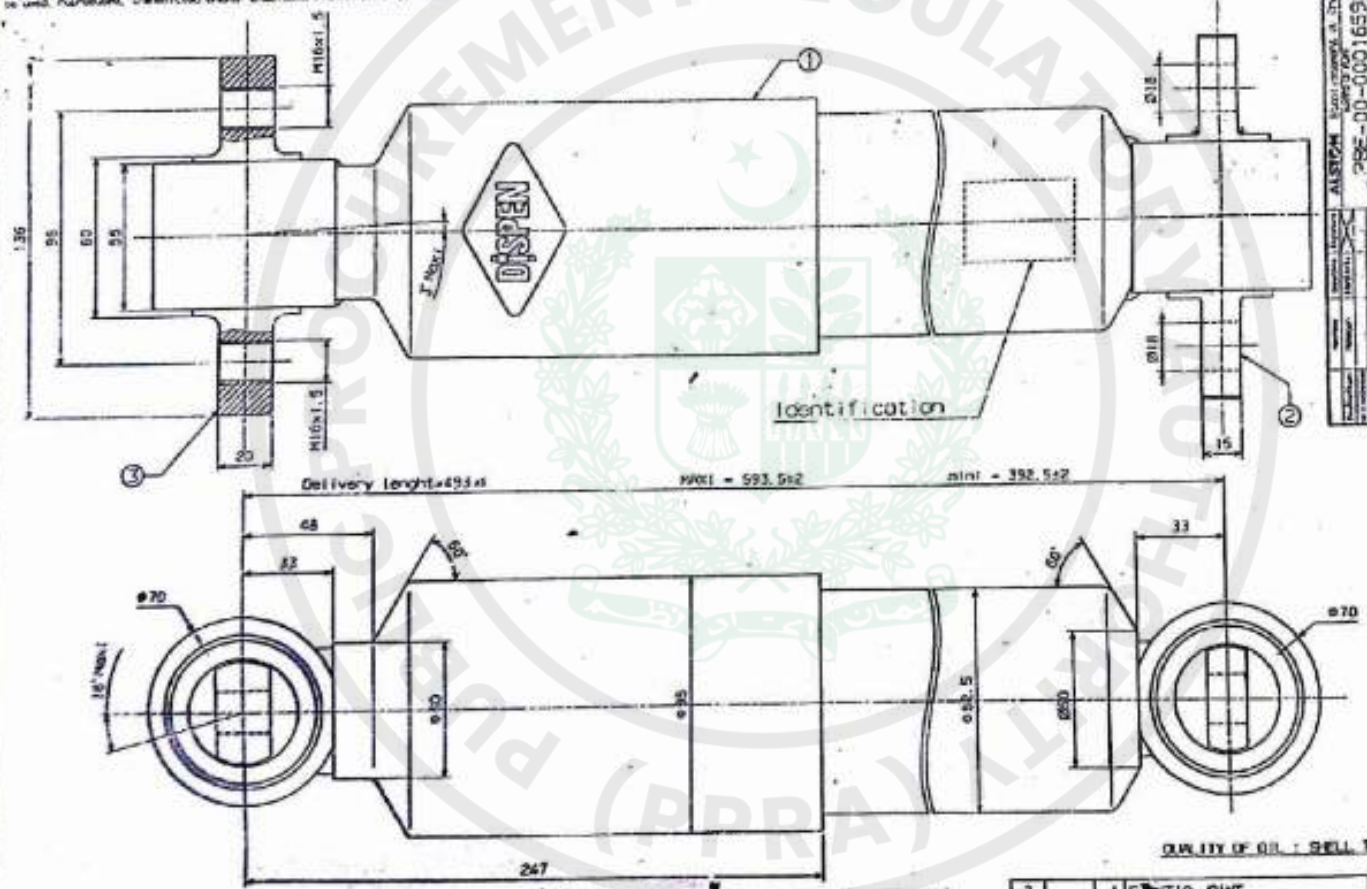
| | | |
|-----------|--------------|------------|
| NOTE | | |
| S.D.O (M) | S.M.E/DESIGN | DY.C.M.E/C |

| | |
|---|----------------|
| R.R. | 1676 GAUGE |
| BOLT ASSEMBLY FOR BRAKE DISC / FRICTION RING OF CRC COACHES | |
| SCALE | DATED. MAR. 09 |
| C.M.E.S.K. NO. 1180/CC | |

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NOTE: TIGHTENING TORQUE OF THE VICES M16x1.5 = 70 Nm ±15%



| | |
|--------------------------------|-------------|
| ALSTOM | |
| Document | ALSTOM 2364 |
| Version | 00-00016596 |
| DISPEN 2364 | |
| AMORTISSEUR EQUIPE DISPEN 2364 | |
| 1/12 | |

PREPARATION DES OUTILS
 Préparation des outils 1. 12" 11" 12" 11"

| Reference
DISPEN | Diamètre de compression | | Fonction |
|---------------------|-------------------------|---------|----------|
| | Force | Speed | |
| 2364-00 | maxi ±15% | 0.30m/n | Primary |

| QUALITY OF OIL : SHELL TELIUS T32 | | | |
|-----------------------------------|---|---------------|---------|
| 3 | 1 | ELASTIC JOINT | 110-201 |
| 2 | 1 | ELASTIC JOINT | 110-012 |
| 1 | 1 | DARE DAMPER | |
| equipped system containing: | | | |

DIN 2448 SEAMLESS STEEL PIPES AND TUBES

1. Scope

This standard applies to the dimensions and the conventional masses per unit length of seamless steel pipes according to the technical conditions of delivery as stipulated in DIN 1629 Part 1 to Part 4, DIN 17172 and DIN 17175.
It also applies to other technical conditions of delivery in which reference to this Standard is made.
It defines that sector, selected from DIN ISO 4200, within which seamless steel pipes are standardized.
It does not apply to precision steel tubes according to DIN 2391.

2. Other relevant standards

| | |
|-----------------|--|
| DIN ISO 4200 | Seamless and welded steel tubes; general table of dimensions and conventional masses per unit length |
| DIN 1626 Part 1 | Seamless tubes in unalloyed steels for supply purposes, process plant and tanks; survey, technical conditions of delivery, general data |
| DIN 1626 Part 2 | Seamless tubes in unalloyed steel for supply purposes, process plant and tanks; tubes of commercial quality; technical conditions of delivery |
| DIN 1626 Part 3 | Seamless tubes in unalloyed steels for supply purposes, process plant and tanks; tubes with quality specifications, technical conditions of delivery |
| DIN 1626 Part 4 | Seamless tubes in unalloyed steels for supply purposes, process plant and tanks; tubes with special quality specifications, technical conditions of delivery |
| DIN 17 172 | Steel pipes for long distance pipe lines for combustible liquids and gases; technical conditions of delivery |
| DIN 17 175 | Seamless tubes of heat-resistant steels; technical conditions of delivery |

3. Designation, order code

Designation of a welded steel pipe made of St 37.2, having an outside diameter of pipe 273mm and a wall thickness of 6.3mm:
Pipe DIN 2458 - St 37-2 - 273 X 6.3

Table 4. Dimensions and conventional masses per unit length of pipes

| Outside diameter of pipe Series | | | Normal wall thickness | Convent (weight) per unit length in kg/m for wall thicknesses in mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|---|---|-----------------------|---|-----|-----|---|-----|-----|-----|-----|-----|---|-----|---|-----|-----|---|-----|----|----|------|------|----|------|----|------|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | | mm | 1.6 | 1.8 | 2 | 2.3 | 2.6 | 2.9 | 3.2 | 3.6 | 4 | 4.5 | 5 | 5.6 | 6.3 | 7 | 8.0 | 10 | 11 | 12.5 | 14.2 | 16 | 17.5 | 20 | 22.2 | 25 | 28 | 30 | 32 | 36 | 40 | 45 | 50 | 55 | 60 |

[illegible]



1. 使用磨料。
1. They're sharp edges.
2. 电击损伤不得有裂纹。
2. Electric shock has a lesion, and here an crack.
3. 磨料材料意外表面损伤磨料。
3. Don't with certain part except stone surface.

SPECIAL TERMS AND CONDITIONS (Imported FOR Basis)

| | |
|----|--|
| 1. | Bidders are required to check/witness the stock sample and its operation / fitment |
| 2. | Offer of the firm which, when awarded the contract for same item previously, failed to supply the correct material within due time is liable to rejection. |
| 3 | Supply record to major clients with contact information for reference checks along with satisfactory performance reports therefrom. |
| 4 | List of relevant plant & machinery to manufacture the tendered item (s) along with company profile. |
| 5 | The bidder having sound financial health with minimum average turnover of Rs. 50.00 Million during last three (3) years. |
| 6 | Having no any adverse performance record within Pakistan Railways or other Government Organization. |
| 7 | <p>Following warranty clause will be applicable on this procurement and bidder must quote their bid accordingly:</p> <p>(i) The seller warrants that the stores will be in accordance with the particulars mentioned in the purchase order;</p> <p>(ii) The seller warrants that the stores will be free from defects in material and workmanship;</p> <p>(iii) The seller's obligations under the warranties expressed in sub-paragraphs i and ii above shall be limited to replacement DAP General Stores Mughalpura or Reti line Karachi (as the case may be) free of cost stores which at the time of receipt by the consignee or under normal use and maintenance prove defective in material/workmanship or fail to comply with the required performance in the normal course of service. The warranty shall be valid for a period of 24 months from date of receipt of material or 18 months from the placement in service of complete unit whichever is earlier.</p> <p>(iv) The warranty shall be in addition to the normal inspection.</p> <p>The warranty shall be covered against the 5% security deposit which shall be kept valid by the firm till expiry of the warranty period and retained by the Purchaser.</p> |
| 8 | The manufacturer must submit supply record along with performance report of 03 successful transaction of same/similar nature items supplied to other than Pakistan Railways. |
| 9 | The material shall be supplied by the manufacturer within 02 months. |
| 10 | The bidder must submit Performa invoice, authority letter and warranty certificate in original form the manufacturer. |
| 11 | The bidder must submit UIC/AAR certification required as per drawing |
| 12 | The bidder supplying material on FOR imported basis must submit the shipping documents along with packing list |
| 13 | In case of any confusion in drawing/specifications, the manufacturer/bidder will get the drawing/specifications vetted from CME/C&W before start of the manufacturing. |

Note: - The warranty period for Axle & Wheels is 42 months from the date of receipt or 36 months placement in service.

SPECIAL TERMS AND CONDITIONS (DAP)

| | |
|----|--|
| 1. | Bidders are required to check/witness the stock sample and its operation / fitment |
| 2. | Offer of the firm which, when awarded the contract for same item previously, failed to supply the correct material within due time is liable to rejection. |
| 3 | Supply record to major clients with contact information for reference checks along with satisfactory performance reports therefrom. |
| 4 | List of relevant plant & machinery to manufacture the tendered item (s) along with company profile. |
| 5 | The bidder having sound financial health with minimum average turnover of Rs. 50.00 Million during last three (3) years. |
| 6 | Having no any adverse performance record within Pakistan Railways or other Government Organization. |
| 7 | <p>Following warranty clause will be applicable on this procurement and bidder must quote their bid accordingly:</p> <p>(i) The seller warrants that the stores will be in accordance with the particulars mentioned in the purchase order;</p> <p>(ii) The seller warrants that the stores will be free from defects in material and workmanship;</p> <p>(iii) The seller's obligations under the warranties expressed in sub-paragraphs i and ii above shall be limited to replacement DAP General Stores Mughalpura or Reti line Karachi (as the case may be) free of cost stores which at the time of receipt by the consignee or under normal use and maintenance prove defective in material/workmanship or fail to comply with the required performance in the normal course of service. The warranty shall be valid for a period of 24 months from date of receipt of material or 18 months from the placement in service of complete unit whichever is earlier.</p> <p>(iv) The warranty shall be in addition to the normal inspection.</p> <p>The warranty shall be covered against the 5% security deposit which shall be kept valid by the firm till expiry of the warranty period and retained by the Purchaser.</p> |
| 8 | The manufacturer must submit supply record along with performance report of 03 successful transaction of same/similar nature items supplied to other than Pakistan Railways. |
| 9 | The material shall be supplied by the manufacturer within 02 months. |
| 10 | The bidder must submit Performa invoice, authority letter and warranty certificate in original form the manufacturer. |
| 11 | In case of any confusion in drawing/specifications, the manufacturer/bidder will get the drawing/specifications vetted from CME/C&W before start of the manufacturing. |

Past Experience / Contracts

| Contracts over <i>[insert amount]</i> during the last three years: | | | | |
|--|-------|------|-------------------------|------------------------|
| Procuring Agency | Value | Year | Goods/Services Supplied | Country of Destination |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |



Financial Situation and Performance

[The following table shall be filled in for the Applicant and for each member of a Joint Venture]

Applicant's Name: *[insert full name]*

Date: *[insert day, month, year]*

Joint Venture Member Name: *[insert full name]*

IFP No. and title: *[insert IFP number and title]*

Page *[insert page number]* of *[insert total number]* pages

1. Financial data

| Type of Financial information
in
(currency) | Historic information for previous <i>[insert number]</i> years,
<i>[insert in words]</i>
(amount in currency, currency, exchange rate*, PKR
equivalent) | | | | |
|--|--|--------|--------|--|--|
| | Year 1 | Year 2 | Year 3 | | |
| Statement of Financial Position (Information from Balance Sheet) | | | | | |
| Total Assets (TA) | | | | | |
| Total Liabilities (TL) | | | | | |
| Total Equity/Net Worth (NW) | | | | | |
| Current Assets (CA) | | | | | |
| Current Liabilities (CL) | | | | | |
| Working Capital (WC) | | | | | |
| Information from Income Statement | | | | | |
| Total Revenue (TR) | | | | | |
| Profits Before Taxes (PBT) | | | | | |
| Cash Flow Information | | | | | |
| Cash Flow from Operating
Activities | | | | | |

* Refer ITA 14 for the exchange rate

3. Financial documents

The Applicant and in case of JV, members of JV shall provide copies of financial statements for [number] years pursuant Section III, Qualifications Criteria and Requirements. The financial statements shall:

- (a) reflect the financial situation of the Applicant or in case of JV member, and not an affiliated entity (such as parent company or group member).
 - (b) be independently audited or certified in accordance with local legislation.
 - (c) be complete, including all notes to the financial statements.
 - (d) correspond to accounting periods already completed and audited.
- ☐ Attached are copies of financial statements¹ for the [number] years required above; and complying with the requirements.

¹ If the most recent set of financial statements is for a period earlier than 12 months from the date of Application, the reason for this should be justified.