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| ISO 9001:2015 | DocumentNo: TDG 0044 | VersionNo. 1 | DateEffective:01.01.2026 |
| DocumentTitle:ItemSpecificguideline&ScheduleofTechnicalRequirementsforVendor approvalformanufactureandsupplyofElasticRailClips | | | |

RESEARCH DESIGNS & STANDARDS ORGANIZATION

Manaknagar, Lucknow – 226011



Document No: TDG 0044

Document Title: Item Specific guidelines & Schedule of Technical Requirements for Vendor approval for manufacture and supply of Elastic Rail Clips

1.0 Amendment History:

| S. No. | Amendment Date | Version | Reasons for Amendment |
|--------|----------------|-----------------------|--|
| 1. | 31.01.2019 | QC-G- 8.1-3, Ver. '1' | First issue under new documentation system |
| 2. | 06.06.2022 | TDG 0044 Ver. '0' | Amendment in Specification and quality improvement |
| 3 | 24.07.2025 | TDG 0044 Ver. '1' | Amendment in Specification and quality improvement |

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2.0 Purpose:

This guideline is based on Indian Railway standard specification IRS/T-31-2025 for manufacture of Elastic Rail Clips including Mk-III, ERC-J, Mk-V & Anti-Theft ERC (with circlip) for use in railway track issued by Track Design Directorate of RDSO. The purpose is to specifically define the guidelines for vendor approval for Elastic Rail Clips as well as to specify technical and other requirements.

3.0 Scope of Application

This document shall be applicable on initial capability assessment, periodic Quality audit for extension of approval, up-gradation of vendors and maintenance of the approved list of vendors. The competent authority wherever referred to, in this document, shall mean PED/Infra-I.

It is the responsibility of the vendor to approach RDSO for quality audit of their manufacturing unit before the due date of the quality audit.

4.0 Procedures / Details

Procedures and details are annexed to this document.

5.0 Referenced Documents:

1. Indian Railway Standard specification for Elastic Rail Clips S. No. T-31-2025 (Fifth Revision)
2. Indian Railway Standard specification for Spring steel Circlip for use with Anti-Theft Elastic Rail Clips S. No. T-58-2020
3. ISO Apex Documents of RDSO

6.0 Referenced Documents of External Origin

None.

7.0 Associated Records

None.

8.0 Responsibility and Authority

| Activity | Responsible | Approver | Supporting | Consulted | Informed |
|---|--|----------------------------|-----------------|--------------------|--------------------------------------|
| Creation, maintenance of this document | ED/Track-II /Director/Track Design - IV | PED/Infra-I | DD/ARE/AD E | M&C Directorate | All approved vendors through website |
| Compliance of directives contained in this document | DD/ARE/ADE | Director/ Track Design -IV | - | - | - |
| Requirement of deviation from | ED/Track-II /Director/Track | PED/ Infra-I | DD/ARE/ /ADE | M&C Directorate | - |

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| this directive | Design -IV | | | | |
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Abbreviations

| | |
|--------------------|---|
| PED / Infra-I | Principal Executive Director/ Infra-I |
| ED/Track Design-II | Executive Director/Track Design-II |
| RDSO | Research Designs & Standards Organization |
| DD | Deputy Director |
| ARE | Assistant Research Engineer |
| ADE | Assistant Design Engineer |

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A. ITEM SPECIFIC GUIDELINES

1.0 The process of approval will involve following steps / activities.

- i) Vendor seeking fresh registration shall register online on UVAM Portal <https://www.ireps.gov.in>.
- ii) The vendor shall submit duly filled-in online fresh application form along with vendor registration charges as applicable at the time of submission.
- iii) The vendor shall upload the documents stipulated in RDSO's ISO Document along with Quality Assurance Programme and legal documents for technical approval by RDSO.
- iv) The specification and relevant drawings are available on UVAM Portal and can be downloaded. The charges for these documents are included in fresh registration charges and there is no need to deposit any additional charges.
- v) Application/ proforma along with documents shall be scrutinized by RDSO and if details are found satisfactory, the works unit of the firm will be visited for Capacity-cum-Capability Assessment.
- vi) If any shortcomings are observed during the visit, the same will be conveyed to the firm for compliance.
- vii) After satisfactory verification of document and CCA(Capacity-cum-Capability Assessment), the firm will be advised to submit the inspection gauges for approval.
- viii) After clearance / approval of two sets of inspection gauges as mentioned in para (vii) above, the firm will be advised to start trial production and to submit internal test results in formats specified in Quality Assurance Programme (QAP) for manufacture and testing. If the internal test results are found satisfactory, the firm will be advised for drawl of samples manufactured in the presence of RDSO official in their works.
- ix) A total number of 14 samples shall be drawn from the works of the firm by RDSO representative and shall be sealed. The sealed bag shall be sent to RDSO by the firm's representative within a reasonable time period. The sample shall be subjected to various tests stipulated in IRST-31 i.e. dimension tests, toe-load, flat bearing area, application and deflection test and weight test on eight clips. Stress test shall be conducted on four clips out of eight, having higher toe loads. The balance six clips shall be tested for chemical composition, hardness, depth of decarburization, freedom from surface defects, inclusion rating and microstructure.
- x) If the samples pass all the tests as stipulated above and the firm is found fulfilling the criteria laid down by Railway Board / ISO documents the name of the firm shall be considered for placement in the **"List of RDSO approved vendors for Developmental order"**.

2.0 In the case of new Vendor/firm the process of approval will be initiated only if the firm

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has applied on-line or developmental order from Zonal Railways/ Railway Board has been placed or if the vendor / firm has been given go ahead from RDSO as per instructions /guidelines of Railway Board from time to time. Rest of the procedure for approval will be the same as detailed in para 1.0 above.

- 3.0 In case, a firm approved for manufacturing of ERC to one drawing, applies for approval of the product to other variants/drawings of ERC, the requisite inspection gauges and QAP will have to be approved by RDSO. After getting satisfactory internal test reports, the samples of product prototype will be drawn and tested at RDSO. If test results on samples are found satisfactory, the firm shall be considered for inclusion in the “List of RDSO Approved / Developmental Vendors” as per the provisions of ISO apex document (latest version).
- 4.0 Up-gradation from the List of RDSO approved Vendors for Developmental Orders” to “List of Approved Vendors” shall be done as per the procedure mentioned in RDSO’s latest ISO apex document.

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B. SCHEDULE OF TECHNICAL REQUIREMENTS FOR APPROVAL OF FIRMS TO MANUFACTURE ELASTIC RAIL CLIPS Mk-III, MK-V,ERC-J & ANTI-THEFT ERC (WITH CIRCLIP)

- 1.0 SCOPE:** The schedule of technical requirements covers the norms for manufacture of elastic rail clip.
- 2.0 REQUIREMENTS:** The vendors seeking approval shall comply with all the requirements stipulated below.
- 2.1 MANUFACTURING FACILITIES:**
- 2.1.1 Space:** Sufficient covered area with proper ventilation should be available for manufacturing and testing facilities. Space for storage of raw material, cut bars, induction heating furnace, power press for forming clips, quenching tank, tempering furnace and storage of finished products should be earmarked clearly. The shed floor area should be completely concreted preferably, with VDF.
- 2.1.2 Raw Material:** The as rolled bars to be used for manufacture of ERC shall be stored heat wise separately so that they do not get mixed up.
- 2.1.3 Power Press:** Power press of sufficient capacity preferably fed with mechanized roller conveyor to cut the as rolled bars should be available. Two or three supports depending upon length of the rolled bars should be available near the cutting press, to hold the bars such that their end squareness is maintained within 1 mm.
- 2.1.4 Hydro-Copying turning machine (For ERC Mk-V):** Adequate numbers of Hydro-copying turning machine of sufficient capacity preferably, with Automatic bar feeding arrangement to make the profile of central leg of ERC Mk-V as per the drawing, should be available. It should be placed, preferably, near the cutting power press.
- 2.1.5 Bench Grinder:** Bench grinder should be available near the cutting press to grind any sharp edges/ burrs on the cut bars.
- 2.1.6 Gauge for checking length of cut bars:** Go/No Go gauge should be available to check the correctness of nominal length of cut bars within + 1.5 mm and – 0 mm.
- 2.1.7 Racks:** Pigeonhole racks to store the cut rods for at least one day's production, heat wise, should be available near the induction heating furnace. Separate racks to store raw material heat wise should be available.
- 2.1.8 Heating furnace:** Induction heating furnace fitted with accept / reject system using double colored Radiation Pyrometer should be available”.

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- 2.1.9 **Power Press for forming clips:** Power press of sufficient capacity fitted with the required dies **made of YXR-33 / carbide material for** the sequential bending process with or without robotic feeder should be available. It should be installed near the Induction heating furnace so that the time taken between taking out the heated bars to forming the clips and then dipping them in oil quenching bath is not more than 20 seconds. Necessary die checking templates should be available at the works for checking the wear and tear of the dies. Dies shall be checked before starting the shift and after production of every 4000 clips. The checking shall be done using especially prepared templates. At the start of the shift, the dies shall be checked using the templates for the first bend, second bend and the assembly die. If, the ERCs produced are as per the prescribed dimensions, only first bend and second bend need to be checked after production of 4000 ERCs. Record of checking shall be maintained in a separate register with details of maintenance of the dies.
- 2.1.10 **Scale blower:** There should be an arrangement for blowing off scales from the dies fitted into the clip forming press. For this purpose, a compressor of at least 3 kg/cm² capacity should be available.
- 2.1.11 **Oil quenching tank:** Oil-quenching tank of adequate length, width and depth, fitted with a conveyor belt passing through the oil, should be available. Facility for cooling the oil by way of heat exchange using separate cooling tower along with continuous temperature recorder should be available to ensure that the temperature of oil does not exceed 70° C. The oil tank should also be fitted with mechanical / motorized stirrer and filter of sufficient capacity to maintain uniform temperature of oil throughout the tank. The speed of the conveyor belt shall facilitate the clip to be in the oil for at least 12 minutes.
- 2.1.12 **Tempering furnace:** The tempering furnace shall be oil fired tunnel type or gas fired tunnel type or continuous Electrical tunnel type, fitted with conveyor system. The furnace shall be fitted with thermo- couples to sense the temperature at three points along the length to ensure the constant temperature in each zone along length of the furnace. The speed of the conveyor should facilitate the clips to be in tempering furnace for the specified duration. The furnace shall be fitted with an automatic temperature control device and continuous temperature recorder. The furnace shall have arrangement for free circulation of hot air.
- 2.1.13 Magnetic particle crack detector as per IS: 3703:2004 shall be available for crack detection in raw material cut bars, before using them for production of ERCs.
- 2.1.14 **Material handling:** The clip manufacturer should preferably have facility of EOT Crane, Fork Lift or conveyor system for transfer of Raw Material/ In-process/ Finished Product.
- 2.1.15 A small in-process checking room or designated space having surface plate, height gauge, vernier calipers, hardness testing machine and toe load testing arrangement should be available near the manufacturing area for conducting the in-process checks on ERCs.
- 2.1.16 If, Electrical Tunnel Type tempering furnace is installed, suitable power back up of sufficient capacity to support operation of tempering furnace up to minimum 1 hour must be available.

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2.2 TESTING FACILITIES: All measuring and testing equipment shall be installed in a separate laboratory, which shall be well lit, clean, properly ventilated and provided with easily maintainable floor. A platform for placement of testing equipment and performing various tests should be available.

2.2.1 Chemical Testing: Optical emission spectrometer should be available in the laboratory for carrying out chemical analysis to determine the carbon, sulphur, phosphorous, silicon and manganese percentage in the material.

Spectrometer should be maintained and used as per the recommended manual / procedures of OEM, like use of recommended grade of Argon gas with argon flushing system, sample preparation facility, air conditioned room etc. Spectrometer shall be standardized as per the operation manual of the manufacturer of the instrument. In addition, Standard sample i.e. certified reference material (CRM) shall be available with the lab to confirm that the standardization is correct. The Laboratory must be in possession of certified standard samples (CRM) in the close range of chemical composition of ERC. The Spectrometer should be calibrated by OEM regularly. In case, the inspecting official wants to carry out the test from outside, for any reasons, whatsoever, the test shall be conducted in spectro sources owned by Govt. Lab / Lab accredited by an Accreditation agency as per the extant guidelines issued by RDSO.

2.2.2 Hardness tester: Two Rockwell hardness testing machines along with standard test blocks with certificate should be available in the firm's laboratory to test the hardness of raw and finished material. Hardness of Standard test blocks should be in close range of hardness of raw and finished material. The calibration of hardness testing machines should be done through Govt. Approved / Accredited labs.

2.2.3 Proving ring: Two proving rings of sufficient capacity should be available for use with the toe load test arrangement available in the laboratory. The proving rings should be duly calibrated by National Physical Laboratory / NTH or by Labs Accredited by Accreditation agency as per extant guidelines issued by RDSO.

2.2.4 Toe load testing arrangement: For in-process toe load testing, arrangement as per RDSO drawing should be available at the works. Final Toe load should be measured using UTM of sufficient capacity (Least Count – 10kg) with suitable arrangement duly calibrated by Govt. approved Labs or Labs Accredited by Accreditation agency as per extant guidelines issued by RDSO.

2.2.5 Gauges and application & deflection test fixture: Two sets of valid approved Inspection gauges (for dimension checking) and application & deflection test fixtures as per RDSO drawing should be available at the firms' premises. Angle-checking fixtures as per RDSO drawing should also be available. Hydraulic/Mechanical press of sufficient capacity should be available for conducting the application & deflection test.

2.2.6 Microscope & Polishing machine: A duly calibrated metallurgical microscope with 100x, 500x, 1000x magnification with a photographic attachment and measuring facility should be available in the laboratory. The polishing machine with all necessary items like diamond paste etc. shall be available to prepare and check the samples for inclusion rating, depth of decarburization, grain size and microstructure.

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2.2.7 Inclusion rating and grain size charts: Necessary charts,duly displayed in a glass frame,should be available in the laboratory as mentioned in the specification of Elastic Rail Clips, for reading inclusion rating and grain size .

2.2.8 Tool room cum die making/repair shop facility: All necessary tools and machines such as Surface Grinding Machine, Lathe Machine, Cutting Machine, Drilling Machine and Welding set etc. should be available in the tool room for manufacturing of gauges and dies. Preferably, Vertical Machining Centre (VMC) should be available..

2.2.9 Calibration of test equipment: All the test equipment shall be periodically checked and calibrated. The frequency of calibration for Hardness Testing Machine, UTM and Proving Ring shall be once in a year. Inspection gauges and application & deflection test fixtures shall be produced before RDSO for approval, three months in advance, before expiry of validity of approvaland at the time of Quality audit as per ISO guidelines for vendor approval. Details of calibration and due date shall normally be displayed on the equipment in the form of stickers issued by the calibration agency. Calibration of equipment other than inspection gauges shall be got done from a Government laboratory or from labs accredited by Accreditation agency as per extant guidelines issued by RDSO or National Test House (NTH) or Regional Test Center (RTC).

2.2.10 Firm shall possess Plant & Machineries detailed in Annexure A and submit details of the same in the format given in**Annexures B-I & B-II.**

2.3 QUALITY CONTROL REQUIREMENTS:

2.3.1 There should be a quality control system for manufacturing process of product starting from raw material stage. Apart from the following information, the QAP for the product should cover all the requisite information as per General guidelines:

- Organization Chart
- Process Flow Chart
- Methodology of Process Control
- Details of Plants and Machinery including theircapacity and other details as per STR
- Details of calibration of testing/ measuring instruments.

2.3.2 All the relevant specifications and IS Standards should be available with the firm.

3.0 GENERAL: Sufficient manpower like managers, supervisor, laboratory – in- charge, quality control person and workmen etc. should be available. They should possess necessary qualification depending upon the scope of their works. All the approved firms should possess a valid ISO- 9001 Certificate. The firm should maintain records as per QAP approved by RDSO. The firm should possess all the specifications / drawings referred to in the specification for Elastic Rail Clips, IRST – 31. The firm should also possess the ISO documents issued by RDSO / Lucknow.

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Annexure - A

Summarized List of plant and machineries and testing equipment

| SN | Name of Item | Minimum Quantity/ | Details/ to be Submitted |
|------------------------------------|---------------------------------|---|--|
| A. MANUFACTURING FACILITIES | | | |
| 1 | Power Press | One Power press of sufficient capacity for cutting of bars. | Capacity in Tonnes |
| 2 | Heating furnace | Induction Heating Furnace fitted with accept / reject system using double colored Radiation Pyrometer. | Furnace type with Make & Model, Sr. No. Size: Effective length x width x height/depth |
| 3 | Power Press for forming clip | One/ two Power press of sufficient capacity for clip formation fitted with dies and blower for blowing off scales. One /two Power press of sufficient capacity for bar shearing. One /two Power press of sufficient capacity for application & deflection test | Capacity in Tonnes |
| 4 | Oil quenching tank | Oil-quenching tank of adequate length, width and depth fitted with a conveyor belt passing through the oil and filter of sufficient capacity. Facility for cooling the oil by way of heat exchange with separate cooling tower along with continuous temperature recorder such that the temperature of oil does not exceed 70° C. Oil tank shall be fitted with mechanical / motorized stirrer to maintain uniform temperature of oil throughout the tank. The speed of the conveyer belt shall facilitate the clip to be in oil for at least 12 minutes. | Size: Effective length x width x depth |
| 5 | Tempering furnace | The tempering furnace (continuous oil fired tunnel type or continuous gas fired tunnel type or continuous Electrical tunnel type) fitted with conveyorsystem and thermo-couples to sense the temperature at three points along its length to ensure constant temperature in each zone along the length of the furnace. The speed of the conveyor shall facilitate the clips to be in tempering furnace for the specified duration. The furnace shall be fitted with an automatic temperature control device and continuous temperature recorder. The furnace shall have arrangement for free circulation of hot air. | Furnace type with Make & Model, Sr. No. Size: Effective length x width x height/depth |
| 6 | Hydro-Copying turning machine | Adequate numbers of Hydro-copying turning machine of sufficient capacity preferably, with Automatic bar feeding arrangement to make the profile of central leg of ERC Mk-V as per drawing (RT-5919) should be available. It should, preferably, be placed near the cutting power press. | |
| 7 | Bench Grinder | One No. | Capacity in RPM or H.P. & Nos. |
| B. TESTING FACILITIES | | | |
| 1. | Magnetic Crack Detector Machine | Matching with the production capacity | Nos. Make : Sr. No.: |
| 2 | Chemical Testing | Optical emission spectrometer should be available in the laboratory for carrying out chemical analysis to determine the carbon, sulphur, phosphorous, silicon and manganese percentage in the material. Spectrometer should be maintained and used as per the recommended manual / procedures of OEM like use of recommended grade of Argon gas with argon flushing system, sample preparation facility, air conditioned room etc. Spectrometer shall be standardized as per the operation manual of the manufacturer of the instrument. In addition, Standard sample i.e. certified reference material (CRM) shall be available with the lab to confirm that the standardization is correct. Laboratory must be in possession of certified standard samples (CRM) in the close range of chemical composition of ERC. The Spectrometer should be calibrated by OEM regularly. In case, inspecting official wants to carry out the test from outside, for any reasons, whatsoever, the test | Make, Model, Sr. No., CRMs certificate. |

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| | | shall be conducted in spectro sources owned by Govt. Labs / Labs accredited by Accreditation agency as per extant guidelines issued by RDSO. | |
|---|--|--|--|
| SN | Name of Item | Minimum Quantity/ Number required | Details/ to be Submitted |
| C. MEASURING AND TESTING EQUIPMENT | | | |
| 1 | Hardness tester | Two Nos. | Hardness machine type (RC) Make, Model Sr. No, Capacity, |
| 2 | Toe load testing arrangement a) As per RDSO drawing No. EDO/T-2135 b) UTM | One (Min) One (Min) | Nos. Make: Sr. No. Capacity in Ton/ KN/Kgf |
| 3 | Proving Ring | Two Nos | Capacity in Ton/KN Sr. No. |
| 4 | Metallurgical Microscope having atleast 100x, 500x, 1000x magnification with a photographic attachment and measuring facility. | One | Make, Model, Sr. No. |
| 5 | Polishing machine single disc with leveler. | One | Capacity in RPM or H.P |
| 6 | Surface plate near cutting press | Min Two, One (18"x18" Min) in inspection Room & One(12"x12" Min) at a suitable place for in-process inspection | Size: Length x width |
| 7 | Height gauge fitted with vernier | One | Sr.No. & Range |
| 8 | Bevel protector | One | Sr.No. & Range |
| 9 | Digital Vernier caliper | Two (of 0.02mm accuracy) | Sr.No. & Range |
| 10 | Tri-square | One | Sr.No. & size |
| 11 | Set of filler gauges | One | Sr.No. |
| 12 | Length checking gauge | One Go-No Go gauge for checking of length of cut pieces | Sr.No. |
| 13 | Application & deflection test fixture | Two | Nos. |
| 14 | Inclusion rating charts and Grain size chart. | One complete set | Nos. |
| 15 | Angle checking fixture as per drg. no. RDSO/T-3935 (Latest Alt.) | One | Nos. |
| 16 | Inspection Gauges | Two sets RDSO Approved | Nos. |
| 17 | Gauges/ Templates | Two sets of working gauges | Nos. |
| 18 | EOT Crane | One (Optional) | |
| 19 | Fork lift | One (Optional) | |
| 20 | Conveyor system for material handling | One (Optional) | |

Note: All temperature indicators, recorders, thermocouples & other equipments shall be calibrated once in a year or earlier if found unsatisfactory during working.

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Annexure - C

C. PROFORMA FOR TECHNICAL CAPABILITY ASSESSMENT / FOR MANUFACTURE AND SUPPLY OF ERC

(To be filled in by the firm in triplicate. Attach extra sheets wherever necessary)

| | |
|------------|---|
| 1.0 | SECTION – I : GENERAL INFORMATION (For record purpose only) |
| 1.1 | Name of the Firm |
| 1.2 | Address |
| (a) | Head Office |
| (b) | Works |
| (c) | Location of Workskm fromRly. Stn. |
| 1.3 | Factory Area (Attach layout plan for factory premises) |
| (a) | Covered |
| (b) | Uncovered |
| (c) | Is the factory site in your name or on rental basis? (Support with documents) |
| 1.4 | SSIC / NSIC / MSME Registration No. (Enclose copy) |
| 1.5 | Power Availability |
| (a) | General allotted capacity |
| (b) | Standby generator and its capacity |
| (c) | Name the party / person in whose name the power is sanctioned and your agreement with the party / person (Support with relevant documents) |
| 1.6 | Name of any other units located in the above premises |
| 1.7 | Man – Power Management |
| (a) | Managerial Staff |
| (b) | Shop Floor Engineers / Supervisors (Their numbers with their qualifications and service experience) |
| (c) | Lab in-charge whether full time or part time (Indicate their names, qualification and service experience) |
| (d) | Inspection & Quality Control Staff (Their nos., name, qualification and service experience) |
| (e) | Workmen |
| (i) | Highly Skilled |
| (ii) | Semi Skilled |
| (iii) | Un Skilled |

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| 2.0 | SECTION – II : TECHNICAL INFORMATION (Availability of plant & machinery as indicated by manufacturer should be verified by assessment official) Indicate the availability of following against each item |
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| 2.1 | Infrastructure for production and production capability of Elastic Rail Clips: | |
| 2.1.1 | Power Press: | |
| (a) | Total Numbers | |
| (b) | Capacity | |
| (c) | Make | |
| (d) | Attachment for blowing off scale from dies | |
| 2.1.2 | Magnetic Particle Crack Detector machine: | |
| (a) | Total Numbers | |
| (b) | Capacity | |
| (c) | Make | |
| 2.1.3 | Hydro-Copying turning machine or Hydro-Copying turning machine with automatic bar feeder: (Only for ERC Mk-V) | |
| (a) | Total Numbers | |
| (b) | Capacity | |
| (c) | Make | |
| 2.1.4 | Electric Induction Heating Furnace | |
| (a) | Total Numbers | |
| (b) | Whether rotary hearth or walking beam | |
| (c) | Capacity | |
| (d) | Make | |
| (e) | Attachment for automatic temp. control cum temp. indicator & continuous temperature recorder (indicate temp. range) | |
| (f) | Facility for bars to come out at required temperature | |
| 2.1.5 | Oil Quenching Bath with Conveyor Belt: | |
| (a) | Size of Tank | |
| (b) | Type of Stirrer provided | |
| (c) | Volume capacity for Oil | |
| (d) | Heat Exchange facility (by way of heat exchange with separate cooling tower) | |
| (e) | Auto. Temp. control device and continuous temperature recorder (indicate range of temp.) | |
| 2.1.6 | Tempering Facility: | |
| (a) | Type of Tempering Furnace | |
| (i) | Continuous oil fired tunnel type or continuous gas fired tunnel type or continuous Electrical tunnel type | |
| (ii) | Is it conveyerised? | |
| (iii) | Is it provided with temperature sensing devices at 3 places? (At entry, center & exit) | |
| (iv) | Auto. Temp. control device and continuous temperature recorder (indicate range of temp.) | |
| (b) | Nos. and Size | |
| (c) | Auto. Temp. control device and continuous temperature recorder (indicate range of temperature) | |

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| | If the infrastructure is not yet installed, the date of placement of order against purchase of each equipment should be mentioned. (Attach photocopy of such order). Expected date of commissioning should also be indicated | |
| 2.1.7 | Tool Room cum die making / repair shop facility | |
| 2.1.8 | Driving and Extraction tool for Anti-Theft ERC (with circlip) (As per Annexure-I with IRS/T-58-2020) | |
| 2.1.9 | Source of Raw Material | |
| 2.1.10 | Arrangement for storing the raw material heat wise. Describe briefly the arrangement | |
| 2.1.11 | Arrangement for storing the finished clips heat wise and capacity to store the clips in numbers at a time | |
| 2.1.12 | Arrangement for storage and the disposal of scrap/waste material | |
| 2.1.13 | Rated production capacity planned i) Per Shift ii) Per Month | |
| 2.2 | Infrastructure for testing of Elastic Rail Clips: | |
| | Nature of Test | Facilities available with the firm required |
| 2.2.1 | Toe Load Test (A) Arrangement as per drg. No EDO/T-2135 (B) Proving Rings. Indicate No., Capacity & date of calibration (Enclose copy) (C) UTM Capacity & date of calibration | |
| 2.2.2 | Hardness test apparatus on RC scale with standard test blocks and working literature. (RC, test blocks of value 40- 44 required) | |
| 2.2.3 | Lab Cum inspection room | |
| | (a) Laboratory cum inspection room with well lit, clean and properly ventilated laboratory room with and easily maintainable floor and platforms, should be equipped with | |
| | i) Polishing machine with diamond paste | |
| | ii) Drawing (latest) duly stamped displayed | |
| | iii) Inclusion rating, grain size and microstructure charts duly enlarged and displayed | |
| | iv) Microscope 100x, 500x, 1000x with a photographic attachment and measuring facility for Depth of decarb and inclusion rating / grain size tests. | |
| 2.2.4 | Chemical Composition Test | |
| | Through Optical Emission Spectrographic facility approved by RDSO / Accredited by Accreditation agency / Govt. owned (NOC to be submitted). | |

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|-----|---|------|--------|--------------------|--------------------------------|--|---------------------------------|
| 3.3 | Please specify current orders in hand | | | | | | |
| | SN | Item | Client | Contract reference | Date of completion of contract | Total order quantity to be supplied | Balance Quantity to be supplied |
| | | | | | | | |
| 3.4 | Whether the firm is already registered with RDSO for other P. way items. If so, name the item supported by documents. | | | | | | |
| 3.5 | Whether the firm is already registered with RDSO for items other than P. way items. If so, name the item and deptt. with which you are registered, support with documents. | | | | | | |
| 3.6 | Indicate annual turnover of the firm: | | | | | | |
| 4.0 | DECLARATION: | | | | | | |
| 4.1 | We do hereby declare that the above particulars are correct and no discrepancy shall be found during actual investigation before and during execution of order on our firm. | | | | | | |
| 4.2 | Any change in the plant and machinery and change of place of office and of Works site shall be brought to the notice of RDSO for clearance and approval. | | | | | | |
| 4.3 | We also declare that our concern has not been black listed by Railway/Railway Board/ RDSO for business with the Railways. | | | | | | |
| 4.4 | We hereby undertake that all our equipments for manufacturing and testing as listed above shall be maintained in good working condition at all time. | | | | | | |
| 4.5 | We hereby declare that the contents and the instructions of "ISO Apex Documents of RDSO" have been read and understood by us and our firm shall agree to abide by all the stipulations laid therein | | | | | | |
| 4.6 | We hereby undertake to the maintain the records of the procurement of raw material for production of ERC, supply of ERC and disposal of scrap in the proper format of QAP. | | | | | | |
| | | | | | | | |
| | | | | | | Signature of Firm's Rep. Name in full of signing authority Status in the firm Stamp of the firm | |