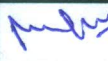
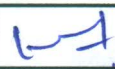
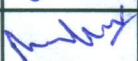


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| दिनांक एवं हस्ताक्षर<br>SIGN & DATE                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | संस्थान क्रय विनिर्देश (सी.एफ.एफ.पी. - हरिद्वार)<br><b>PLANT PURCHASE SPECIFICATION</b><br>(CFFP - HARDWAR) |                                                         | <b>FF09111 Rev 01</b><br>पृष्ठ का<br>Page 1 of 6          |                                            |
| सामग्री सूची संख्या को<br>INVENTORY NO.            | <p align="center"><b>JOINTED GOUGING ELECTRODE FOR USE IN FOUNDRIES</b></p> <p><b>1. General:</b></p> <p>This specification covers the requirement of jointed gouging electrodes for use in Steel Foundry.</p> <p><b>2. Application:</b></p> <p>The gouging electrode will be used for removal of metal/localised defects from casting maintained in temperature range of 30°C to 350°C with the help of Gouging arc holder.</p> <p><b>3. Compliance with national standard:</b></p> <p>There is no national standard available for this item.</p> <p><b>4. Properties:</b></p> <p>4.1 Size : Diameter 12 mm X length 350 mm<br/>Tolerance on Diameter shall be +1 mm /-0.2 mm and on length will be +10 mm /-2 mm.</p> <p>4.2 Bulk density: 1.65 gm/cc ± 0.1 without copper coating.<br/>1.90 gm/cc ± 0.1 with copper coating.<br/>Difference in density with &amp; without Cu coating shall be minimum 0.20 gm/cc.<br/>Bulk density will be measured by physical measurement method in which diameter will be taken by vernier caliper or screw gauge for both serrated &amp; non serrated electrodes.</p> <p>4.3 The gouging electrodes shall have uniform Cu coating &amp; may be smooth or serrated finish. The Cu coating shall not have any crack/discontinuity.</p> <p>4.4 Specific Resistance at RT: 2.5x10<sup>-3</sup> ohm-cm max. without copper coating.<br/>4.0x10<sup>-4</sup> ohm-cm max. with copper coating.</p> <p>4.5 The carbon shall not disintegrate during gouging operation.</p> <p>4.6 Chemical Composition: Fixed Carbon content : 98% minimum<br/>Ash: 2% maximum</p> <p>4.7 Electrode should be able to work with air pressure of 5-8 kg/cm<sup>2</sup>.</p> <p>4.8 Electrode should be able to work upto 900 A (DCEP).</p> <p>4.9 The copper coating shall not flake or peel off during use at rated amperage. The electrode shall not split or crack while in use.</p> |                                                                                                             |                                                         |                                                           |                                            |
| SUPERSEDES<br>INVENTORY NO.                        | <p><b>Copyright and Confidential</b></p> <p>The information on this documents is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                             |                                                         |                                                           |                                            |
| स्वतंत्रता एवं गोपनीयता<br>स्वतंत्रता एवं गोपनीयता | <p>इस प्रलेख में दी गई सूचना भारत हेतु<br/>         इलेक्ट्रिकल्स की सम्पत्ति है। इसका प्रयोग एवं अप्रयोग रूप से किसी भी तरह प्रयोग, जो कि<br/>         कंपनी के हित में प्रतिकारक हो न किया जाए।</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                             |                                                         |                                                           |                                            |
| हस्ताक्षर एवं<br>दिनांक                            | RMI<br>MPIC<br>CHAIRMAN CPSC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | SN GHOSH<br>AK KUSHWAHA<br>VK AGARWAL                                                                       | अनुवादक<br>निर्माणकर्ता<br>जांचकर्ता<br>पर्यवेक्षणकर्ता | TRANSLATED BY<br>WORKED BY<br>CHECKED BY<br>SUPERVISED BY | SUSHANT PANDEY<br>ANIL KUMAR<br>VK AGARWAL |
| सामग्री सूची संख्या<br>INVENTORY                   | स्वीकृति : संस्थान मानक समिति<br>APPROVED : <b>PLANT STANDARDS COMMITTEE</b><br>PREPARED : WELDING TECH ISSUED : WELDING TECHNOLOGY<br>दिनांक : 19.10.15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                             |                                                         |                                                           |                                            |

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| दिनांक एवं हस्ताक्षर<br>SIGN & DATE                                                                                                                                                                                  |  | संस्थान क्रय विनिर्देश (सी.एफ.एफ.पी – हरिद्वार)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                            | <b>FF09111 Rev 01</b>                    |                                                                                                |  |
|                                                                                                                                                                                                                      |                                                                                   | <b>PLANT PURCHASE SPECIFICATION</b><br>(CFFP - HARDWAR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                            | पृष्ठ<br>Page                            | का<br>of                                                                                       |  |
| SUPERSEDES<br>INVENTORY NO.                                                                                                                                                                                          |                                                                                   | 4.10 The gouging electrode shall be jointed type & provision of mating male & female sections (on alternate ends) which enable full use of complete length of gouging rod. The mating part shall be push fit type & such that interchangeability of all the electrodes in the lots to be ensured.                                                                                                                                                                                                                                                        |                                            |                                          |                                                                                                |  |
| सामग्री सूची संख्या को अधिकृतित करता है                                                                                                                                                                              |                                                                                   | 4.11 The jointed gouging electrodes shall not get red hot or burst while in used which leads to non functional of jointing purpose or wastage of electrodes.                                                                                                                                                                                                                                                                                                                                                                                             |                                            |                                          |                                                                                                |  |
| COPYRIGHT AND CONFIDENTIAL<br>The information on this documents is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company |                                                                                   | 4.12 The gouging rod shall not produce toxic smoke or excess noise during normal gouging operation.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                            |                                          |                                                                                                |  |
|                                                                                                                                                                                                                      |                                                                                   | <b>5. Sampling:</b><br>The number of electrodes, to be selected, shall be according to below table for testing.                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                            |                                          |                                                                                                |  |
|                                                                                                                                                                                                                      |                                                                                   | Lot Size<br>(Nos)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No's of boxes/packets<br>selected from lot | No's of electrode<br>taken from each box | Sample size<br>No's                                                                            |  |
|                                                                                                                                                                                                                      |                                                                                   | < 10,000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2                                          | 4                                        | 8                                                                                              |  |
|                                                                                                                                                                                                                      |                                                                                   | 10,000 to 25,000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 4                                          | 3                                        | 12                                                                                             |  |
|                                                                                                                                                                                                                      |                                                                                   | 25,001 to 60,000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 5                                          | 3                                        | 15                                                                                             |  |
|                                                                                                                                                                                                                      |                                                                                   | 60,001 to 1,00,000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 6                                          | 3                                        | 18                                                                                             |  |
|                                                                                                                                                                                                                      |                                                                                   | >1,00,000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 7                                          | 3                                        | 21                                                                                             |  |
|                                                                                                                                                                                                                      |                                                                                   | The boxes & electrode shall be selected at random to represent complete lot & average of values considered for acceptance. However, if variation in individual pieces are more, then vendor shall be intimated for improvement in future supply. For specific resistance 2 samples having highest & lowest density with Cu coating will taken. The same sample may consider for chemical composition test.                                                                                                                                               |                                            |                                          |                                                                                                |  |
| स्वत्ताधिकार एवं गोपनीयता<br>इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की संपत्ति है इसका प्रयोग एवं प्रकाशना को बिना इसकी मी तरह प्रयोग, जो कि कम्पनी के हित में हानिकारक हो न किया जाए।                    |                                                                                   | <b>6. Acceptance:</b><br><br>For technical scrutiny vendor shall be furnish technical data sheet as per Annex-II.<br><br>All vendors shall submit samples for shop trial along with their offer. Acceptance shall be on the basis of tests at Clause 4 as well as shop trial at both technical scrutiny stage and at the time of bulk supply.                                                                                                                                                                                                            |                                            |                                          |                                                                                                |  |
|                                                                                                                                                                                                                      |                                                                                   | <b>7. Packaging &amp; Marking :</b><br><br>(a) Each electrode should bear supplier's name, trademark, if any and size near the holding end together with batch no (If supplier not able to imprint identification on each electrode, then supplier shall ensure that each paperboard box/other containing these electrodes shall have such identification. Nature of identification shall be clearly intimated at enquiry stage with technical bid).<br>(b) The supply should have BHEL PO No.<br>(c) TC and GC<br>(d) Date of manufacturing and Lot No. |                                            |                                          |                                                                                                |  |
| दिनांक एवं हस्ताक्षर<br>SIGN & DATE                                                                                                                                                                                  |                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                            |                                          |                                                                                                |  |
| सामग्री सूची संख्या                                                                                                                                                                                                  |                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | निर्माणकर्ता<br>WORKED BY                  | Sushant Pandey                           |  19/10/15 |  |
|                                                                                                                                                                                                                      |                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | जांचकर्ता<br>CHECKED BY                    | Anil Kumar                               |  19/10/15 |  |

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| दिनक एव हस्ताक्षर<br>SIGN & DATE                                                                                                                                                                                    |  | संस्थान क्रय विनिर्देश (सी.एफ.एफ.पी – हरिद्वार)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                           | <b>FF09111 Rev 01</b> |                                                                                       |
|                                                                                                                                                                                                                     |                                                                                   | <b>PLANT PURCHASE SPECIFICATION</b><br>(CFFP - HARDWAR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                           | पृष्ठ<br>Page         | का<br>of                                                                              |
| सामग्री सूची संख्या को<br>अधिकांकित करता है                                                                                                                                                                         | SUPERSEDES<br>INVENTORY NO.                                                       | <p>The electrodes should be supplied in original manufacturer's packing, suitably in paperboard box after encased in polythene sheet. These paper board boxes should be housed in cardboard carton to avoid any damage during handling, transit and storage.</p> <p><b>8. Inspection, Deviation and Replacement:</b></p> <p>8.1 BHEL reserves the right to inspect material at site before despatch. The supplier shall intimate in advance about readiness of material enclosing a copy of test certificate of the material offered for inspection. However inspection at BHEL shall be final. The supplier shall offer BHEL representative all reasonable test facilities without charge to satisfy the latter that the material being furnished is in accordance with this specification. The supplier shall prepare and provide necessary test specimens for testing to be carried out at his premises. If facilities are not available at his works, the supplier shall make necessary arrangements for carrying out the prescribed tests elsewhere.</p> <p>8.2 If the material received at CFFP is not found in accordance with the requirements, it shall be liable to be rejected and the supplier will have to replace it free of cost at the earliest.</p> <p>8.3 For any deviation from the specification sought by the supplier, prior approval of BHEL must be obtained in writing.</p> <p><b>9. Test Certificates:</b></p> <p>9.1 Unless otherwise specified, one original and three copies of original manufacturer's test certificates shall be supplied with each consignment bearing the following information. In order to facilitate quick clearance of material, the supplier shall ensure to send a copy of test certificate along with dispatch document.</p> <ul style="list-style-type: none"> <li>a. BHEL PO No. with Date</li> <li>b. Specification No.</li> <li>c. Supplier reference / trade mark</li> <li>d. Identification No. / Batch No.</li> <li>e. Properties as per Clause 4</li> <li>f. Date of manufacture</li> <li>g. Any other specific information which the supplier would like to convey.</li> </ul> <p>9.2 Suppliers other than the original manufacturer shall ensure providing original manufacturer's test certificates with linkage to supplier's invoice stating the batch No., lot No., etc of the supply.</p> |                           |                       |                                                                                       |
| COPYRIGHT AND CONFIDENTIAL<br>The information on this documents is the property of Bharat Heavy Electrical Limited It must not be used directly or indirectly in any way detrimental to the interest of the company |                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                           |                       |                                                                                       |
| स्वत्वाधिकार एवं गोपनीयता<br>इस दस्तावेज में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रयोग रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाए।                               |                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                           |                       |                                                                                       |
| दिनक<br>SIGN & DATE                                                                                                                                                                                                 |                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                           |                       |                                                                                       |
| सामग्री सूची संख्या                                                                                                                                                                                                 |                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | निर्माणकर्ता<br>WORKED BY | Sushant Pandey        |  |
|                                                                                                                                                                                                                     |                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | जांचकर्ता<br>CHECKED BY   | Anil Kumar            |  |
|                                                                                                                                                                                                                     |                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                           |                       | 8/10/15<br>19/10/15                                                                   |

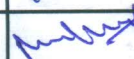
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| दिनांक एवं हस्ताक्षर<br>SIGN & DATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | संस्थान क्रय विनिर्देश (सी.एफ.एफ.पी - हरिद्वार)         |  | <b>FF09111 Rev 01</b> |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                   | <b>PLANT PURCHASE SPECIFICATION</b><br>(CFFP - HARDWAR) |  | पृष्ठ<br>Page         | का<br>of |
| सामग्री सूची संख्या<br>INVENTORY NO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Annexure-I</b>                                                                 |                                                         |  |                       |          |
| <b><u>PROCEDURE FOR SHOP TRIAL OF GOUGING ELECTRODES</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                   |                                                         |  |                       |          |
| <b>1.0 PROCEDURE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                   |                                                         |  |                       |          |
| 1. Take 8-10 (or as required) gouging electrodes from supplied lot/ sample.<br>2. Check the supplier Identification No.<br>3. Trial may be carried out on casting to grade of plain carbon/ high alloy steel/ Base metal of any steel grade<br>4. Confirm the air pressure in between of 5-8 kg/cm <sup>2</sup><br>5. Confirm the operational condition of gouging holder for testing.<br>6. Set the rectifier current up to max 900 A (DCEP).<br>7. For trial electrode should be held such that a maximum of 178mm (7 inch) extends from the cutting torch.<br>8. Trial may carried out at an angle 90° to 160° (angle b/w holder axis and electrode axis in anticlockwise direction) of position of defect.<br>9. Before striking the arc, turn the air jet on and grip the cutting torch as per defect location. |                                                                                   |                                                         |  |                       |          |
| <b>2.0 ACCEPTANCE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                   |                                                         |  |                       |          |
| The gouging electrodes shall be treated as satisfactory on meeting the following.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                   |                                                         |  |                       |          |
| 1. Provision of jointing & interchangeability in electrodes.<br>2. The copper coating shall not flack or peel off during use at rated amperage (Cu peel off shall not lead more than 25 mm than carbon, after use of 270-280 mm electrode length).<br>3. The carbon shall not disintegrate during gouging operation.<br>4. Uniform material removal.<br>5. The jointed gouging electrodes shall not get red hot or burst while in used which leads to non functional of jointing purpose or wastage of electrodes.<br>6. The gouging rod shall not produce toxic smoke or excess noise during normal gouging operation.                                                                                                                                                                                              |                                                                                   |                                                         |  |                       |          |
| स्वत्वधिकार एवं गोपनीयता<br>The information on this documents is the property of Bhalra Heavy Electrical Limited It must not be used directly or indirectly in any way detrimental to the interest of the company                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | COPYRIGHT AND CONFIDENTIAL                                                        |                                                         |  |                       |          |
| दिनांक एवं हस्ताक्षर<br>SIGN & DATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | निर्माणकर्ता<br>WORKED BY                                                         |                                                         |  |                       |          |
| सामग्री सूची संख्या                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Sushant Pandey                                                                    |                                                         |  |                       |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | जांचकर्ता<br>CHECKED BY                                                           |                                                         |  |                       |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Anil Kumar                                                                        |                                                         |  |                       |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 13/10/15                                                                          |                                                         |  |                       |          |
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\* These are indicative, for details refer Spec Clause as mentioned.

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------|---------------------------------------------------------------------------------------|----------------|-----------|-----|---|------------------|---|------|---|
| दिनांक एवं हस्ताक्षर<br>SIGN & DATE                                                                                                                                                     |  | संस्थान क्रय विनिर्देश (सी.एफ.एफ.पी - हरिद्वार)  |                                                                                       | FF09111 Rev 01 |           |     |   |                  |   |      |   |
|                                                                                                                                                                                         |                                                                                   | PLANT PURCHASE SPECIFICATION<br>(CFFP - HARDWAR) |                                                                                       | पृष्ठ 6        | का 6 of 6 |     |   |                  |   |      |   |
| सामग्री संख्या                                                                                                                                                                          | SUPERSEDES INVENTORY NO.                                                          | RECORD OF CHANGES                                |                                                                                       |                |           |     |   |                  |   |      |   |
| REV CODE                                                                                                                                                                                | NO. OF CHANGES                                                                    |                                                  |                                                                                       |                |           |     |   |                  |   |      |   |
| Nature of change                                                                                                                                                                        |                                                                                   | SIGN                                             | DATE                                                                                  |                |           |     |   |                  |   |      |   |
| 01                                                                                                                                                                                      |                                                                                   | -                                                | Specification rewritten                                                               |                | 19.10.15  |     |   |                  |   |      |   |
| <p><b>DISTRIBUTION OF PRINTS</b></p> <table border="1"> <tr> <td>RMI</td> <td>✓</td> </tr> <tr> <td>STANDARD SECTION</td> <td>✓</td> </tr> <tr> <td>MPIC</td> <td>✓</td> </tr> </table> |                                                                                   |                                                  |                                                                                       |                |           | RMI | ✓ | STANDARD SECTION | ✓ | MPIC | ✓ |
| RMI                                                                                                                                                                                     | ✓                                                                                 |                                                  |                                                                                       |                |           |     |   |                  |   |      |   |
| STANDARD SECTION                                                                                                                                                                        | ✓                                                                                 |                                                  |                                                                                       |                |           |     |   |                  |   |      |   |
| MPIC                                                                                                                                                                                    | ✓                                                                                 |                                                  |                                                                                       |                |           |     |   |                  |   |      |   |
| हस्ताक्षर एवं दिनांक<br>SIGN & DATE                                                                                                                                                     | निर्माणकर्ता<br>WORKED BY                                                         | Sushant Pandey                                   |  | 19/10/15       |           |     |   |                  |   |      |   |
| सामग्री संख्या                                                                                                                                                                          | जांचकर्ता<br>CHECKED BY                                                           | Anil Kumar                                       |  | 19/10/15       |           |     |   |                  |   |      |   |