



**QM-C-7.1/FORGING/0001**

**Inspection Plan(Check Sheet)**

**Item:** Bogie Bolster Suspension Hanger (Coaches & EMU stock)  
**Specn. :** C – K105  
**Amd.:**  
**Drg. No. & Alt.:** MG SK-83033 Amd 1

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|                                |  |
|--------------------------------|--|
| <b>Name of Manufacture</b>     |  |
| <b>Date of Offer</b>           |  |
| <b>RDSO File No.</b>           |  |
| <b>Purchase Order No.</b>      |  |
| <b>Total Quantity Ordered</b>  |  |
| <b>Quantity Earlier Passed</b> |  |
| <b>Quantity Now Offered</b>    |  |
| <b>Quantity Passed</b>         |  |
| <b>Consignee</b>               |  |
| <b>D.P. Date</b>               |  |
| <b>Date of Inspection</b>      |  |
| <b>Qty. Accepted</b>           |  |
| <b>Qty. Rejected</b>           |  |
| <b>Balance Order</b>           |  |

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1.0 RECORD CHECK:

(I) Raw Material:

|   |                |  |              |          |                     |  |
|---|----------------|--|--------------|----------|---------------------|--|
| Register No.  |                |  |              |          |                     |  |
| Date of Last Inspection                                 |                |  |              |          |                     |  |
| Whether any raw material received after last inspection |                |  |              |          |                     |  |
| Date of Inspection of raw material                      |                |  |              |          |                     |  |
| Date of Inspection                                      |                |  |              |          |                     |  |
| Inspection Result (to be filled as per firm's record)   |                |  |              |          |                     |  |
| Chemical Properties                                     |                |  |              |          |                     |  |
|   | <b>C</b>       | <b>Si</b>                                    | <b>Mn</b>    | <b>S</b> | <b>P</b>            |  |
| Specified   | 0.10-0.18      | 0.15-0.35                                    | 0.40-0.70    | 0.04 Max | 0.04 Max            |  |
| Observed  |                |  |              |          |                     |  |
| Physical Properties                                     |                |  |              |          |                     |  |
|   | <b>Tensile</b> |  | <b>Yield</b> |          | <b>% Elongation</b> |  |
| Specified (Min.)  | 370 MPa        |  | 200 MPa      |          | 26                  |  |
| Observed  |                |  |              |          |                     |  |
| Bend Test (As per IS 1875 clause 12.2)                  |                |  |              |          |                     |  |
| 38 mm without fracture                                  |                |  |              |          |                     |  |
| Macroscopic Examination                                 |                | OK / Not OK                                  |              |          |                     |  |
| Inclusion Rating  |                |  |              |          |                     |  |
| Specified   |                | Not worse than 2.0 A B C D for thick & thin. |              |          |                     |  |
| Observed  |                |  |              |          |                     |  |
| Grain Size  |                |  |              |          |                     |  |
| Specified   |                | Not coarser than 5 (as per IS-4748-88)       |              |          |                     |  |
| Observed  |                |  |              |          |                     |  |
| Size of Billets   |                | Should be as per spec clause 1.5             |              |          |                     |  |

(II) Records of Stage Inspection: OK / Not OK

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(III) FINISH PRODUCT:

| Register No.  |                  |   |             |             |
|---|------------------|---|-------------|-------------|
| These tests to be carried out by manufacturer on a finished product |                  |   |             |             |
| Test  | Sample Size      | Specified   |             | Observed    |
| Dimensional Accuracy  | 100%             | Straightness  | By Gauge    | OK / Not OK |
|   |                  | Radius on wearing surface   | By Gauge    | OK / Not OK |
| Hardness  | 100%             | Between 50 to 60 RC<br>(Wearing Surface)                                |             |             |
|   |                  | 190 BHN Max (on arm)  |             |             |
| Mangna flux   | 100%             |   |             |             |
| Proof Load Test   | 100%             | For BG EMU Motor Coach  | <b>10 t</b> |             |
|   |                  | For BG Mainline Coaches<br>BG EMU Trailer Coaches<br>MG EMU Motor Coach | <b>8 t</b>  |             |
|   |                  | For MG Mainline Coaches<br>MG EMU Trailer coaches                       | <b>5 t</b>  |             |
| Case Depth  | 1 in 100 or part | Min 1.5 mm  |             |             |

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**2.0 Test to be carried out by Inspector:**

A. Manufacturing process and quality control followed by the firm is acceptable.

|          |  |
|----------|--|
| YES / NO |  |
|----------|--|

B. The raw material used conforms to correct specification and size of RCS is as per Spec. clause 1.5:

|          |  |
|----------|--|
| YES / NO |  |
|----------|--|

C. Inspection on finished product: Lot Size 100 or Part.

| I.    | Test                                | Sample Size   | Specified   |             | Observed |          |  |  |  |  |
|-------|-------------------------------------|---|---|-------------|----------|----------|--|--|--|--|
|       |                                     |   |   | OK / Not OK |          |          |  |  |  |  |
| I.    | Dimensional accuracy (to be gauged) | 5%  | Straightness  | OK / Not OK |          |          |  |  |  |  |
|       |                                     |   | Radius on wearing surface   | OK / Not OK |          |          |  |  |  |  |
| II.   | Surface defects by MPT              | 5%  | Wet Method  |             |          |          |  |  |  |  |
| III.  | Hardness                            | 5%  | Between 50 to 60 RC (Wearing Surface)                               |             |          |          |  |  |  |  |
|       |                                     |   | 190 BHN Max (on am)   |             |          |          |  |  |  |  |
| IV.   | Proof load test                     | 5%  | For BG EMU Motor Coach  | 10 t        |          |          |  |  |  |  |
|       |                                     |   | For BG Mainline Coaches, BG EMU Trailer Coaches, MG EMU Motor Coach | 8 t         |          |          |  |  |  |  |
|       |                                     |   | For MG Mainline Coaches, MG EMU trailer coaches.                    | 5 t         |          |          |  |  |  |  |
| V.    | Case Depth                          | 1 in 100 or part  | Min 1.5 mm  |             |          |          |  |  |  |  |
| VI.   | Grain Flow Line                     | 1 in 100 or part  | At all four corners   |             |          |          |  |  |  |  |
| VII.  | Chemical Properties                 | 1 Per Heat or part thereof (Sample should be drawn from vertical leg) |   |             |          |          |  |  |  |  |
|       |                                     | C   | Si  | Mn          | S        | P        |  |  |  |  |
|       | Specified                           | 0.10-0.18   | 0.15-0.35   | 0.40-0.70   | 0.04 Max | 0.04 Max |  |  |  |  |
|       | Observed                            |   |   |             |          |          |  |  |  |  |
| VIII. | Tensile Strength (Min-370 MPa)      | 1 in 100 or Part  |   |             |          |          |  |  |  |  |
| IX.   | Yield Strength (Min-200 MPa)        | 1 in 100 or Part  |   |             |          |          |  |  |  |  |
| X     | % Elongation (Min- 26%)             | 1 in 100 or Part  |   |             |          |          |  |  |  |  |

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