

## REVISION OF SPECIFICATION / STR

Ref: C-9307(Rev.2) with Corrigendum no. 1

**Item Name: Axle end screw used in Roller bearing axle box arrangement of ICF coaches.**

1. RDSO is reviewing the specification/STR to cater to the latest technological developments in the field, modify clauses not relevant in the present context and making them more enabling with focus on functional requirements.
2. It is requested that your comments / suggestions with regard to improvements / modifications in specification / STR of this item may be submitted in the following format alongwith the justification for the changes required.

### **Part A: Basic Information**

SN	Particulars	Information
1	Name	
2	Designation	
3	Professional Qualification	
4	Organization / Firm's Name	
5	Address for Correspondence	
6	Contact No.	
7	Email ID	
8	<b>In case of Firm / Individual:</b> Manufacturing experience of item (or similar Item) on which comments are offered	
9	<b>Where relevant:</b> Whether any technical document to support suggested changes is available / enclosed for better appreciation	

### **Part B: Comments / suggestions on the specification**

SN	Clause No. of RDSO STR / Spec	Clause, as exists in RDSO STR / Spec	Clause , as it should read after incorporation of comments / suggestions in the RDSO Spec / STR	Justification for changes

#### **Comments may be sent to:**

Joint Director/VDG/ Carriage  
Research Designs and Standards Organization  
Manak Nagar, Lucknow – 226011

Email: [dirvdg1@rdsO.railnet.gov.in](mailto:dirvdg1@rdsO.railnet.gov.in) OR [dirvdg1@gmail.com](mailto:dirvdg1@gmail.com)

Ref: CGW 0001  
(Rev. - 3)

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Date of issue  
February, 2006

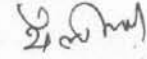
SPEC. No. C-9307 (Rev.- 2)

GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS

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Controlling Officer

Signature :



Designation

DIY/SS

SCHEDULE OF TECHNICAL REQUIREMENTS OF  
AXLE END SCREW USED IN  
ROLLER BEARING AXLE BOX ARRANGEMENT  
OF ICF COACHES

S.No.	Month / Year of issue	Revision / Amendment	Page No.	Reason for Amendment
1	1993	-	-	First Issue
2	1994	Revision-1		Surface treatment deleted.
3	February, 2006	Revision-2		1. Clause 3.2 added. 2. Material class 6.8 deleted. 3. Surface treatment added.

Issued by

RESEARCH DESIGNS AND STANDARDS ORGANISATION  
MANAK NAGAR, LUCKNOW-226 011

Corrigendum Slip N0.1 Of October 2006 to C-9307 " STR of Axle End Screw used in Roller Bearing Axle Box arrangement of ICF Coaches".

Read ICF drawing No. T-0-2-619 instead of T-0-2-618 under clause 2.2.

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SPECIFICATION REFERRED

Material of axle end screw shall be in accordance with IS 1229 Part 10 however grade 8.8 is used. The maximum diameter tolerance of screw shall be  $\pm 0.15$  mm.

4. MECHANICAL PROPERTIES

Mechanical properties of steel shall be in accordance with IS 1229 Part 10.

5. SURFACE TREATMENT

The surface treatment of hexagonal end screw shall be Phosphate coating having coating weight 4.5 to 5.5 g/m<sup>2</sup>. (Presphating process) (Ref: IS 2019).

7. SAMPLING

Sampling shall be in accordance with IS 2014.

TECHNICAL REQUIREMENTS OF AXLE END SCREWS USED  
IN ROLLER BEARING AXLE BOX ARRANGEMENT OF ICE COACHES

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3. THREAD FORMATION

The thread should be formed by cold rolling process & thread profile shall conform to IS: 4218 Part-IV, substitute class (g), in which it shall be a standard pitch which shall be machined to a tolerance of 0.04.

The thread profile shall be checked, inspected by traveling microscope or profile projector in addition to conventional thread gauge.

4. MATERIAL

Material of axle end screws shall conform to IS: 1257 Part-3 property class 8.8 is used. The maximum copper in material specification shall be 0.15 gmt.

5. MECHANICAL PROPERTIES

Mechanical properties of steel shall be in accordance with IS: 1257 Part-3.

6. SURFACE TREATMENT

The surface treatment of hexagonal end screw shall be Phosphating coating having coating weight 4.5 to 5.5 gmt. Phosphating process data - IS: 3578-14.

7. SAMPLING

Sampling shall be in accordance with IS: 3854.

**SCHEDULE OF TECHNICAL REQUIREMENTS OF AXLE END SCREW USED  
IN ROLLER BEARING AXLE BOX ARRANGEMENT OF ICF COACHES**

**1. SCOPE & FIELD OF APPLICATION**

This schedule of technical requirement covers boundary dimensions, formation of threads, mechanical properties, surface treatment, thread tolerance, material supply conditions, marking, sampling etc. of axle end, screws used in roller bearing axle box arrangement of ICF coaches.

**2. DRAWINGS AND DIMENSIONS**

- 2.1 The axle and screw shall be to ICF's Drg. No. T-0-2-619 (latest alteration).
- 2.2 The length of threaded portion of the axle end screw shall be as indicated in Drg. No. T-0-2-618 with a tolerance of  $\pm 0.5$  mm.

**3. THREAD FORMATION**

- 3.1 Threads should be formed by cold rolling process and thread profile shall conform to IS: 4218 Part-IV, tolerance class 6g, to work in axle end threaded holes which shall be machined to a tolerance of 6H.
- 3.2 The thread profile shall be checked / measured by travelling microscope or profile projector in addition to conventional thread gauge.

**4. MATERIAL**

Material of axle end screws shall be steel to IS: 1367 Part-3 property class 8.8 is used. The maximum depth of complete decarburization, shall be 0.015 mm.

**5. MECHANICAL PROPERTIES**

Mechanical properties of steel shall be in accordance with IS: 1367 Part-3.

**6. SURFACE TREATMENT**

The surface treatment of hexagonal end screw shall be Phosphate coating having coating weight 4.3 to 5.5 g/m<sup>2</sup> ( Phosphating process class -B) to IS: 3618.

**7. SAMPLING**

Sampling shall be in accordance with IS: 2614.

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**8. MAKING AND MODE OF DELIVERY**

Marking and mode of delivery of axle end screws shall be in accordance to IS: 1367 Part-18.

**9. GENERAL REQUIREMENTS**

In regard to requirements not covered above, end locking screws shall conform to IS: 1367 Part-I.

**10. SPECIFICATION REFERRED**

All BIS specifications referred to above shall necessarily to latest revisions.