





**GOVERNMENT OF INDIA
(Ministry of Railways)**

**SPECIFICATION FOR
PACKING OF
FINISHED BG COACHING AXLES**

**MECHANICAL DRAWING OFFICE
RAIL WHEEL FACTORY
YELAHANKA, BANGALORE-560 064
INDIA**

			
CME	CWE/Axle	SME/TQM	SSE/D
APPROVED BY	REVIEWED BY	VERIFIED BY	PREPARED BY




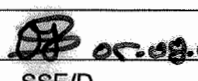
SPECIFICATION FOR PACKING OF FINISHED BG COACHING AXLES**1.0 SCOPE**

- 1.1** The specification covers the procedure for packing finished axles and supply to Rail Wheel Factory, Yelahanka, Bangalore - 560 064, Karnataka, India.

2.0 PROCEDURE FOR PACKING





The following is the procedure for packing finished axle, modifying the provisions of IRS R16: 1995 to make the packing withstand long sea voyage and mechanical handling. This is to protect the axles from mechanical and chemical damages.

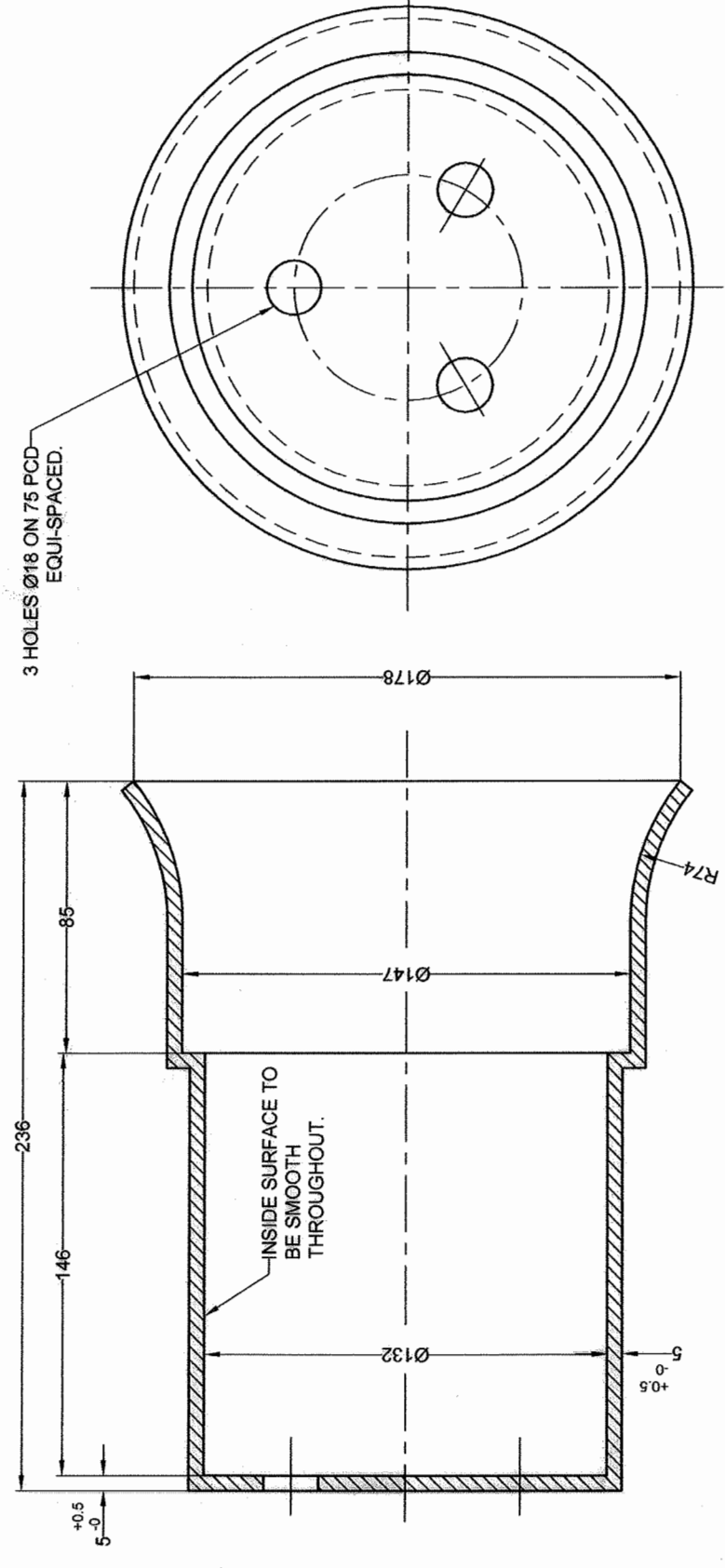
- 2.1** The journals shall be carefully protected with three coats of ready mixed paint and shall be bituminous black, lead-free and acid, alkali, water & chlorine-resisting, to IS 9862, allowing sufficient drying time between each coat. The paint shall be applied by brushing. The coating so provided should be easily removable by thinner, white spirit or kerosene. If the supplier wants to use any other equivalent anti rust compound, specific approval of purchaser is required.
- 2.2** The axle body and wheel seats shall be painted with one coat of red oxide zinc chromate primer to IS 2074, followed by a second coat of Black Japan (Type B) to IS 341, allowing sufficient drying time between each coat. All parts must be clean and free from rust and moisture at the time the coats are applied.
- 2.3** The end holes shall be filled with grease.
- 2.4** The entire axle shall be wrapped with two layers of wax paper of Type 4 to IS 3962 and secured with suitable adhesive tape so as to ensure that each area of axle is covered with two layers of wax paper.
- 2.4.1** The entire axle then shall be wrapped with a layer of HDPE film of minimum 100-micron thickness to IS 10889. The joints of the HDPE film should be thermo-sealed.

			
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2.5 Protection of axle with HDPE Cover

- 2.5.1** The journals shall be further protected with a minimum 5mm thick well fitted High Density Polyethylene to IS 7328, designated as HDPE-44-MB covers, at the two end faces, surrounding the journal & shoulder, and secured with three HDPE / PVC screws to suit the axle end as given in the relevant axle drawing. The end covers will be to RWF drawing No. RWF-P-073.
- 2.5.2** The axle body and wheel seat shall then be further protected with minimum 5mm thick well-fitted High Density Polyethylene to IS 7328, designated as HDPE-44-MB covering, secured with steel/plastic straps and self-locking arrangement for the cover shown in the Drg. No. RWF-P-074.
- 2.5.3** The complete HDPE covering arrangement is shown in the Drg. No. RWF - P - 077. If the supplier wants to use any other design of covering, specific approval of purchaser is required.
- 2.6** Four axles shall be packed in a wooden box by keeping on corrugated wooden blocks as shown in the enclosed drawing No. RWF-P-076, to protect from dents occurred by banging to each other during handling and transit.
- 2.6.1** Within the wooden box, all the four axles, kept on corrugated wooden blocks, shall be wrapped with heavy duty air bubble polyethylene sheet to IS 12787 with all the joints thermo-sealed to prevent moisture ingress.
- 2.6.2** Two packets of silica gel each having at least 100gm shall be placed suitably inside the air bubble polyethylene sheet packing.
- 2.7** The wooden box containing axles shall be secured with 22 gauge, 20mm width steel strap at four places.

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3 HOLES Ø18 ON 75 PCD
EQUI-SPACED.

INSIDE SURFACE TO
BE SMOOTH
THROUGHOUT.

NOTE :
MATERIAL : VIRGIN NATURAL COLOURED HDPE-44-MB- IS:7328.
THICKNESS : 5 -0

INDIAN RAILWAYS		REF DRG.
SCALE	AME/ID	AME/ID
PROJECTION	SSE/ID	SSE/ID
ALT	CHD	CHD
	DRN	DRN
	J	J
	N	N
	R	R
	05.08.09	05.08.09
DRG No.	RWF-P-073	
JOB No.	5316	SHEET OF
RAIL WHEEL FACTORY BANGALORE		

JOURNAL COVER
FOR BG COACHING AXLE

RAIL WHEEL FACTORY
BANGALORE

APPROVED
D:\S\B\...
REVIEWED
AWM
VERIFIED

ALL DIMENSIONS ARE IN mm UNLESS SPECIFIED OTHERWISE
PERMISSIBLE DEVIATION FOR UNTOLERANCED DIMENSIONS AS PER IS:2102 CLASS 'm'

CS	NUMBER	BY	DATE
1	0.028	0.08	0.1
2	0.028	0.08	0.1
3	0.028	0.08	0.1
4	0.028	0.08	0.1
5	0.028	0.08	0.1
6	0.028	0.08	0.1
7	0.028	0.08	0.1
8	0.028	0.08	0.1
9	0.028	0.08	0.1
10	0.028	0.08	0.1

DO NOT SCALE DRAWING		DESCRIPTION		JOB No.		APPROVED	
ALT		INDIAN RAILWAYS		SCALE		REF DRG.	
X		WHEEL SEAT AND BODY PROTECTION (HDPE) COVER FOR BG COACHING AXLE		AM/E/D		5/8/09	
X		RAIL WHEEL FACTORY BANGALORE		SSE/D		CS-8	
Ø180		BANGALORE		CHD		Chalastofos	
Ø154		BANGALORE		DRN		J N R	
R75		BANGALORE		ALT		05.08.09	
1470		BANGALORE		DRG No.		RWF-P-074	
1852		BANGALORE		JOB No.		5316	
SECTION - 'X X'		BANGALORE		SHEET		OF	
(HALF PORTION SHOWN)		BANGALORE		RWF-P-074		8	
A		BANGALORE		JOB No.		5316	
B		BANGALORE		SHEET		OF	
R90		BANGALORE		RWF-P-074		8	
R77		BANGALORE		JOB No.		5316	
Ø1.5		BANGALORE		SHEET		OF	
Ø1.5		BANGALORE		RWF-P-074		8	
DETAIL - B		BANGALORE		JOB No.		5316	
DETAIL - A		BANGALORE		SHEET		OF	
NOTE:		BANGALORE		RWF-P-074		8	
MATERIAL : VIRGIN NATURAL COLOURED HDPE-44-MB-IS:7328		BANGALORE		JOB No.		5316	
THICKNESS : 5 ^{+0.5} -0		BANGALORE		SHEET		OF	
LENGTH : 1852.		BANGALORE		RWF-P-074		8	

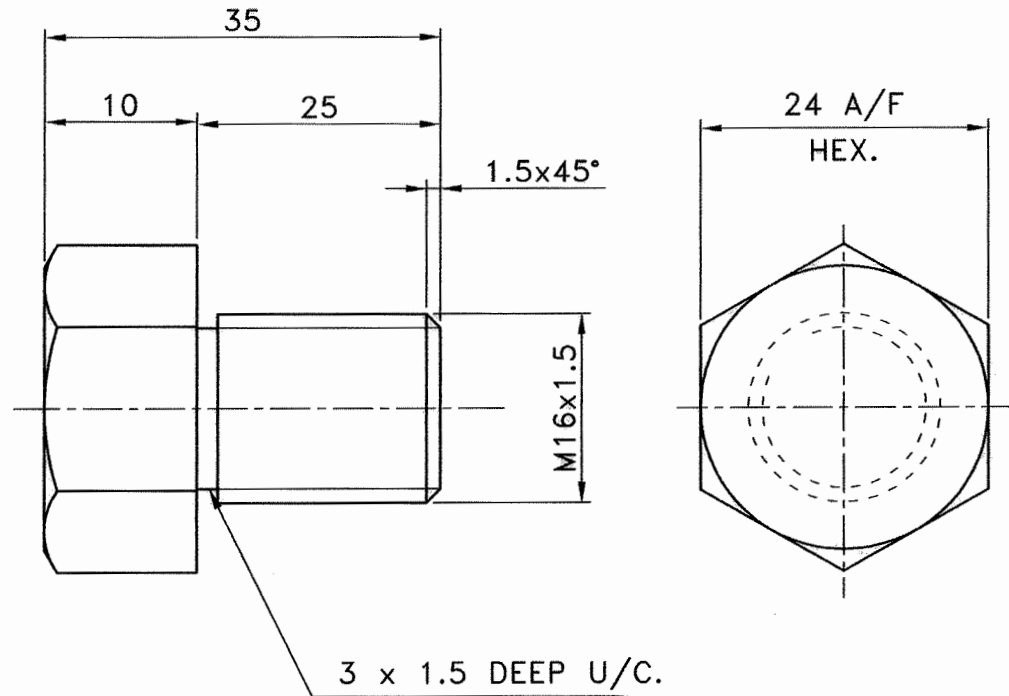
ALL DIMENSIONS ARE IN mm UNLESS SPECIFIED OTHERWISE.
PERMISSIBLE DEVIATION FOR UNTOLERANCED DIMENSIONS AS PER IS:2102 CLASS 'm'

NO.	REV.	DATE	BY	CHKD	APPD	REASON
1						

APPROVED
BY: *[Signature]*
REVIEWED
BY: *[Signature]*
VERIFIED
BY: *[Signature]*


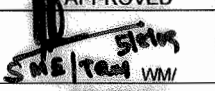
TOLERANCE CLASS	PERMISSIBLE DEVIATION FOR ANGULAR DIMENSIONS (mm)											
	TOLERANCE CLASS			PERMISSIBLE DEVIATIONS FOR RANGES OF LENGTHS IN mm OF THE SHORTER SIDE OF ANGLE CONCERNED			TOLERANCE CLASS			PERMISSIBLE DEVIATIONS FOR RANGES OF LENGTHS IN mm OF THE SHORTER SIDE OF ANGLE CONCERNED		
DESIG. DESCRIPTION	0.5 TO 3	3 TO 6	6 TO 30	0.5 TO 120	120 TO 400	400 TO 1200	120 TO 400	400 TO 1200	120 TO 400	400 TO 1200	120 TO 400	400 TO 1200
f FINE	±0.05	±0.1	±0.15	±0.3	±0.5	±0.8	±0.5	±0.8	±1.2	±1.5	±2.0	±2.5
m MEDIUM	±0.1	±0.2	±0.3	±0.6	±1.0	±1.5	±1.0	±1.5	±2.0	±2.5	±3.0	±3.5
c COARSE	±0.2	±0.5	±0.8	±1.5	±2.5	±4.0	±2.0	±3.0	±4.0	±5.0	±6.0	±7.0
v VERY COARSE	±0.5	±1.0	±1.5	±3.0	±5.0	±8.0	±4.0	±6.0	±8.0	±10.0	±12.0	±15.0

DO NOT SCALE DRAWING	ALT	DESCRIPTION	JOB No.	APPROVED
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MATERIAL : VIRGIN NATURAL COLOURED HDPE 44-MB IS:7328/PVC.

ALL DIMENSIONS ARE IN mm UNLESS SPECIFIED OTHERWISE.
 PERMISSIBLE DEVIATION FOR UNTOLERANCED DIMENSIONS AS PER IS:2102 CLASS 'COARSE'

 DY. CME/ APPROVED  WMM/ REVIEWED AWM/ VERIFIED	INDIAN RAILWAYS		REF DRG.	
	HEX. HD. BOLT		SCALE	AME/D
	FOR SECURING JOURNAL COVER OF BG COACHING AXLE		---	SSE/D
	RAIL WHEEL FACTORY BANGALORE		PROJECTION	CHD
		ALT.	DRN	J N R
		DRG.No.	RWF-P-075	
		JOB No.	5316	SHEET 1 OF 1

Gr. NUMBER	N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12
SURFACE ROUGHNESS VALUE	Ra. um	0.025	0.05	0.1	0.2	0.4	0.8	1.6	3.2	6.3	12.5	50

DO NOT SCALE DRAWING	DESCRIPTION	JOB No.	APPROVED
ALT			
<p>APPROX. GROSS WEIGHT : 240 + 1360 = 1600 kgs.</p>			
INDIAN RAILWAYS		REF DRG.	
WOODEN BOX		SCALE	AME/D
FOR PACKING 4 Nos. B G COACHING AXLES		SSE/D	
TO DRG. No. WTAC3-0-2-301.		CHD	
RAIL WHEEL FACTORY		DRN	J N R
BANGALORE		PROJECTION	05.08.09
BANGALORE		ALT	
BANGALORE		DRG.No.	RWF - P - 076
BANGALORE		JOB No.	5316
BANGALORE		SHEET	OF

SEC. - 'AA'

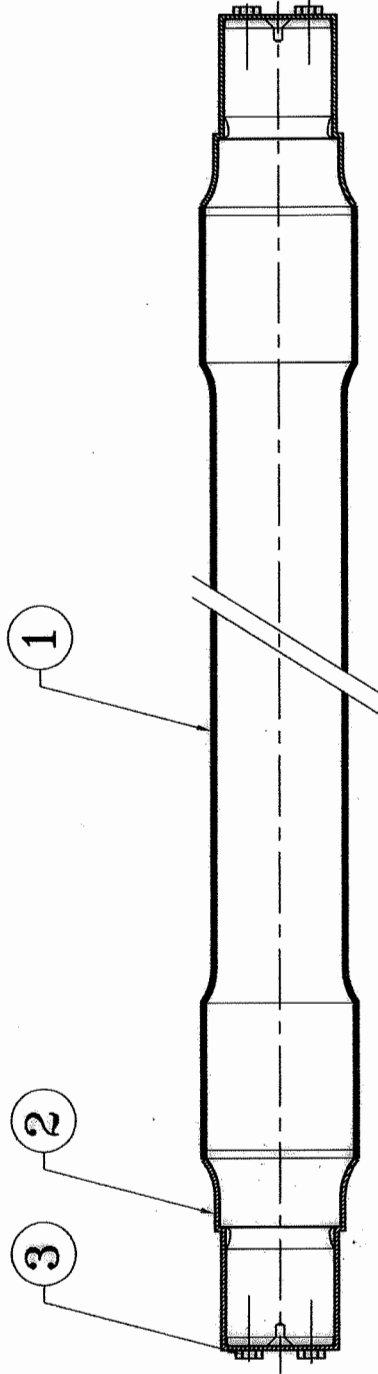
ALL DIMENSIONS ARE IN mm UNLESS SPECIFIED OTHERWISE.
 PERMISSIBLE DEVIATION FOR UNTOLERANCED DIMENSIONS AS PER IS:2102 CLASS 'm'

DATE	BY	CHKD	APPD
05.08.09	J N R		
05.08.09			
05.08.09			

SCALE: 1:100

DO NOT SCALE DRAWING
 PERMISSIBLE DEVIATION FOR UNTOLERANCED DIMENSIONS AS PER IS:2102 CLASS 'C' COARSE
 ALL DIMENSIONS ARE IN mm UNLESS SPECIFIED OTHERWISE.

ALT	DESCRIPTION	JOB No.	APPROVED
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3	6	NYLON / H D P E BOLT	RWF - P - 075	
2	2	JOURNAL COVER	RWF - P - 073	
1	1	WHEEL SEAT AND BODY COVER	RWF - P - 074	
ITEM No.	QTY.	DESCRIPTION	MATL. SPEC./REF DRG.	REMARKS
INDIAN RAILWAYS				
REF DRG.				
SCALE				
AMEID				
SSE/D				
CHD				
DRN				
PROJECTION				
ALT				
DRG.No. RWF - P - 077				
J N R 05.08.09				
JOB No. 5316 SHEET 1 OF 1				

Approved: [Signature]
 Date: 05.08.09

JOURNAL, WHEEL SEAT AND
 BODY PROTECTION (HDPE) COVER
 (FOR BG COACHING AXLE)
 RAIL WHEEL FACTORY
 BANGALORE

APPROVED BY: [Signature]
 REVIEWED BY: [Signature]
 VERIFIED BY: [Signature]