
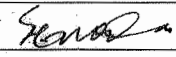
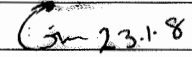
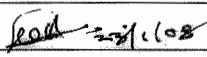


**GOVERNMENT OF INDIA
(Ministry of Railways)**

**SPECIFICATION FOR
PACKING OF
FINISHED BOXN AXLES**

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

			
CME	CWE/Axle	Dy. CME/P&TQM.	SSE/D
APPROVED BY	REVIEWED BY	VERIFIED BY	PREPARED BY

SPECIFICATION FOR PACKING OF FINISHED BOXN AXLES

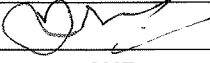
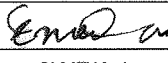
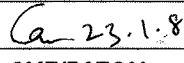
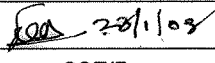
1.0 SCOPE

- 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

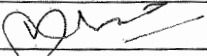
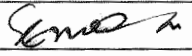
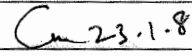
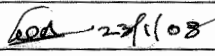
The following is the procedure for packing finished axle, modifying the provisions of IRS R16: 1995 to make the packing withstand long sea voyage and mechanical handling. This is to protect the axles from mechanical and chemical damages.

- 2.1 The journals shall be carefully protected with three coats of ready mixed paint, brushing, bituminous, black, lead free, acid, alkali, water & chlorine resisting, to IS 9862, allowing sufficient drying time between each coat. 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.

			
CME	CWE/Axle	Dy. CME/P&TQM.	SSE/D
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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-062.
- 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 or by self-locking arrangement as shown in the Drg. No. RWF-P-063.
- 2.5.3** The complete HDPE covering arrangement is shown in the Drg. No. RWF - P - 065. 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-061, 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.

			
CME	CWE/Axle	Dy. CME/P&TQM.	SSE/D
APPROVED BY	REVIEWED BY	VERIFIED BY	PREPARED BY

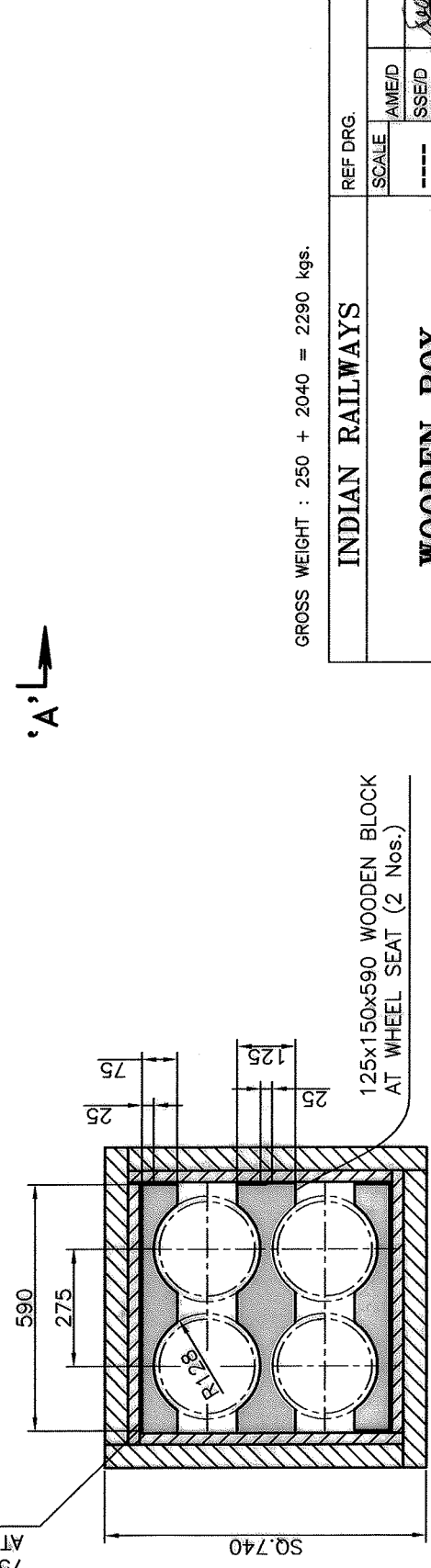
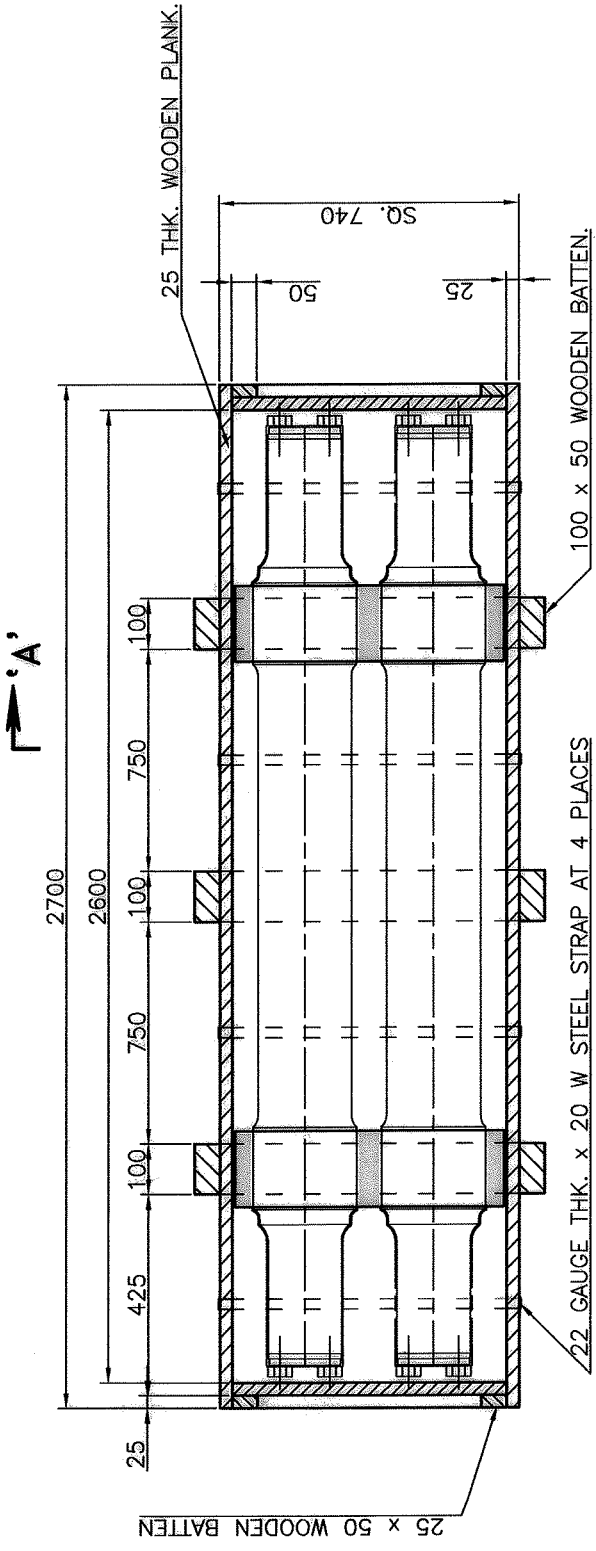
DO NOT SCALE DRAWING

ALT

DESCRIPTION

JOB No.

APPROVED



GROSS WEIGHT : 250 + 2040 = 2290 kgs.

INDIAN RAILWAYS		REF DRG.
SCALE	AME/D	
---	SSE/D	
	CHD	
PROJECTION	DRN	J N R 27.12.07
ALT		
DRG. No.	RWF-P-061	
JOB No.	5082	SHEET 1 OF 1

WOODEN BOX
FOR PACKING 4 Nos. BOXN AXLES
Drg. No. WD-89025-S-02.

RAIL WHEEL FACTORY
BANGALORE

SEC. - 'AA'

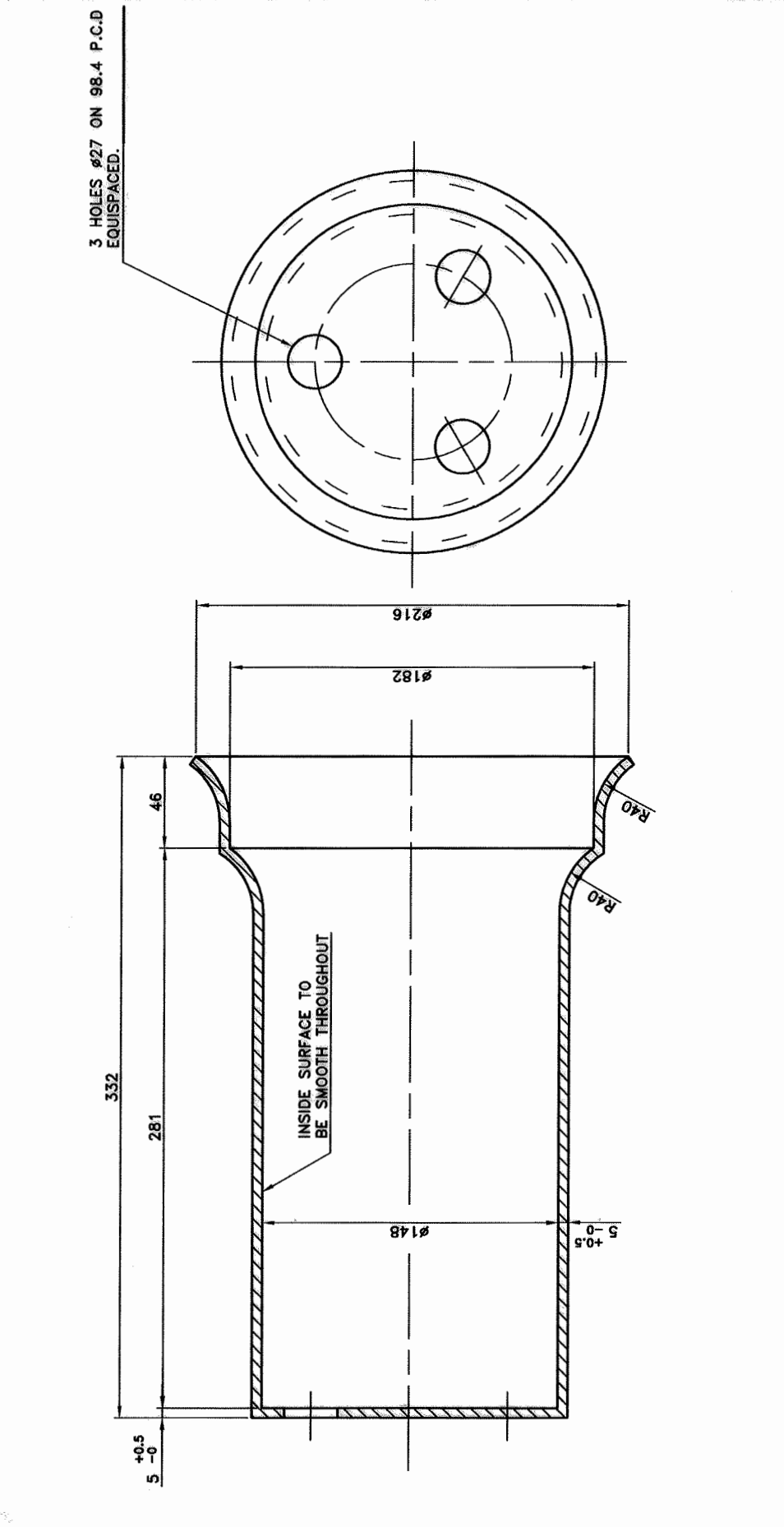
APPROVED	REVIEWED	AMW VERIFIED
BY ONE/	AMW	

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

IS: 2102 CLASS 'm' PERMISSIBLE DEVIATION FOR UNFINISHED DIMENSIONS AS PER IS:2102 CLASS 'm'

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

ALT DESCRIPTION JOB No. APPROVED



INDIAN RAILWAYS		REF DRG.	
SCALE	AME/D	SSE/D	CHD

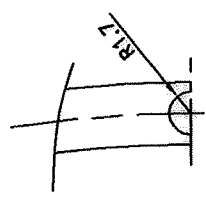
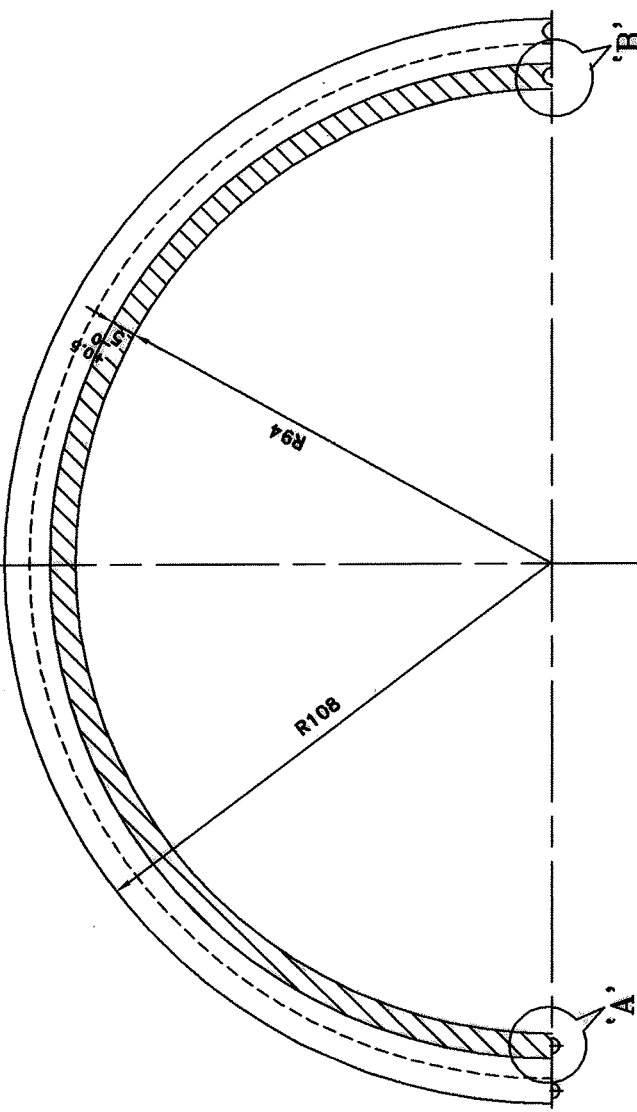
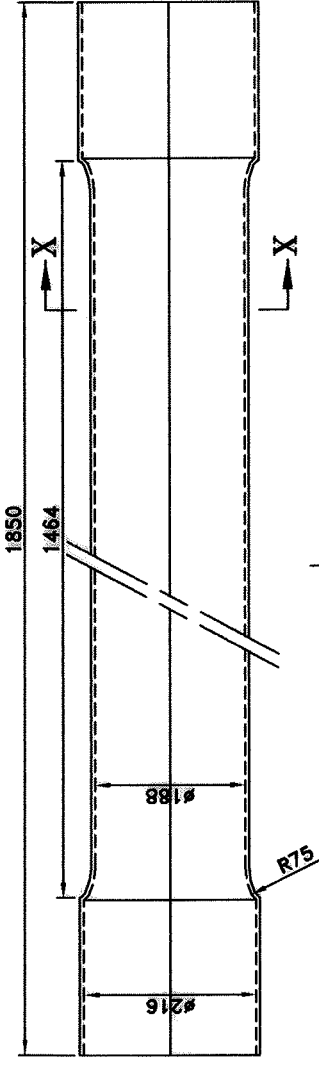
PROJECTION	DRN	J N R	13.1.08
ALT			
DRG. No.	RWF-P-062		
JOB No.	5091	SHEET 1 OF 1	

RAIL WHEEL FACTORY BANGALORE		APPROVED	REVIEWED	AWM VERIFIED

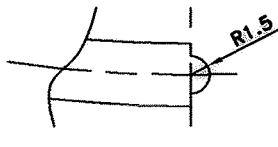
NOTE :
 MATERIAL : VIRGIN NATURAL COLOURED HDPE-44-MB- IS:7328.
 THICKNESS : 5^{+0.5}₋₀

Q. NUMBER IN 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30
 No. in 0.025 0.05 0.1 0.2 0.4 0.6 1.0 1.5 2.0 3.0 4.0 5.0 6.0 8.0 10.0 15.0 20.0 25.0 30.0

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



DETAIL - 'B'



DETAIL - 'A'

NOTE :
 MATERIAL : VIRGIN NATURAL COLOURED HDPE-44-MB- IS:7328.
 THICKNESS : 5 ^{+0.5} ₋₀
 LENGTH : 1850.

INDIAN RAILWAYS		REF DRG.	
SCALE	AME/D	SSE/D	CHD
---	---	---	---
PROJECTION	DRN	ALT	DRG. No.
---	---	---	---
BOXN AXLE WHEEL SEAT AND BODY PROTECTIVE (HDPE) COVER		J N R	16.1.08
RAIL WHEEL FACTORY BANGALORE		RWF-P-063	
JOB No. X		SHEET 1 OF 1	

SECTION 'X' - 'X'
SHOWN HALF PORTION (TYP.)

Ca	---	---	---
D/CASE/ APPROVED	JMW/ REVIEWED	AWW/ VERIFIED	---

DO NOT SCALE DRAWING

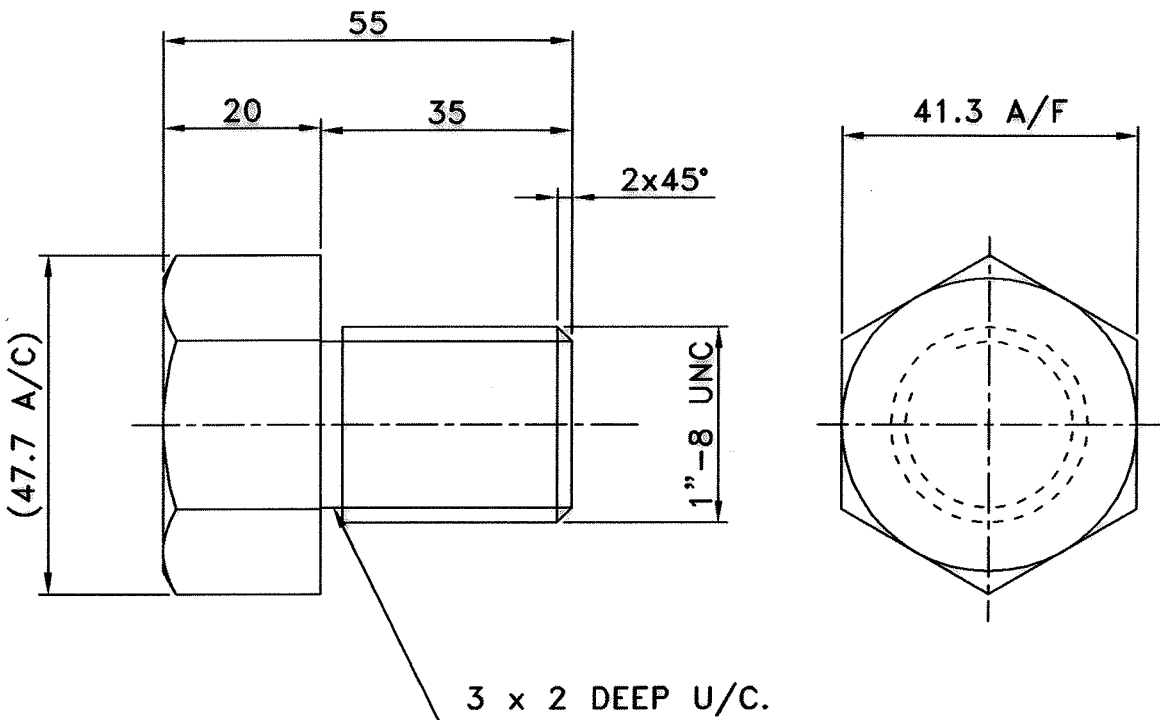
ALT

DESCRIPTION

JOB No.

APPROVED

TOLERANCE CLASS	PERMISSIBLE DEVIATION FOR BASIC SIZE RANGE		PERMISSIBLE DEVIATION FOR ANGULAR DIMENSIONS (DIT)	
	0.50 UP TO 30	30 UP TO 500	UP TO 10	10 OVER TO 50
f FINE	±0.05	±0.1	±1'	±1'
m MEDIUM	±0.1	±0.15	±1'	±1'
c COARSE	±0.15	±0.2	±1'	±1'
v VERY COARSE	±0.2	±0.3	±1'	±1'



MATERIAL : VIRGIN NATURAL COLOURED HDPE 44-MB IS:7328/PVC.

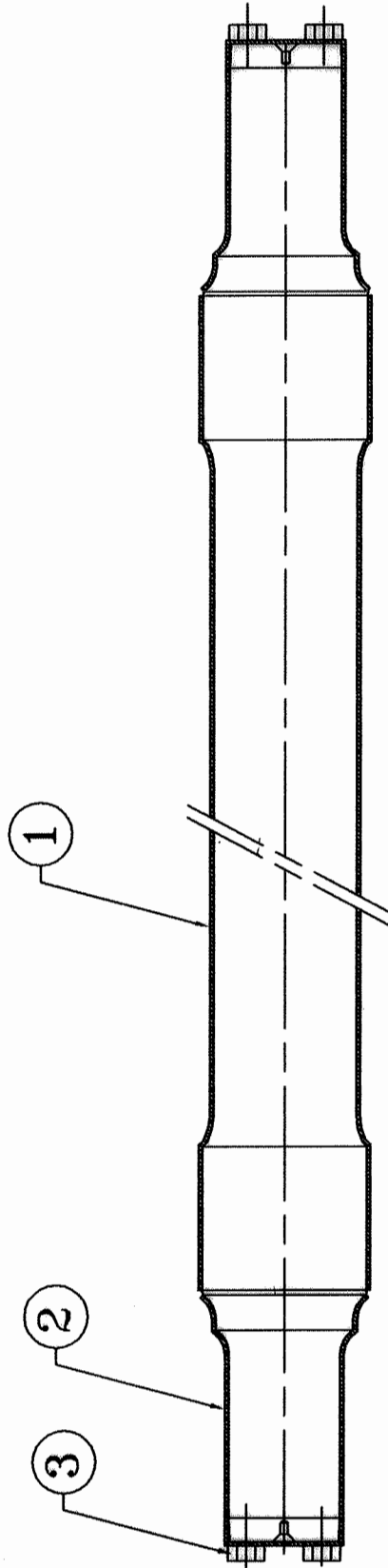
ALL DIMENSIONS ARE IN mm UNLESS SPECIFIED OTHERWISE.
 PERMISSIBLE DEVIATION FOR UNTOLERANCED DIMENSIONS AS PER IS:2102 CLASS 'COARSE'

 APPROVED	INDIAN RAILWAYS		REF DRG.	
	HEX. HD. BOLT		SCALE	AME/D
	FOR SECURING JOURNAL COVER OF BOXN AXLE		---	SSE/D <i>20/108</i>
WM/ REVIEWED	RAIL WHEEL FACTORY BANGALORE		 PROJECTION	CHD DRN
AVVM/ VERIFIED			ALT. DRG.No.	J N R 17.1.08
		RWF-P-064		
		JOB No. X	SHEET 1 OF 1	

Gr. NUMBER	N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12
Gr. NUMBER	N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12
Ra. um	0.025	0.05	0.1	0.2	0.4	0.8	1.6	3.2	6.3	12.5	25	50

ALT DESCRIPTION JOB No. APPROVED

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



3	6	NYLON /HDPE BOLT	RWF-P-064				
2	2	JOURNAL COVER	RWF-P-062				
1	1	WHEEL SEAT AND BODY COVER	RWF-P-063				
ITEM No.	QTY.	DESCRIPTION	MATL. SPEC./REF. DRG.	REMARKS			
INDIAN RAILWAYS							
REF DRG.							
SCALE		AME/D					
---		SSE/D					
PROJECTION		CHD					
ALT		DRN					
DRG No.		J N R					16.1.08
JOB No.		X					
SHEET							1 OF 1

JOURNAL, WHEEL SEAT AND
 BODY PROTECTIVE (HDPE) COVER

RAIL WHEEL FACTORY
 BANGALORE

DY. CHIEF APPROVED	REVIEWED	VERIFIED
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02. 10. 2008 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30.