

भारत सरकार Government of India रेल मंत्रालय Ministry of Railways (रेलवे बोर्ड Railway Board)



No. 2024/CEDO/SR/03/BOSM-22.9t-IR-DFCCIL

New Delhi, dated 29.02.2024

The Director General Research Designs & Standards Organisation Manak Nagar, Lucknow-226011 The General Manager, All Indian Railways Managing Director, DFCCIL, 5th Floor, Supreme Court, Metro Station Building Complex, New Delhi - 110001

Sub: Introduction of Broad Gauge Bogie Open Steel Wagon 'BOSM' [Max. Axle Load: 22.9t] to RDSO's Drg. No. WD-22081-S-02, up to a maximum speed of 85 kmph in empty and 75 kmph in loaded condition over Indian Railways, by Zonal Railways and up to a maximum speed of 85 kmph in empty and 100 kmph in loaded conditions over routes of Eastern & Western Dedicated Freight Corridor of DFCs by DFCCIL

- Ref: (i) CCRS letter no. Q.12011/18/2023-24-T.W., dated 01.02.2024
 - (ii) RDSO letter no. MW/BOSM, dated 11.12.2023
 - (iii) RDSO Final Speed Certificate (FSC) no. MW/BOSM, dated 07.12.2023

With reference to RDSO above application, sent through Chief Commissioner of Railway Safety, Lucknow; sanction of the Ministry of Railways, Railway Board is hereby communicated for introduction of Broad Gauge Bogie Open Steel Wagon 'BOSM' [Max. Axle Load: 22.9t] to RDSO's Drg. No. WD-22081-S-02, up to a maximum speed of 85 kmph in empty and 75 kmph in loaded condition over Indian Railways, by Zonal Railways and up to a maximum speed of 85 kmph in empty and 100 kmph in loaded conditions over routes of Eastern & Western Dedicated Freight Corridor of DFCs by DFCCIL with the following stipulations:

A:

- i. Observance of all conditions laid down in RDSO Final Speed Certificate (FSC) no. MW/BOSM, dated 07.12.2023 for operation up to a maximum speed of 85 kmph in empty and 75 kmph in loaded condition over Indian Railways, by Zonal Railways and up to a maximum speed of 85 kmph in empty and 100 kmph in loaded conditions over routes of Eastern & Western Dedicated Freight Corridor of DFCs by DFCCI, shall be ensured on the Railway/DFCs while seeking the sanction of General Manager/MD-DFCCIL, as the case may be, for introduction of rolling stock on the Railway/DFCs. All the documents required for the sanction of General Manager/MD-DFCCIL as per CE (G) Directorate/Railway Board Policy Circular No. 6, dated 01.05.2023, along with sanction letter, shall be submitted to the Commission before the start of actual operation of rolling stock, as per extant procedure.
- ii. Observance of all the permanent and temporary speed restrictions already in force and/or those that may be imposed from time to time on various accounts.
- iii. Zonal Railways/DFCCIL in turn shall specify the responsibilities/duties of various departments viz. Commercial, C&W etc. including private parties during loading & unloading operation.

29.02.24

- iv. Hand Brakes of the wagons are to be in applied condition during loading/unloading operation.
- v. List of routes identified for 22.9t axle load shall be submitted to the Commission before the start of actual operation of rolling stock.
- vi. The compliance of all the stipulations mentioned in Railway Board letter No. 2020/CE-II/TS/22.82 dt 20.08.2020 shall be ensured by the Railways.
- vii. Periodic rail grinding at stipulated frequency should be carried out on routes by ensuring the availability of traffic blocks.
- viii. DFCCIL should ensure installation of way side lubricators as per provision of IR P. Way manual in a time bound manner.
- ix. For Indian Railways, the WILD shall mandatorily be provided before introduction of wagon at speed above 60 Kmph. For speed up to 60 Kmph the WILD may be progressively installed. 100% weighment of loaded wagons (except consignment exempted from weighment) shall be ensured at the loading points to avoid running of overloaded wagons on track.
- x. For DFCCIL, adequate number of WILD and 'Weigh Bridges' shall be progressively installed and their working closely monitored. 100% weighment of loaded wagons (except consignment exempted from weighment) shall be ensured at the loading points to avoid running of overloaded wagons on track.
- xi. No overdue in track/rolling stock maintenance shall be permitted.
- xii. Right powering of loaded trains running with 22.9t axle load wagons shall be ensured.
- xiii. Only wagons with functional twin-pipe brake system shall be permitted to run at 75 kmph and above.

<u>B:</u>

RDSO letter no.MW/BOSM dated 16.02.2024 for "Loading diagrams with lashing/locking arrangement for steel coils, plates and Billets of BOSM wagons" is enclosed herewith for further necessary action.

निदेशक सिविल इंजी.(जी)/रेलवे बोर्ड

[Rly No. 030-47598, MTNL No. 011-23047598]

e-mail address: dceg@rb.railnet.gov.in

No. 2024/CEDO/SR/03/BOSM-22.9t-IR-DFCCIL

New Delhi, dated 29.02.2024

Copy forwarded for information to:

- 1. The Chief Commissioner of Railway Safety, Office Compound of DRM/NER, Ashok Marg, Lucknow, w.r.t. his endorsement No. Q.12011/18/2023-24-T.W., dated 01.02.2024
- 2. The Commissioner of Railway Safety, All Circles
- 3. Executive Director (Standards)Motive Power, RDSO, Lucknow
- 4. Executive Director (Standards) Track-I, RDSO, Lucknow
- 5. EDME(Fr.), Railway Board

(गारव) निदेशक सिविल इंजी.(जी)/रेलवे बोर्ड

Issued through 9 mail

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File No.RDSO-MW0PWDE(GENL)/1/2020-O/o PED/SW/RDSO



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भारत सरकार -रेल मंत्रालय अनुसंधान अभिकल्प और मानक संगठन लखनऊ - 226011 Government of India - Ministry of Railways Research Designs & Standards Organisation Lucknow - 226011

दिनांक: 16-02-2024

पत्र सं0 एम डब्ल्यू / बीओएसएम

निदेशक सिविल इंजीनियरिंग(जी), रेलवे बोर्ड, रेल भवन, नई दिल्ली—110 001

Sub: Loading diagrams with lashing/locking arrangement for steel coils, plates and Billets of BOSM wagon.

Ref: RB letter no. 2024/CEDO/SR/03/BOSM-22.9t-IR-DFCCIL dated 07.02.24

Reference above, RDSO has prepared loading diagrams for lashing /locking arrangement of steel coils, plates and billets for BOSM wagon which are as under:

- 1. Loading diagram for 2/3 steel coils- Drg. No. WD-24014-S-01
- 2. Loading diagram for 4/5 steel coils Drg. No. WD-24014-S-02
- 3. Loading diagram for steel plates Drg. No. WD-24014-S-03
- 4. Loading diagram for Billets Drg. No.WD-24014-S-04

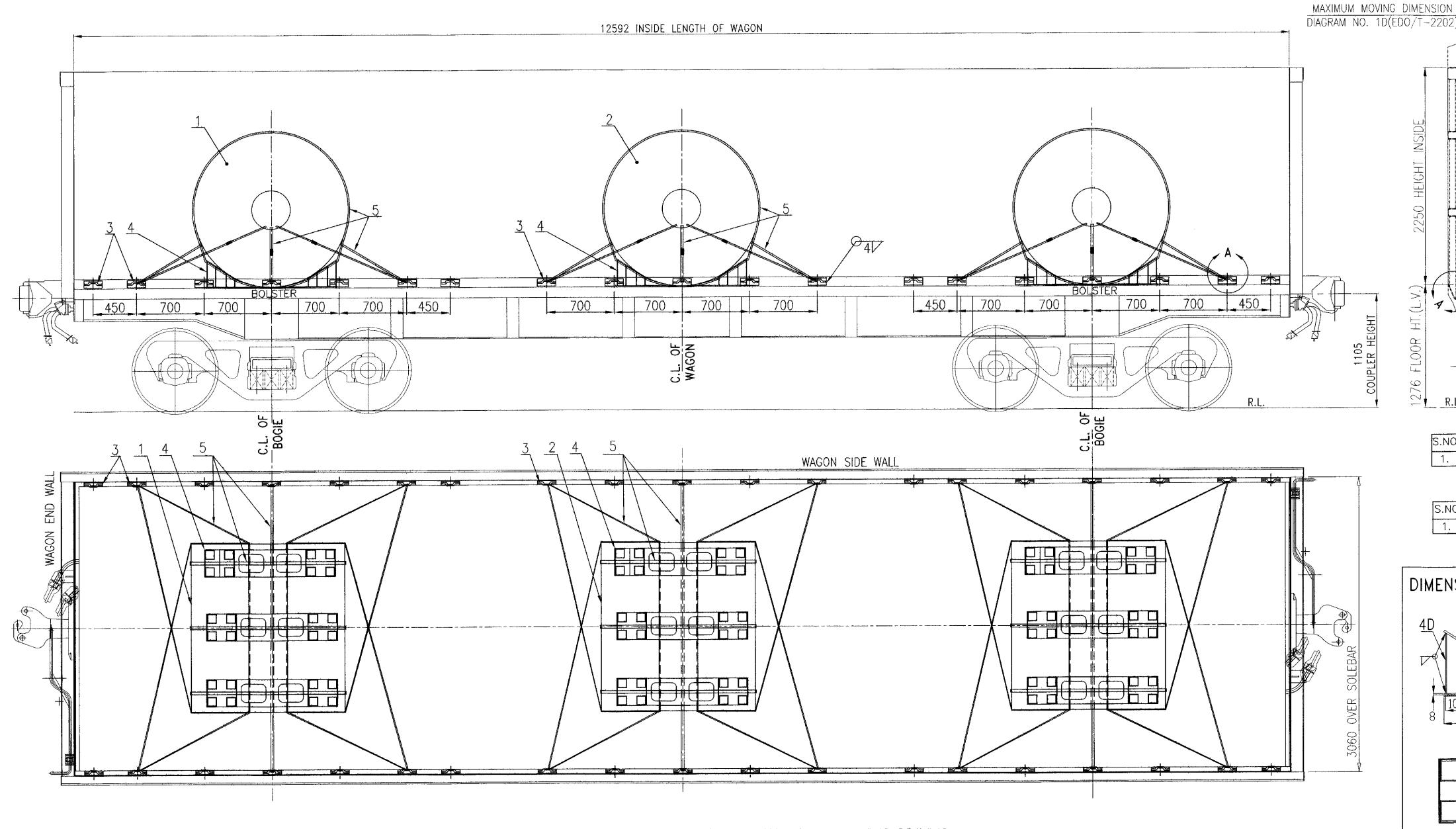
The loading and unloading of finished steel products to be carried out by crane and fastening/locking arrangement to be done as per respective product loading diagram. In addition to above, all instruction given in `WD-CS-01 - Load securing check sheet' shall also be followed.

This is for your kind information and necessary action please.

संग्लंक : As above

(Ajit Kumar Singh)
Executive Director Stds. /Wagon

Copy to: EDME/Frt./RB for kind information please.



NOTE: - 1. ALL INDIVIDUAL COIL IS TO BE UNITIZED BY USING HEAVY DUTY STRAPS AS INDICATED IN SECURING PATTERN SHOWN IN THIS DRAWING.

2. THE COIL LOADING ALONG THE WAGON WIDTH SHOULD BE SYMMETRICAL ABOUT THE LONGITUDINAL CENTRE LINE AS WELL AS TRANSVERSE AXIS OF THE WAGON.

3. TWO COIL LOADING COMPOSITION DEPENDING UPON THE COIL WEIGHT, CAN BE USED AS PER TABLE A AND B :-

3.1 IF THREE COILS LOADED AS PER TABLE—A, 01 NO. COIL AT BOTH SIDE ON EACH BOGIE/ BOLSTER CENTRE AND 01 COIL AT MIDDLE OF THE WAGON, PROVIDED THAT MAXIMUM COIL WEIGHT AT CENTER SHOULD NOT EXCEED 25 TON IN ANY CASE.

3.2 IF TWO COIL LOADED AS PER TABLE-B, 01 NO. COIL AT EACH BOGIE/ BOLSTER CENTRE AND NO COIL LOADING SHALL BE DONE AT CENTRE OF THE WAGON.

4. LOADING OF COILS SHOULD BE SUCH THAT :-

4.1 THE LOAD ON ANY BOGIE SHOULD NOT EXCEED WAGON'S PAY LOAD/2

4.2 THE COILS WEIGHT IMPOSED ON BOTH BOGIES SHOULD BE IDENTICAL

4.3 MAXIMUM DIFFERENCE IN COILS WEIGHT LOADED ON BOTH BOGIE/ BOLSTER CENTRE OF WAGON, SHOULD NOT BE MORE THAN 2 (TWO) TON.

4.4 TOTAL WEIGHT OF LOADED COILS ON WAGON SHOULD NOT EXCEED THE CARRYING CAPACITY (PAY LOAD) OF THE WAGON.

5. BEFORE LOADING, ENSURE THAT NO. OF METAL SADDLE PER COIL SHALL NOT BE LESS THAN THREE AS INDICATED. SELECT METAL SADDLE ACCORDING TO COIL DIA AS
PER ITEM-4 WITH PROPER MATERIAL SPECIFICATION & LENGTH OF BOTTOM PLATE 'A' ON THE BASIS OF COIL DIAMETER. ENSURE THAT EACH SADDLE SHALL BE PROVIDED
WITH EPDM LINER SUITABLY GLUED WITH BOTTOM PLATE AS SHOWN IN DRAWING ITEM-4E. METAL SADDLES ARE PLACED AT CORRECT POSITION ON WAGON FLOOR AS PER DRAWING.

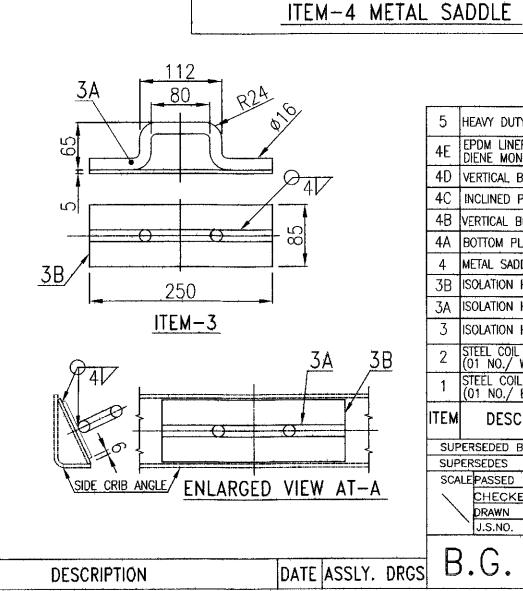
6. AFTER PLACING OF COIL ON THREE SADDLES, COIL SHOULD BE UNITIZED WITH EACH SADDLE BY STRAPS AS SHOWN IN DRAWING.

7. AFTER STRAPPING COIL WITH METAL SADDLE, THEN USE FIVE STRAPS ON EACH COIL TO BE TIGHTENED WITH ISOLATION HOOK AS SHOWN IN DRAWING FOR SAFE OPERATION.
LASHING OF EACH COIL SHOULD BE STRICTLY DONE AS PER LASHING INSTRUCTION.

8. THE TENSIONAL STEEL STRAP USED FOR LASHING AND SECURING SHALL MEET THE SPECIFICATION EN13247:2001. PHYSICAL PROPERTIES ARE MENTIONED BELOW;

•	1 1 1 Ianu	TENOTOTAL STEEL STITLE GOED TON	
	S.N.	PARAMETERS	PHYSICAL PROPERTIES (RefEN13247:2001)
	1.	NOMINAL WIDTH	31.75
	2.	NOMINALTHICKNEES	1.45
	3,	MINIMUM BRAKING STRENGTH	49KN (5 TON)

- 9. ELONGATION OF STEEL STRAP SHALL BE GREATER THAN 7% MEASURED USING A GAUGE LENGTH OF 100MM, WHEN TESTED IN ACCORDANCE WITH EN10002-1.
- 10. INITIAL TENSION IN STEEL STRAP SHALL BE IN RANGE OF 500kg TO 800 kg. ALL STEEL STRAPS SHOULD BE UNIFORMLY TIGHTENED AND MEASURED BY TENSOMETER.
- 11. THE LOADING PARTY SHOULD WELD ISOLATION HOOK & PLATE (ITEM NO.3A & 3B) WITH WAGON SIDE CRIB ANGLE AS SHOWN IN DRAWING.
- 12. SECURING ARRANGEMENT SHALL BE CERTIFIED BY CONCERN RAILWAY AS PER CHÉCK SHEET NO. WD-CS-01-LOAD SECURING CHECK SHEET (LATEST).
- 13. THIS RDSO DRAWING IS AN INDICATIVE DRAWING AS THE SIZE AND SHAPE OF CONSIGNMENT VARIES. THE CONSIGNEE MAY TAKE ADDITIONAL MEASURE TO SECURE THE LOAD FOR SAFE OPERATION.
- 14. THE LOADING/UNLOADING OF COILS TO BE CARRIED OUT IN SUCH A WAY THAT IT WILL NEITHER LOOSE & NOR DAMAGE THE WAGON DURING TRANSPORTATION.



ALT.ITEM AUTHY.

5	HEAVY DUTY STRAP OR LASHING CHAIN	8	EN13247:2001	SEE NOTE-6,7,8,9&10
4E	EPDM LINER (ETHYLENE PROPYLENE DIENE MONOMER LINER)	01/SADDLE	EPDM	<u> </u>
4D	VERTICAL BOX LONG 100X100X5TH	04/SADDLE	IS:2062 E250	
4 C	INCLINED PLATE	02/SADDLE	IS:2062 E250	
4B	VERTICAL BOX SHORT 100X100X5TH	04/SADDLE	IS:2062 E250	
4A	BOTTOM PLATE	01/SADDLE	IS:2062 E250	
4	METAL SADDLE	3		FOR COIL., SEE NOTE-5
3B	ISOLATION HOOK BASE PLATE	38/WAGON	IRS:M 44	
3A	ISOLATION HOOK	38/WAGON	STEEL	
3	ISOLATION HOOK WITH PLATE	14 AT BOGIE CENTRE 10 AT WAGON CENTRE		SEE NOTE-6,7 & 11
2	STEEL COIL AT WAGON CENTER (01 NO./ WAGON)		STEEL	MAXIMUM COIL WEIGHT=25 (AS PER TABLE-A)
1	STEEL COIL AT EACH BOGIE CENTER (01 NO./ BOGIE CENTER)		STEEL	(SEE TABLE-A & B)
ITEM	DESCRIPTION	NO. OF PCS PER COIL	MTL&SPEC	REMAKS
	PERSEDED BY PERSEDES DATE I.O.A.			FOR 02/03 nos

WD - 24014 - S - 01

DIMENSION OF SADI	DLE ON	THE	BASIS	OF	COIL	DIA. RA	NGE
4C 4B 5U 8 100 110 100 ##		9 (10THK)	385		8 33	303 დ	-300 -90 -300
50 50 50	150	R50 					
S.NO. COIL DIA RANGE LENGTH 1 1300-1600 2 1600-1900 3 1900-2150 4 2150-2400 DIFFERENT TYPE OF SADDLE ON THE ITEM-4 METAL	1315 1400 1475 1555 E BASIS OF CO	DIL DIA. RAN		S	UITABLE GL	EPDM LINER WI UE CAN BE AR 6 & HARDENER	ALDITE EPOXY
2	5 HEAVY D	UTY STRAP C	R LASHING C	CHAIN	8	EN13247:200	DI SEE NOTE-6,
	4E EPDM LI DIENE M	NER (ETHYLEI ONOMER LINE	NE PROPYLEN R)	NE .	01/SADDL	E EPDM	
		DOV LONG			DA (CADDI	E ICANES TOE	

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UP TO 25 TON MAXIMUM

NO COIL LOADED AT CENTRE

S.NO. COIL WEIGHT AT CENTRE OF WAGON COIL WEIGHT AT EACH BOGIE CENTRE

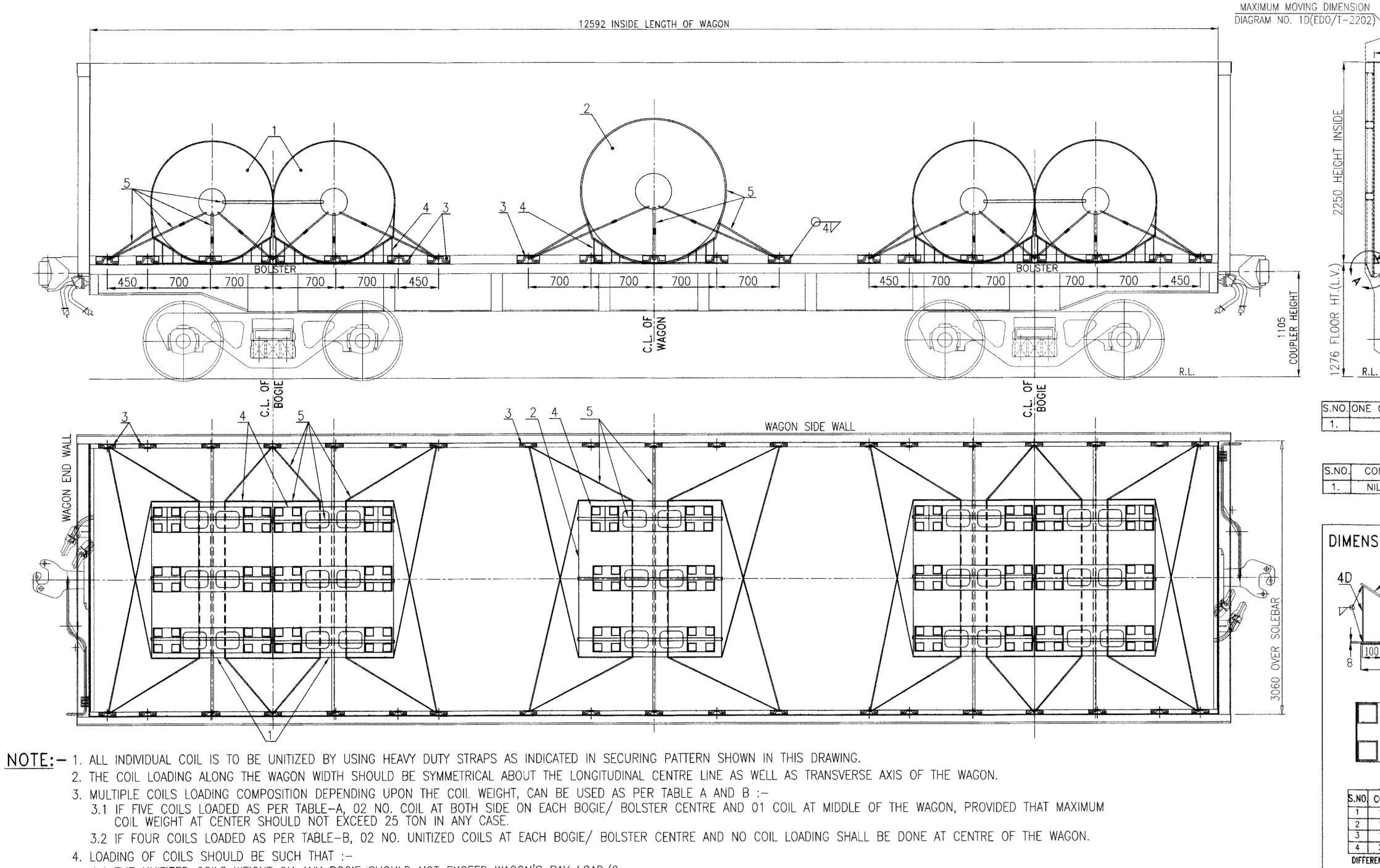
S.NO.COIL WEIGHT AT CENTRE OF WAGON COIL WEIGHT AT EACH BOGIE CENTRE

TABLE-A (LOADING SCHEME FOR 03 NO. STEEL COIL)

TABLE-B (LOADING SCHEME FOR 02 NO. STEEL COIL)

(TOTAL PAY LOAD-25 TON)/2

TOTAL PAY LOAD/2



- 4.1 THE UNITIZED COILS WEIGHT ON ANY BOGIE SHOULD NOT EXCEED WAGON'S PAY LOAD/2 .
- 4.2 THE COILS WEIGHT IMPOSED ON BOTH BOGIES SHOULD BE IDENTICAL
- 4.3 MAXIMUM DIFFERENCE IN COILS WEIGHT LOADED ON BOTH BOGIE/ BOLSTER CENTRE OF WAGON, SHOULD NOT BE MORE THAN 2t .
- 4.4 TOTAL WEIGHT OF LOADED COILS ON WAGON SHOULD NOT EXCEED THE CARRYING CAPACITY (PAY LOAD) OF THE WAGON.
- 5. BEFORE LOADING, ENSURE THAT NO. OF METAL SADDLE PER COIL SHALL NOT BE LESS THAN THREE AS INDICATED. SELECT METAL SADDLE ACCORDING TO COIL DIA AS PER ITEM-4 WITH PROPER MATERIAL SPECIFICATION & LENGTH OF BOTTOM PLATE 'A' ON THE BASIS OF COIL DIAMETER. ENSURE THAT EACH SADDLE SHALL BE PROVIDED WITH EPDM LINER SUITABLY GLUED WITH BOTTOM PLATE AS SHOWN IN DRAWING ITEM-4E. METAL SADDLES ARE PLACED AT CORRECT POSITION ON WAGON FLOOR AS SHOWN IN DRAWING.
- 6. AFTER PLACING OF COIL ON THREE SADDLES, COIL SHOULD BE UNITIZED WITH EACH SADDLE BY STRAPS AS SHOWN IN DRAWING. ONE STRAP EACH USED BETWEEN EACH COIL EYE TO TIGHTENED WITH ISOLATION HOOK AT BOTH SIDE WALLS. FURTHER UNITIZED COILS LOADED AT BOGIE CENTERS ARE TIGHTENED WITH ADDITIONAL TWO STRAPS BETWEEN THEIR EYES WITH ISOLATION HOOK PROVIDED WITH SIDE WALLS AS SHOWN IN DRAWING. LASTLY ONE MORE STRAP USED TO TIGHTEN BOTH UNITIZED COILS PASSING THROUGH THEIR EYE TO EYE AS SHOWN.
- 7. LASHING OF EACH COIL/UNITIZED COILS SHOULD BE STRICTLY DONE AS PER LASHING INSTRUCTION.
- 8. THE TENSIONAL STEEL STRAP USED FOR LASHING AND SECURING SHALL MEET THE SPECIFICATION EN13247:2001. PHYSICAL PROPERTIES ARE MENTIONED BELOW;

S.N. IPARA	METERS	PHYSICAL	PROPERTIES	(RefEN132	247:2001)
1. NOMI	NAL WIDTH	31.75			
	NALTHICKNEES	1.45			
3. MINIM	UM BRAKING STRENGTH	49KN (5	TON)		

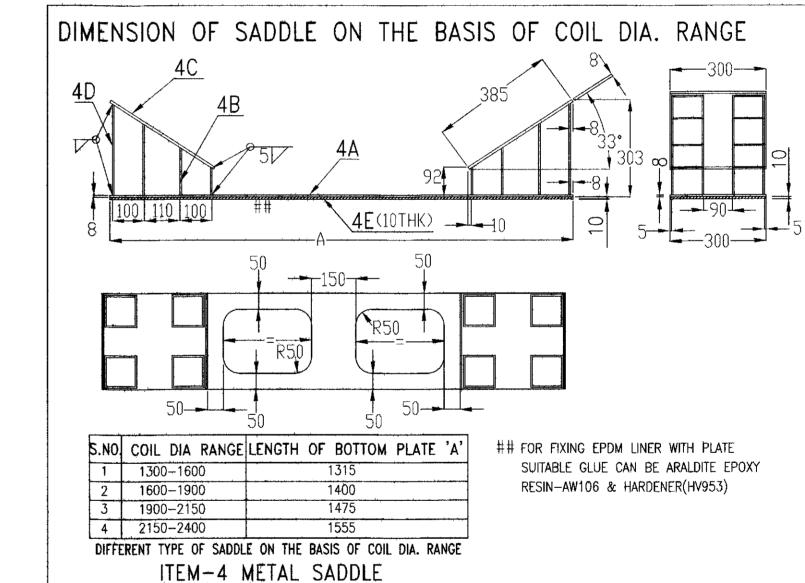
- 9. ELONGATION OF STEEL STRAP SHALL BE GREATER THAN 7% MEASURED USING A GAUGE LENGTH OF 100MM, WHEN TESTED IN ACCORDANCE WITH EN10002-1.
- 10. INITIAL TENSION IN STEEL STRAP SHALL BE IN RANGE OF 500kg TO 800 kg. ALL STEEL STRAPS SHOULD BE UNIFORMLY TIGHTENED AND MEASURED BY TENSOMETER.
- 11. THE LOADING PARTY SHOULD WELD ISOLATION HOOK & PLATE (ITEM NO.3A & 3B) WITH WAGON SIDE CRIB ANGLE AS SHOWN IN DRAWING.
- 12. SECURING ARRANGEMENT SHALL BE CERTIFIED BY CONCERN RAILWAY AS PER CHECK SHEET NO. WD-CS-01-LOAD SECURING CHECK SHEET (LATEST).
- 13. THIS RDSO DRAWING IS AN INDICATIVE DRAWING AS THE SIZE AND SHAPE OF CONSIGNMENT VARIES. THE CONSIGNEE MAY TAKE ADDITIONAL MEASURE TO
- SECURE THE LOAD FOR SAFE OPERATION. 14. THE LOADING/UNLOADING OF COILS TO BE CARRIED OUT IN SUCH A WAY THAT IT WILL NEITHER LOOSE & NOR DAMAGE THE WAGON DURING TRANSPORTATION.

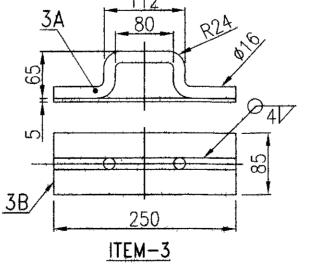
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300 AT THE STATE OF WAGON UNITIZED COILS WEIGHT AT CENTRE OF WAGON UNITIZED COILS WEIGHT
1 LID TO 25 TON MAYIMINA (TOTAL BAY LOAD 25

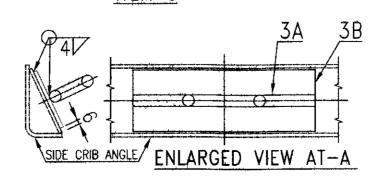
AT EACH BOGIE CENTRE UP TO 25 TON MAXIMUM (TOTAL PAY LOAD-25 TON)/2 , SEE NOTE-3 TABLE-A (LOADING SCHEME FOR 05 NO. STEEL COIL)

S.NO.	COIL WEIGHT AT CENTRE OF WAGON	UNITIZED COILS WEIGHT AT EACH BOGIE CENTRE
1.	NIL (NO COIL LOADED AT CENTRE)	TOTAL PAY LOAD/2 . SEE NOTE-3

TABLE-B (LOADING SCHEME FOR 04 NO. STEEL COIL)







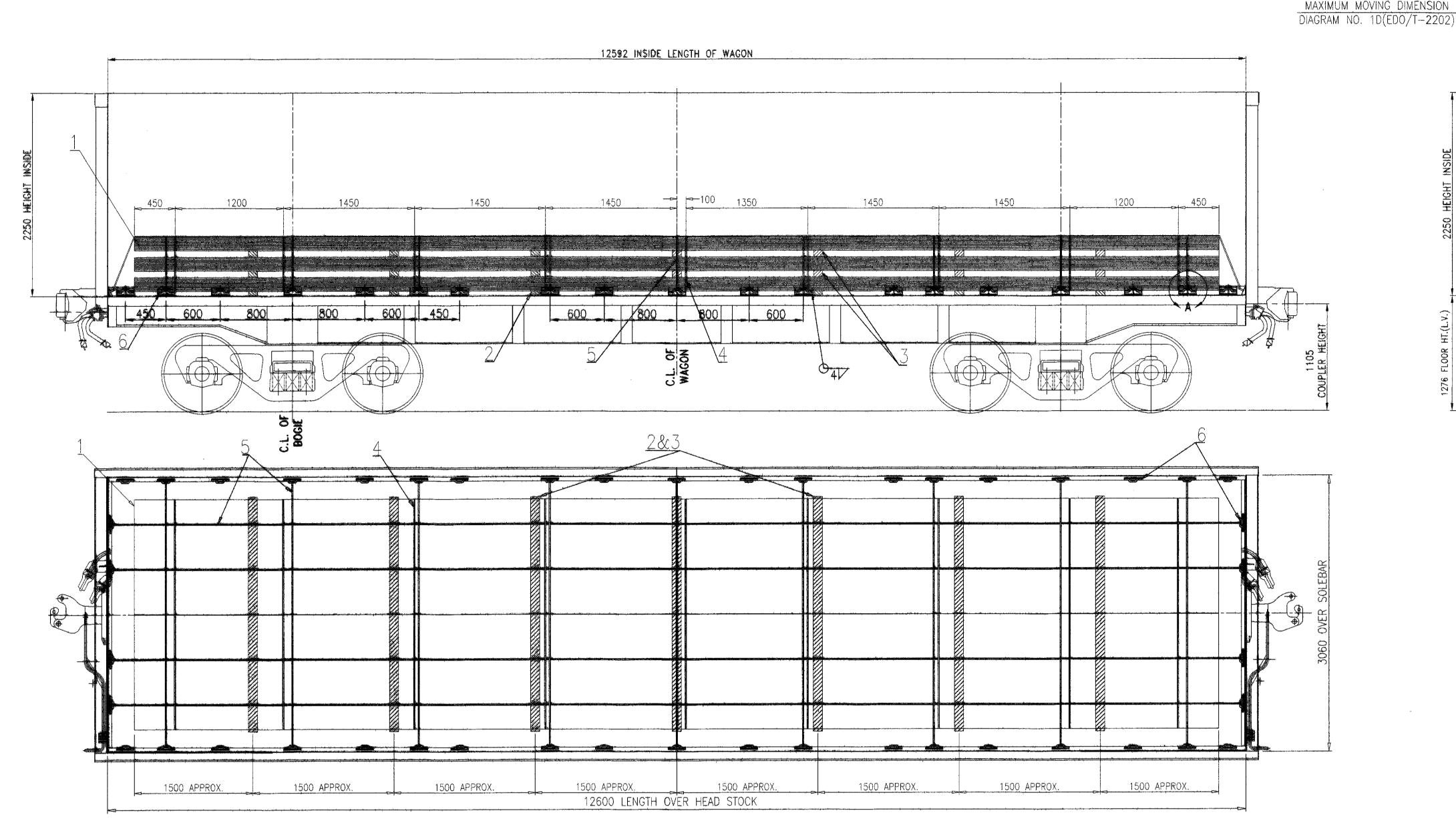
ITEM	DESCRIPTION	NO. OF PCS PER COIL	MTL&SPEC	REMAKS
1	STEEL COIL AT EACH BOGIE CENTER (02 NO./ BOGIE CENTER)		STEEL	(SEE TABLE-A & B)
2	STEEL COIL AT WAGON CENTER (01 NO./ WAGON)		STEEL	MAXIMUM COIL WEIGHT=25 (AS PER TABLE-A)
3	ISOLATION HOOK WITH PLATE	14 AT BOGIE CENTRE 10 AT WAGON CENTRE		SEE NOTE-6,7 & 11
3A	ISOLATION HOOK	38/WAGON	STEEL	
3B	ISOLATION HOOK BASE PLATE	38/WAGON	IRS:M 44	
4	METAL SADDLE	3		FOR COIL, SEE NOTE-
4A	BOTTOM PLATE	01/SADDLE	IS:2062 E250	
4B	VERTICAL BOX SHORT 100X100X5TH	04/SADDLE	IS:2062 E250	
4C	INCLINED PLATE	02/SADDLE	IS:2062 E250	
4D	VERTICAL BOX LONG 100X100X5TH	04/SADDLE	IS:2062 E250	
4E	EPDM LINER (ETHYLENE PROPYLENE DIENE MONOMER LINER)	01/SADDLE	EPDM	
5	HEAVY DUTY STRAP OR LASHING CHAIN	8/Wagon Center 15/Each Bogie Center	EN13247:2001	SEE NOTE-6,7,8,9&10

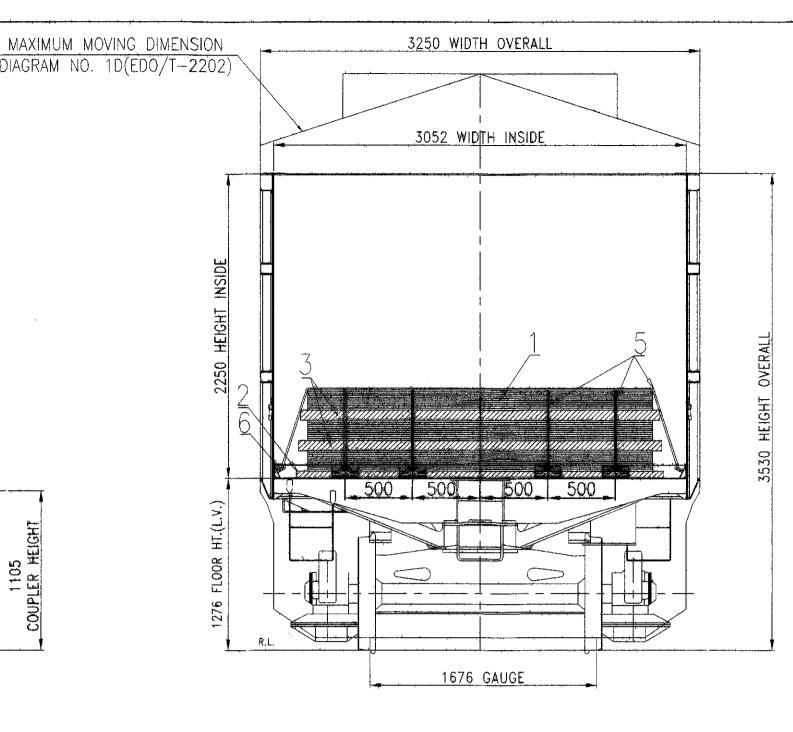
DATE LOADING DIAGRAM FOR 04/05 nos CHECKED O2/24 STEEL COIL ON BOSM WAGON

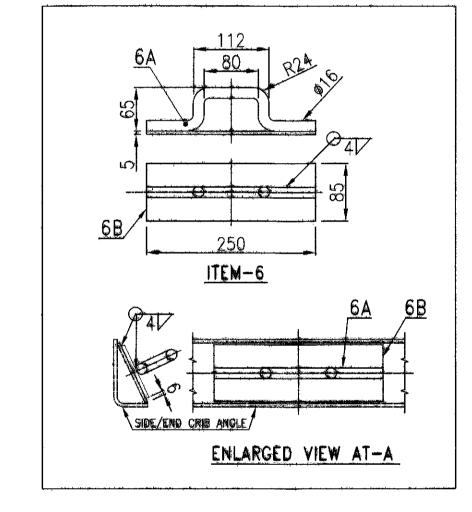
DRAWN A.K.Kushvaha 02/24

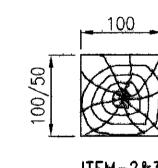
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ITEM-2&3 SECTIONAL VIEW

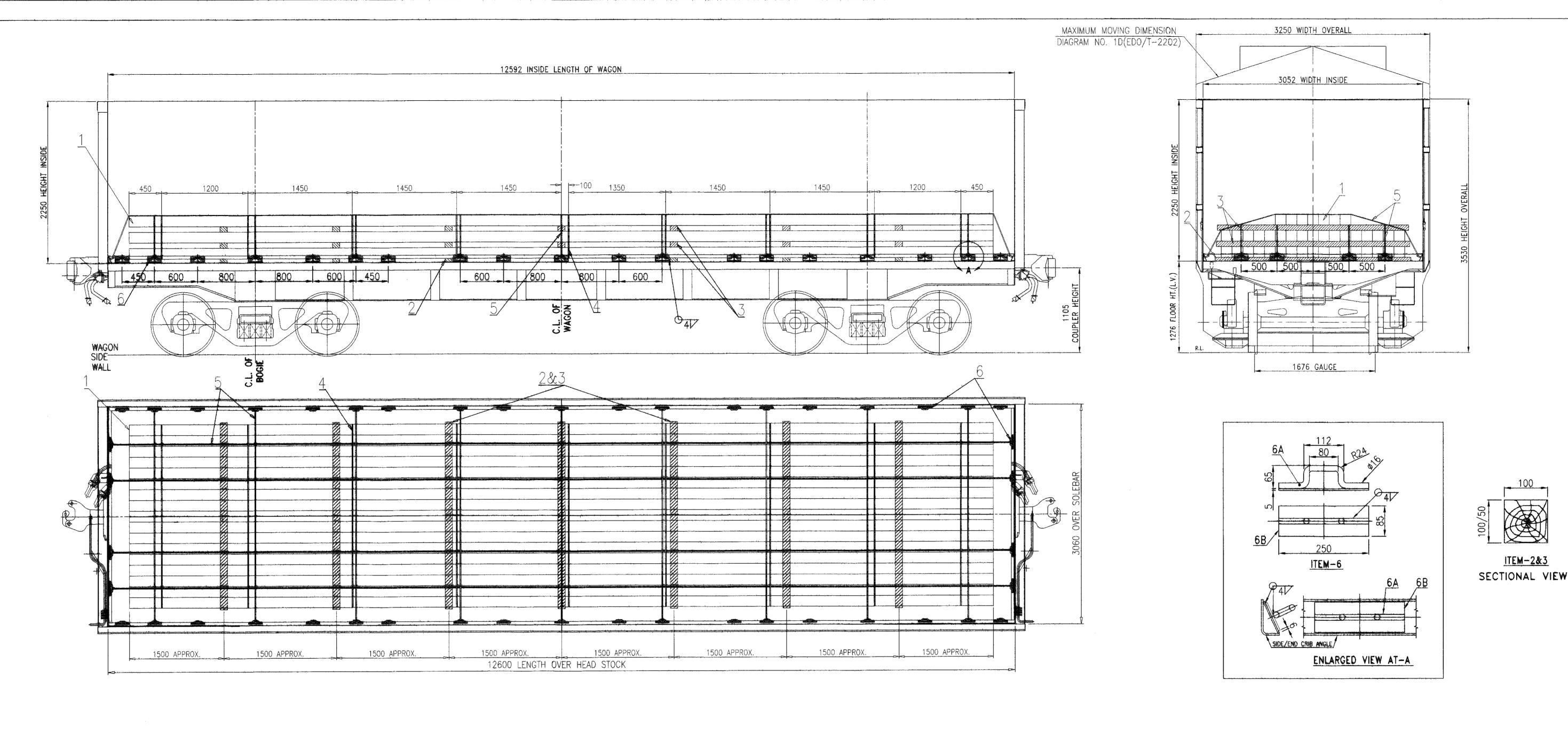
NOTE :-

- 1. LOADING SHOULD BE SYMMETRICAL W.R.T. LONGITUDINAL AXIS AS WELL AS TRANSVERSE AXIS PASSING THROUGH CENTRE OF WAGON FLOOR AND ENSURING EVEN LOAD ON ALL WHEELS.
- 2. IN CASE PLATES ARE LOADED IN LAYERS SEPARATED WITH WOODEN RUNNERS AS PER CUSTOMER'S REQUIREMENT, WOODEN RUNNERS OF SIZE 100MMX50MM ARE PROVIDED IN INTERMEDIATE LAYERS IN ADDITION TO THE BOTTOM WOODEN RUNNER OF SIZE 100MMX100 MM.
- 3. THE LOADING PARTY SHOULD WELD ISOLATION HOOK & PLATE (ITEM NO.6A & 6B) WITH WAGON SIDE/END CRIB ANGLES AS SHOWN IN DRAWING.
- 4. LENGTH OF WOODEN RUNNER MUST BE MORE THAN WIDTH OF LAYERS.
- 5. STRAPPING SHOULD BE SYMMETRICAL AND THE END STRAPS SHOULD NOT MORE THAN 450 MM AWAY FROM EDGES AND MAXIMUM DISTANCE BETWEEN IMMEDIATE STRAPS IS 1450 MM.
- 6. ALL PLATES ARE TO BE SECURED USING HEAVY DUTY STEEL STRAPS AS INDICATED.
- 7. NO. OF WOODEN RUNNER PER UNITIZED PLATE SHALL NOT BE LESS THAN AS INDICATED.
- 8. LOADING OF PLATES SHOULD BE SUCH THAT :-
 - 8.1 THE LOAD SHOULD NOT EXCEED WAGON'S MAXIMUM PERMISSIBLE PAY LOAD.
- 8.2 THE WEIGHT IMPOSED ON BOTH THE BOGIES SHOULD BE IDENTICAL (EVEN IN CASE OF NON STANDARD STEEL PLATES). 9. THE TENSIONAL STEEL STRAP USED FOR LASHING AND SECURING SHALL MEET THE SPECIFICATION EN13247:2001. PHYSICAL PROPERTIES ARE MENTIONED BELOW;

S.	.N.	PARAMETERS	PHYSICAL PROPERTIES (RefEN13247:2001)
1.		NOMINAL WIDTH	31.75
2.		NOMINALTHICKNEES	1.45
3.		MINIMUM BRAKING STRENGTH	49KN (5 TON)

- 10. ELONGATION OF STEEL STRAP SHALL BE GREATER THAN 7% MEASURED USING A GAUGE LENGTH OF 100MM, WHEN TESTED IN ACCORDANCE WITH EN10002-1.
- 11. THE MINIMUM NO. OF EACH TYPE OF LONGITUDINAL/LATERAL STRAPS SHALL BE AS INDICATED IN THE DRAWING.
- 12. THE INITIAL TENSION IN THE STRAP SHALL BE IN THE RANGE OF 500kg TO 800kg.
- 13. WOOD OF ADEQUATE STRENGTH WHICH CAN SUSTAIN THE LOAD IMPARTED ON IT SHALL BE USED.
- 14. SECURING ARRANGEMENT SHALL BE CERTIFIED BY THE CONCERN RAILWAY.
- 15. THIS RDSO DRAWING IS AN INDICATIVE DRAWING AS THE SIZE AND SHAPE OF CONSIGNMENT VARIES. THE CONSIGNEE MAY TAKE ADDITIONAL MEASURE TO SECURE THE LOAD FOR SAFE OPERATION.

6B	ISOLATION HOOK BASE PLATE	46/WAGON	IRS:M 44	
6A	ISOLATION HOOK	46/WAGON	STEEL	
6	ISOLATION HOOK WITH PLATE			
5	HIGH TENSILÉ STEEL STRAP (FOR SECURING WITH WAGON BODY)	13	EN13247:2001	
4	HIGH TENSILE STEEL STRAP (FOR BUNDLING & UNITIZATION)	09	EN13247:2001	
3	Internediate wooden runner (100mmx50mm)	as per requirement	WOOD	
2	WOODEN RUNNER (100MMX100MM)	07	MOOD	
1	PLATES	AS PER REQUIREMENT	ŜŤĒĘĻ	
TEM	DESCRIPTION	NO.OFF	MTL&SPEC	REMARKS
SUF	Perseded by Persedes Date	LOADING		
SCA		RANGEMENT	r of steel	PLATES
\	CHECKED \$2/24 DRAWN SACHIN KUMAR 92/24 J.S.NO. WD-24014 92/24	(UPTO 12M TYP	TRS) ON BO E WAGON	SM
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NOTE :-

- 1. LOADING SHOULD BE SYMMETRICAL W.R.T. LONGITUDINAL AXIS AS WELL AS TRANSVERSE AXIS PASSING THROUGH CENTRE OF WAGON FLOOR AND ENSURING EVEN LOAD ON ALL WHEELS.
- 2. IN CASE BILLETS ARE LOADED IN LAYERS SEPARATED WITH WOODEN RUNNERS AS PER CUSTOMER'S REQUIREMENT, WOODEN RUNNERS OF SIZE 100MMX50MM ARE PROVIDED IN INTERMEDIATE LAYERS IN ADDITION TO THE BOTTOM WOODEN RUNNER OF SIZE 100MMX100 MM.
- 3. HEIGHT TO WIDTH RATIO OF CONSIGNMENT SHOULD NOT EXCEED 1.5 IN ANY CASE. 4. THE LOADING PARTY SHOULD WELD ISOLATION HOOK & PLATE (ITEM NO.6A & 6B) WITH WAGON SIDE/END CRIB ANGLE AS SHOWN IN DRAWING.
- 5. LENGTH OF WOODEN RUNNER MUST BE MORE THAN WIDTH OF LAYERS.
- 6. STRAPPING SHOULD BE SYMMETRICAL AND THE END STRAPS SHOULD NOT MORE THAN 450 MM AWAY FROM EDGES AND MAXIMUM DISTANCE BETWEEN IMMEDIATE STRAPS IS 1450 MM.
- 7. ALL BILLETS ARE TO BE SECURED USING HEAVY DUTY STEEL STRAPS AS INDICATED.
- 8. NO. OF WOODEN RUNNER PER BILLETS SHALL NOT BE LESS THAN AS INDICATED.
- 9. LOADING OF BILLETS SHOULD BE SUCH THAT :-
 - 8.1 THE LOAD SHOULD NOT EXCEED WAGON'S MAXIMUM PERMISSIBLE PAY LOAD.
- 8.2 THE WEIGHT IMPOSED ON BOTH THE BOGIES SHOULD BE IDENTICAL (EVEN IN CASE OF NON STANDARD STEEL BILLETS).
- 10. THE TENSIONAL STEEL STRAP USED FOR LASHING AND SECURING SHALL MEET THE SPECIFICATION EN13247:2001. PHYSICAL PROPERTIES ARE MENTIONED BELOW;

S.N.	PARAMETERS	PHYSICAL PROPERTIES (RefEN13247:2001)
1.	NOMINAL WIDTH	31.75
2.	NOMINALTHICKNEES	1.45
	MINIMUM BRAKING STRENGTH	49KN (5 TON)

- 11. ELONGATION OF STEEL STRAP SHALL BE GREATER THAN 7% MEASURED USING A GAUGE LENGTH OF 100MM, WHEN TESTED IN ACCORDANCE WITH EN10002-1.
- 12. THE MINIMUM NO. OF EACH TYPE OF LONGITUDINAL/LATERAL STRAPS SHALL BE AS INDICATED IN THE DRAWING.
- 13. THE INITIAL TENSION IN THE STRAP SHALL BE IN THE RANGE OF 500kg TO 800kg.
- 14. WOOD OF ADEQUATE STRENGTH WHICH CAN SUSTAIN THE LOAD IMPARTED ON IT SHALL BE USED.
- 15. SECURING ARRANGEMENT SHALL BE CERTIFIED BY THE CONCERN RAILWAY.
- 16. THIS RDSO DRAWING IS AN INDICATIVE DRAWING AS THE SIZE AND SHAPE OF CONSIGNMENT VARIES. THE
- CONSIGNEE MAY TAKE ADDITIONAL MEASURE TO SECURE THE LOAD FOR SAFE OPERATION.

6B	ISOLATION HOOK BASE PLATE	46/WAGON	IRS:M 44	
6A	ISOLATION HOOK	46/WAGON	STEEL	
6	ISOLATION HOOK WITH PLATE			
5	HIGH TENSILE STEEL STRAP (FOR SECURING WITH WAGON BODY)	13	EN13247:2001	
4	HIGH TENSILE STEEL STRAP (FOR BUNDLING & UNITIZATION)	09	EN13247:2001	
3 (100MMX50MM)		AS PER REQUIREMENT	WOOD	
2	WOODEN RUNNER (100MMX100MM)	07	WOOD	
1	PLATES	AS PER REQUIREMENT	STEEL	I
TEM	DESCRIPTION	NO.OFF	MTL&SPEC	REMARKS
\$U	DERSEDES DATE DERSEDES DATE DESCRIPTION DATE	RANGEMENT (UPTO 12M	AND SECUR OF STEEL TRS) ON BO E WAGON	BILLETS

1TEM-2&3

DATE ASSLY. DRGS B.G. ALT.ITEM AUTHY. DESCRIPTION



INDIAN RAILWAYS

CHECK SHEET FOR LOADING & SECURING OF CONSIGNMENTS ON WAGONS

S.NO.	Month/year of issue	Amendment No.	Revision No	Pages
1.	JULY- 2023			02

ISSUED BY

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

JULY-2023

File No.RDSO-MW0PWDE(GENL)/1/2020-0/0-PED/SW/RDSO CHECK SHEET

Check Sheet for Loading and securing the consignments on wagon

Wagon type/Code:	Wagon No:	Loading Place/ code:	
Loading Commodity:	Relevant Loading Diagram no:	Date:	

S.	Stage/ Parameters	Requirement as per Loading	Actual Parameters Found		Remark
No.	-	Diagram	Consignment Loading Authority	Railways / Inspecting Authority	
1	Condition of wagon used for	Fit for Loading			
	loading	Unfit for loading (reason)			
2	Pay Load of used wagon	As per relevant wagon diagram			
3	Weight of each commodity (Steel Coil/ Pipe/ Billets/ Wire Roll/ Bars etc.)	Weight details provide on loading commodities			
4	No. of commodities/ Bundles loaded	Total no. of commodities/ Bundles			
5	Total weight of loaded consignment (in ton)	Sum of S. No. 3 & 4			
6	No. off wooden block/log or steel saddle used at bottom of each consignment	As per loading diagram no. off used =			
7	Total no. wooden block/log or steel saddle used at bottom/ wagon	As per loading diagram total no. used/ wagon =			
8	Side wooden log/ other fixing arrangement for consignment with side wall (if used in relevant loading diagram)	No. off Side wooden log/ other fixing arrangement used at each side wall as per loading diagram =			
9	No. off Lashing chain/ strap used for securing of each consignment/bundle	As per loading diagram no. off used for each consignment/ bundle =			
10	Total no. off Lashing chain/ strap used for securing/ wagon	As per loading diagram total no. used/ wagon =			
11	Tension given to the lashing straps	Tension as per loading diagram =			
12	All loaded consignment found in wagon with correct stacking, securing & lashing arrangement.	Correct stacking, securing & lashing arrangements as detailed/ mentioned in relevant loading diagram found satisfactory. (YES/ NO).			

Consignment/ Loading Authority	Railway/ Inspecting Authority	
Signature:	Signature:	
Name:	Name:	
Designation:	Designation:	
Date:	Date:	