

भारत सरकार Government of India

रेल मंत्रालय Ministry of Railways

रेलवे बोर्ड Railway Board

2020/M(C)/202/4VPPE
No. 2020/chg/24/02 (Parcel)

E office No: 3329482
New Delhi, Dated-05.10.2021

PCMEs
All Zonal Railways

Sub: Carrying capacity for parcel in mainline ICF coaches. (E. Office No - 3336382)
Ref: (i). NR's letter No.802/M/6/22 Pt. IV/MC-I Dated 28.09.202.
(ii). SWR's letter No.SWR/M/C/26 Dated 01.10.2021
(iii). RDSO's letter No. SV. Bogie General dated 01.10.2021.
(iii). ICF's letter No. MD/D/Bogie/41 dated 02.10.2021 and 04.10.2021.
(iv). RCF's Letter No. MD23111 Dated 05.10.2021

The carrying capacity to carry parcel in existing ICF coaches has been examined in context of the letters received vide references (i) and (ii) above. As per recommendation of RDSO and ICF/RCF, carrying capacities to carry parcel in various ICF coaches are advised as below:

Sr. No.	Type of coach	Code	CC (without any change)	Feasible payload without water in under slung as well as overhead water tank**	Addl. Permissible payload After removal of bio-tank.
1	A/C 3-tier sleeper Coach	WGACCN	5.5 T	7.5 T	2 T
2	A/C 2-tier sleeper Coach	WGACCW	7.5 T	9.5 T	2 T
3	A/C First class Coach	WGFAC	8.5 T	10.5 T	1.5 T
4	A/C Chair car	WGSCZAC	8.5 T	10.5 T	2 T
5	A/C Executive Chair Car	WFCZAC	8.5 T	10.5 T	2 T
6	Second Class Coach	GS	11.5 T	13.5 T	2 T

Further, to maintain bogie clearances it is advised to follow suspension diagram as per ICF Drawing No. ICF/SK3 9-0-328 Alt. a Issued vide letter under references (iii) above and as per RCF Drawing No. AW 90100 issued vide letter under reference (iv) above for respective types of coaches, while utilizing these coaches for parcel loading.

It is also advised to monitor performances of these coaches and submit quarterly report to RDSO

For further necessary action please.

DA: as above

(सुमन कुमार ताती)
निदेशक / यांत्रिक इंजी. को.
रेलवे बोर्ड

C/-ED/Carriage/RDSO for kind information and necessary action please.
-PCME/ICF and RCF for kind information and necessary action please.

PTD-

उत्तर रेलवे

प्रधान कार्यालय
बड़ौदा हाउस
नई दिल्ली,

संख्या-802/M/6/22 Pt.IV/MC-I

दिनांक: 28.09.2021.

Director Mech. Engg. (Chg.),
Ministry of Railways,
Railway Board,
New Delhi.

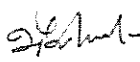
Sub: Carrying capacity of AC Parcel Trains.

Ref: (i) PED(Chg.)/RB Message no. PARCEL/2021/09/17(corrected) dated 07.09.2021.
(ii) This office letter of even number dated 25.09.2021.
(iii) Freight Marketing Circular No., 38 of 2006 dated 29.08.2006.

This is in continuation of this office letter cited above. The subject matter was further deliberated in this office and the following issues may be taken into account for finalization of carrying capacity.

- i. As per Freight Marketing Circular No, 38 of 2006 dated 29.08.2006, the luggage allowance per passenger in ACCN Coaches is 40 kg free allowance +10 kg marginal allowance i.e. 50 Kg per passenger. The passenger carrying capacity of ACCN coaches is 64 no's. Hence total free luggage allowance per ACCN coach is $64 \times 50 = 3200$ Kg.
- ii. The average weight of passengers may be taken as 60 kg. Hence total weight of passengers in ACCN coach is approximately $64 \times 60 = 3840$ kg.
- iii. Further due to use in non passenger service, the watering of the coach will not be required, so 2 Ton weight per coach can also be added (Both ACCN & ACCW) in carrying capacity.

Taking above into account it is suggested that matter may be reviewed and carrying capacity of ACCN coach may be increased to 10 Ton as parcel carrying coach. Similar exercise may also be done for ACCW and FAC coaches while being used to carry parcel.


(शैलेन्द्र सिंह)

मुख्य चल स्टाक अभि० (कोचिंग)

Copy:

- ED/Carriage/RDSO, Lucknow : For kind information please.
- Secy to GM : Forkind information to GM

दक्षिण पश्चिम रेलवे
SOUTH WESTERN RAILWAY



यांत्रिक प्रधान कार्यालय / Mechanical HQ Office,
न्यू जी एम. बिल्डिंग / New GM Building,
गदग रोड / Gadag Road, हुबली / HUBLI- 580 020
दूरभाष / Tele - 065- 25814 / 0836- 2289840 (P&T)
फैक्स / Fax 0836 - 2263270

सं. दफ्तरे/यां./

No.SWR/M/C/26

Date 01-10-2021

Executive Director Mech. Engg. (Chg.)
Ministry of Railways,
Railway Board,
New Delhi.

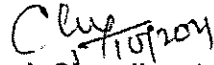
Sub: Carrying capacity of AC Parcel Trains.

Ref: (i) PED(Chg)/RB Message No.PARCEL/2021/09/17 (corrected) dated 07.09.2021.
(ii) Freight Marketing Circular No. 38 of 2006 dated 29.08.2006
(iii) CRSE/Chg/NR letter No. 802/M/6/22 Pt. IV/MC-I dated 28.09.2021.

The following issues may be taken into account for finalization of carrying capacity of AC Parcel Trains.

- As per Freight Marketing Circular No. 38 of 2006 dated 29.08.2006, the luggage allowance per passenger in ACCN Coaches is 40 kg free allowance + 10 kg marginal allowance i.e. 50 kg per passenger. The passenger carrying capacity of ACCN coaches is 64 no's. Hence total free luggage allowance per ACCN coach is $64 \times 50 = 3200$ kg.
- The average weight of passengers may be taken as 60 kg. Hence total weight of passengers in ACCN coach is approximately $64 \times 60 = 3840$ kg.
- Further due to use in non passenger service, the watering of the coach will not be required, so 2 Ton weight per coach can also be added (Both ACCN & ACCW) in carrying capacity.

Taking above into account it is suggested that matter may be reviewed and carrying capacity of ACCN coach may be increased to 10 Ton as parcel carrying coach. Similar exercise may also be done for ACCW and FAC coaches while being used to carry parcel.


(Prakash Chaudhary)
CRSE(Frt)/SWR/UBL

Copy to:

ED/Carriage/RDSO, Lucknow
Secy. to GM.

- for kind information
- for kind information of GM.



भारत सरकार - रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लुक्नो - 226 011
EPBX (0522) 2451200
Fax: (0522) 2458500

Government of India-Ministry of Railways
Research Designs & Standards Organisation
Lucknow - 226 011
DID (0522) 2450115
DID (0522) 2465310



No:SV.Bogie General

Dated:- 01.10.2021

DME (Coaching)
Railway Board,
New Delhi

Sub:- Carrying capacity for parcel in ICF mainline Coaches.

Ref:- i) DME/Chg's letter no. 2020/ chg/24/02(Parcel) dt. 29-09-2021.

ii) NR's letter no. 802/M/6/22Pt.IV/MC-I dated 28-09-2021.

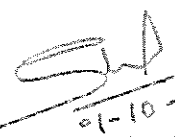
Vide letter under reference i), it was advised to examine the issues raised vide letter under reference ii), to review payload stipulated and to further recommend revised payload of each type of coaches indicated in letter under reference i). Accordingly, the issue has been examined and observations & recommendations are as follows:

- i) Coaches and its sub-assemblies are designed as per extant and applicable standards. For designing various components of carriages, payload is considered as per EN 12663/UIC 566, which stipulates weight of a passenger including luggage as 80 Kg. for design calculations.
- ii) There is possibility to increase permissible payload in the coaches, if underslung as well as overhead tanks are ensured in completely empty condition. In view of above, following payloads are recommended for ICF type conventional mainline coaches, to be used as parcel coaches:

S. No	Type of coach	Code	Feasible payload without any change	**Feasible payload without water in under-slung as well as overhead water tank	After removal of bio-tank, addl. permissible payload
1	A/C 3-tier sleeper Coach	WGACCN	5.5t	7.5t	2t
2	A/C 2-tier sleeper Coach	*WGACCW	7.5t	9.5t	2t
3	A/C First class Coach	*WGFAC	8.5t	10.5t	1.5t
4	A/C Chair car	*WGSCZAC	8.5t	10.5t	2t
5	A/C Executive Chair car	*WFCZAC	8.5t	10.5t	2t
6	Second class coach	GS	11.5t	13.5t	2t

Note: * Crown clearance & other bogie clearances will become inadequate in view of overloading. A suspension diagram for requirement of clearances to be maintained by Zonal Railways will be required to be issued by ICF/Chennai.
**Zonal Railways to ensure that water tanks must be empty at originating as well as en-route stations.

Above coaches must be evenly loaded for subject use.


21-10-2021
(Shobhit Pratap Singh)
Joint Director/VDG/Carriage
For Director General/Carriage

Copy to:

Principal Chief Mechanical Engineer,
Integral Coach Factory,
Chennai – 600 038

For kind information and issuing suspension diagram for coaches (to be used for parcel) covered under Note * above.



INDIAN RAILWAYS
INTEGRAL COACH FACTORY, CHENNAI – 600 038
Tele Fax: 044-26261872

No. MD/D/Bogie/41

Office of the General Manager /Mech. (Designs)
Dt. 02-10-2021

Executive Director/ Carriage
RDSO
Lucknow-226011

Sub: Carrying capacity for parcel van in ICF mainline coaches- Suspension Diagram-Reg

Ref: Joint Director / VDG/ Carriage/RDSO letter No: SV.Bogie General Dt. 01-10-2021

With reference to the above, ICF/ Chennai have been asked to issue Suspension Diagram for requirement of bogie clearances to be maintained by Zonal railways, while converting ICF main line coaches into Parcel van.

Accordingly, suspension diagram to drawing No: ICF/SK3-9-0-328 alt-Nil, have been prepared and issued, considering three cases as given below for enhancing pay load of the Parcel Van.

Case-1: The existing coaches without water in water tanks.

Case-2: Without water in water tanks and removal of all bio-tanks.

Case-3: Without water in water tanks, removal of all bio-tanks and removal of all seats & Berths (without removal of partitions).

Gross weight of AC-2tier, AC First class and AC chair car coaches have been taken as 60.6 Ton in line with AC-3tier coach to enhance pay load capacity (as same bogies are adopted in these coaches with adjustment of bogie clearances).

Gross weight of GS coach has been taken as 50.1 Ton.

Suspension Diagram for AC executive Chair car coach has not been made, as ICF so far not designed the coach, and Details are not available.

Under tare condition, for GS coach, buffer / coupler height exceeds 1104mm and hence, cannot be used as parcel van for the pay load in all above 3 cases as indicated by RDSO.


21/10/21

Encl: above drawing

(SANJAY ANGOTHU)

Dy. CME/D-II

for General Manager / Mech. (Designs)

Copy to:
CDE/Mech.
DME/Coaching



INDIAN RAILWAYS
INTEGRAL COACH FACTORY, CHENNAI – 600 038
Tele Fax: 044-26261872

No. MD/D/Bogie/41

Office of the General Manager /Mech. (Designs)
Dt. 04-10-2021

Executive Director/ Carriage
RDSO
Lucknow-226011

Sub: Carrying capacity for parcel van in ICF mainline coaches- Suspension Diagram-Reg

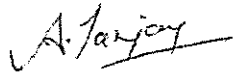
Ref: ICF Letter No. MD/D/Bogie/41 dated 02.10.2021

In continuation to letter under reference, revised suspension diagram to drawing No. ICF/SK3-9-0-328 alt 'a' has been prepared and issued.

For GS coaches, note no. 9 of the drawing no. ICF/SK3-9-0-328 alt 'a' can be referred.

Encl: above drawing

Copy to:
CDE/Mech.
DME/Coaching


(SANJAY ANGOTHU)
Dy. CME/D-II
for General Manager / Mech. (Designs)



CASE-1 : EMPTY WATER TANKS AND BIO-TANKS RETAINED

CASE-1 : EMPTY WATER TANKS AND BIO-TANKS RETAINED

[illegible]

3. DIMENSIONS E & K SHALL BE MAINTAINED WITH REQUIRED NO. OF COMPENSATING RINGS OF STANDARD THICKNESS OF 4mm.

4. DEFLECTION E & K SHALL BE MAINTAINED WITH REQUIRED NO. OF COMPENSATING SPRINGS OF STANDARD THICKNESS OF 4mm.
5. AYLE BOX SPRING : WTC-0-1-202 FOR ALL COACHES
DOASTER SPRING : WTC-0-3-022
6. AYLE BOX SPRING : WTC-0-1-006 FOR "VET" COACHES
DOASTER SPRING : F-0-3-007
7. LUG CLEARANCE "X" SHALL BE ENGAGED AS LESS THAN BODY HEIGHT EQUAL TO 10mm
8. THE WARDMAN IN ALL THE BASIC CORNER HEIGHTS (F+L+M) MUST BE MAINTAINED AS LESS THAN 10mm
9. DOASTER LUG CLEARANCE (A) SHALL BE ACQUIRED BY SUITABLY CHOSEN

CASE-2 : EMPTY WATER TANKS AND BIO-TANKS REMOVED

[illegible]

CONCLUSIONS

[illegible]

FOR CONVERTING ICF TYPE COACHES INTO

PARCEL VAN

2042 0075-816 X 0-2 Y 012

INDIAN RAILWAY

STANDARDS

0.715 0.120 0.11 0.03

रेल डिब्बा कारखाना, कपूरथला

MD23111

Dated: 05.10.2021

Executive Director/Carriage
RDSO, Lucknow

Sub: Carrying capacity for parcel van in ICF (WFCZAC) mainline coaches-suspension diagram.

Ref: (i). Dy CME/D-II/ICF letter no MD/D/Bogie/41 Dated 02.10.21.

(ii). Joint Director/VDG/Carriage/RDSO letter no SV.Bogie General Dated 01.10.21.

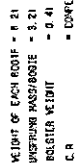
1. Vide letter under reference (i) ICF informed that suspension diagram for AC executive chair car coach has not been prepared as detailed design is not available with ICF. RCF has turned out total 12 WFCZAC coaches during the period 1994 to 1999. Available designed data of WFCZAC coach has been examined. It is found that under Tare condition for WFCZAC coach, buffer/coupler height exceeds **1104mm** in all cases mentioned in RDSO letter under reference
2. RCF has prepared and issued suspension diagrammatic (Drg. No. AW90100) arrangement for converting ICF type Executive Chair Car (WFCZAC) in to parcel van.
3. The following additional measures are recommended to improve performance with the changed payloads.
 - 3.1. Limit the maximum diameter of the wheels to be used on such a modified vehicle to keep the buffer height in working range.
 - 3.2. Keep the water and retention tanks full to act as ballast to ensure adequate suspension compression to maintain requisite buffer height and to maintain the operational tare weight.
 - 3.2.1. It would be preferable to have empty water and retention tanks but the operational tare needs to be close to the operational tare of the vehicle as per the RDSO speed certificate.
 - 3.3. Measure the actual tare (operational) weight of the coach, after the modifications, on a static (preferably) or dynamic weighbridge and the same to be stenciled on the end wall.
 - 3.3.1. Incase the tare weight of the coach is different by more than 10% of the original tare (operational) then the coach to be put in alternative use by seeking RDSO approval of the changed tare.

DA : Drg No AW90100 Alt Nil


(Akhilesh Misra)
Chief Design Engineer

Copies to:

DME (Coaching), Railway Board: for information please



REACT. 1: EMPTY WATER TANK AND BIO-LANKS RETAINED

[illegible]

STAGE-2: EMPTY WATER TANK AND BIO-TANKS REMOVED

TYPE OF COUGH	TARE WT. OF COUGH	NORMAL PAY	10/L PAY	TEST LOAD PER BOX	BOXES FRAME		BODY BOX CLEARANCE	AXLE BOX SPRING HEIGHT	COLSTER SPRING HEIGHT	CROWN CLEARANCE	BODY BOLSTER HEIGHT		BUTTER HEIGHT		RECOMMENDED MAX. WHEEL DIA. TO ADJUST DEPRESSIVE BUTTER HEIGHT	
					TARE	GROSS					TARE	GROSS	TARE	GROSS		TARE
1. WFC/AN	40.5	12.5	12.5	14.1	20.35	40 ± 5	73.65	267 ± 6	290 ± 5	111.5 ± 1.4	22 ± 1	645 ± 8	594 ± 8	1123 ± 10	100 ± 10	835 MM

TABLE 2. Empty Water Tanks, Berths/Seats and Pico Tanks Seawater

CASE 3: ENTRY WALK TANKS, BERRY/SLITS AND BIG TANKS REMOVED																				
LINE	TYPE OF COUCH	TARE WT. OF COVER IN TONS	TOTAL PAY LOAD IN TONS	TEST LOAD PER BOX		BOGIE FRAME DOGSTER CLEARANCE		BODY BOGIE CLEARANCE		AXLE BOX SPRING ICIDIT		SPLITTER SPRING HEIGHT		CROWN CLEARANCE		DOGIE DOGSTER HEIGHT		BUFFER ICIDIT	RECOMMENDED MAX. BUFFER DIA. TO ADJUST EXCESSIVE BUFFER DIA. (IN)	
				INNER TARE	INNER GROSS	TARE	GROSS	TARE	GROSS	TARE	GROSS	TARE	GROSS	TARE	GROSS	TARE	GROSS			TARE
1.	WETZAN (HON)	33	14.1	13.3	20.35	40.2	77.15	70.43	31.3	239.5	257.18	270.5	327.5	270.5	541.3	722.3	546.5	577.0	1130.0	1031.8
																			6923 MM	

NOTE: DIMENSIONS A & B WARMED SHOULD BE USED IN LESS THAN DIMENSIONS C & D WARMED RESPECTIVELY.

2. #2 TO #20 IN 100-200 TO BE PROVIDED.
3. #2 TO #20 IN 100-200 TO BE PROVIDED.
4. "E" VARIATION IN ALL THE FOUR POLE COILS HEIGHTS MUST BE LESS THAN OR EQUAL TO 10 mm.
5. THE TIGHT OF ALL THE COILS AND BALSTER STRING IN THE 4 COILS CONDITIONS IS FOR REFERENCE ONLY.
6. FOR THIS "CONCRETE" BUILT-UP HEIGHT 100 TO 100 TO BE MAINTAINED EITHER BY LUNGING OR "WATER
- 7.
- 8.
- 9.

[illegible]