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भारत सरकार - रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लखनऊ - 226 011
Government of India-Ministry of Railways
Research Designs & Standards Organisation
LUCKNOW - 226 011



TECHNICAL CIRCULAR NO. 33

No. EI/3.2.19

Dated 13/16.11.1998

CHIEF ELECTRICAL ENGINEER,

- Central Railway, Mumbai CSTM-400 001
- Eastern Railway, Fairlie Place, Calcutta-700 001
- Northern Railway, Baroda House, New Delhi-110 001
- Southern Railway, Park Town, Chennai-600 003
- South-Eastern Railway, Garden Reach, Calcutta-700 043
- Western Railway, Churchgate, Mumbai-400 020
- South-Central Railway, Rail Nilayam, Secunderabad-500 371
- Chittaranjan Locomotive Works, Chittaranjan-713 331
- Director, IRIEN, Post Box No.233, Nasik Road, Nasik - 422 101

Sub: Emergency Braking Distances (EBD) for various class of A.C. locomotives for different gradients for freight & passenger services.

Emergency Braking Distances for 58 BOX 'N' load hauled by WAG5, WAG7, and WAG9 Electric Locomotives at various speeds on level/graded track and for various coaching loads both for air and vacuum stocks hauled by WAM4, WAP4 and WAP6 Electric Locomotive at 105 Kmph are given in Motive power Directorate's Note No. SD.INV5 dated 9.11.98 (enclosed) for guidance of Railways.

Encl: One (Two pages)

Ramesh
(Ramesh Chandra)
for Director General (Elect).

Copy to: Secretary (Elect.Traction), Railway Board, Rail Bhawan, New Delhi-110 001.

Encl: One (Two pages)

Ramesh
(Ramesh Chandra)
for Director General (Elect).

MOTIVE POWER DIRECTORATE

Note No. SD.INV.5

Dated 09.11.98

Sub: EBD Calculations for different train loads.

Ref: Your Note No. No. EI/3.2.19 dated 28.10.98

EBDs as desired vide your note referred to above for S.E. Railway are given below.

S.No	Type of Loco	Speed (Km/h)	Load	Level / Grade	EBD (m)
1.	WAG5	75	58 loaded BOXN Wagon	level	838
		65		level	630
		75		200	1000
		65		200	743
		75		150	1067
		65		150	786
		75		100	1234
		65		100	901
2.	WAG7	75	58 loaded BOXN	level	836
		65		level	629
		75		200	998
		65		200	742
		75		150	1064
		65		150	785
		75		100	1231
		65		100	899
3.	WAG9	55		level	447
		55		200	523
		55		150	546
		55		100	619
4.	WAM4	105	19 Coach Vacuum Braked	Level	1058
				200	1173
				150	1225
				100	1323
5.	WAM4	105	20 Coach Vacuum Braked	Level	1059
				200	1174
				150	1226
				100	1325

6.	WAM4	105	20 Coach Air Braked	Level	903
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				200	992
				150	1027
				100	1100
7.	WAM4	105	22 Coach Air Braked	Level	903
				200	992
				150	1027
				100	1100
8.	WAP4	105	20 Coach Air Braked	Level	846
				200	923
				150	949
				100	1020
9.	WAP4	105	22 Coach Air Braked	Level	852
				200	930
				150	956
				100	1029
10.	WAP4	105	24 Coach Air Braked	Level	871
				200	952
				150	985
				100	1052
11.	WAP4	105	26 Coach Air Braked	Level	881
				200	972
				150	999
				100	1075

EBDs with WAP6 loco shall be same as in case hauled by WAP4 loco.

Since EBD values are based on certain theoretical assumptions, these may be taken as guidelines only. For confirmatory values, trials may be conducted.

The execution programme for calculating emergency distance has already been given to Zonal Railways may please be advised to use the same.

Encl: Nil.

Sd-/
(V.K.Saxena)
Jt. Director (MP-BK)