

Norms of European Model Railroads
Track Clearance Diagram
for Curved Track

NEM
103

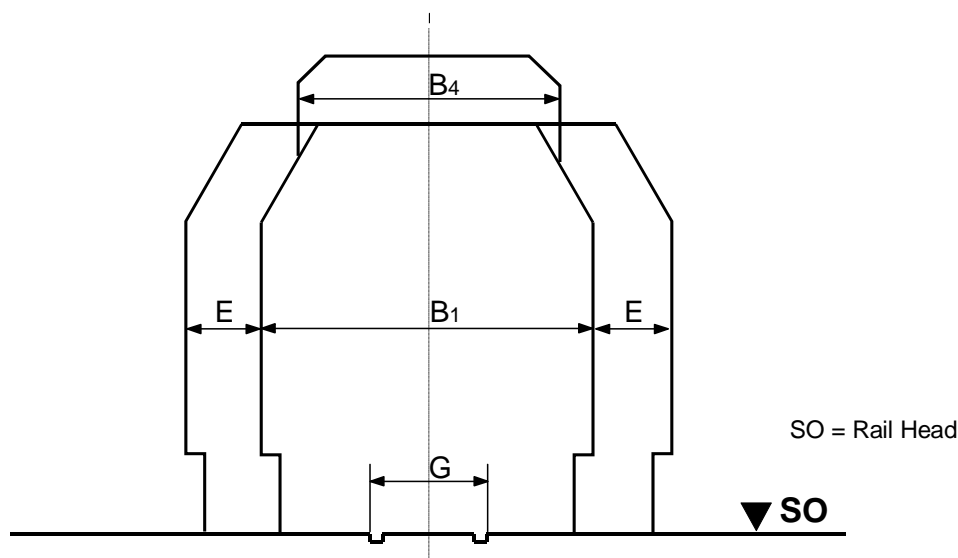
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Binding Norm

Measurements in mm

2004 Edition
 replacement for 1985 Edition

Within the range of curved track radii, the track clearance is to be extended by the dimension **E** beyond the specifications of NEM 102 as a function of the curve radius and the vehicles that will be used. Pantograph clearance remains unchanged from NEM 102.



The vehicle's lateral overhang on the curve is the determining factor. Bogie equipped vehicles have the greatest overhang. The scale length of the vehicle combined with the radius of the curve determine the dimension of **E**.

Bogie-equipped vehicles are therefore divided into three groups:

Vehicle Group A

length up to 20,0 m and wheelbase (bogie-pivot to bogie-pivot) up to 14,0 m

Vehicle Group B

length up to 24,2 m and wheelbase up to 17,2 m

Vehicle Group C

length up to 27,2 m and wheelbase up to 19,5 m

Note:

Shortened models of Vehicle Group C (e.g. H0 scale but built to 1:100 length) may be accommodated within Vehicle Group B.

The **vehicle length limits** correspond to the following model lengths (by scale):

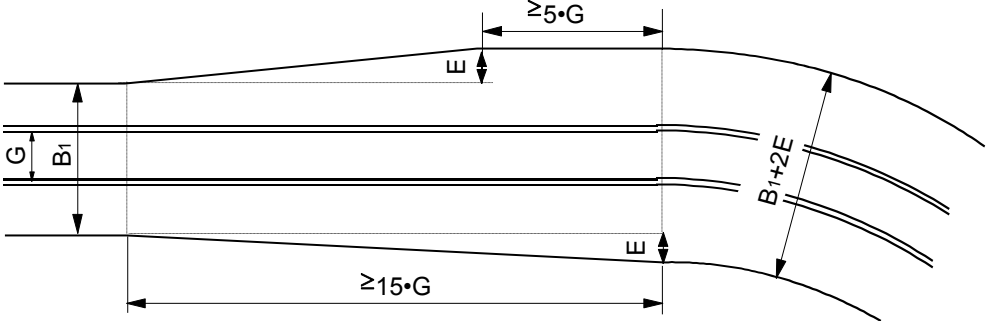
Scale	Z	N	TT	H0	S	0	I	II
Vehicle Group A	91	125	167	230	313	460	625	889
Vehicle Group B	110	151	202	278	378	556	756	1076
Vehicle Group C	124	170	227	313	425	625	850	1209

Refer to Table 2 for the dimensions of **E**. The value **E** for Vehicle Group A is the minimum and should not be reduced even if bogie-equipped vehicles are not used.

Table of Dimensions of E

Scale	Z			N			TT			HO			S			0			I			II		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
175	2	3	5	4																				
200	2	3	4	4	6																			
225	2	2	4	3	5	7																		
250	1	2	3	3	5	6	6																	
275	1	2	3	3	4	6	5	8																
300	1	2	3	2	4	5	5	7	10															
325	1	1	2	2	3	5	4	6	9	9														
350	1	1	2	2	3	4	4	6	8	8	12													
400	0	1	2	1	2	4	3	5	7	7	11	14												
450	0	1	1	1	2	3	3	4	6	6	9	12	12											
500	0	0	1	1	1	3	2	4	5	5	8	11	10	16										
550	0	0	1	0	1	2	2	3	4	4	7	10	9	14	19									
600	0	0	1	0	1	2	1	3	4	4	6	9	8	13	17	19								
700	0	0	0	0	0	2	1	2	3	3	5	7	7	11	15	16	25							
800	0	0	0	0	0	1	0	2	3	3	4	6	6	9	13	14	22	29						
900	0	0	0	0	0	1	0	1	2	2	3	5	5	8	11	12	19	25	23					
1000	0	0	0	0	0	0	0	1	2	2	3	4	4	7	9	10	17	22	20	31				
1200	0	0	0	0	0	0	0	0	1	1	2	3	3	5	7	8	14	18	16	25	34			
1400	0	0	0	0	0	0	0	0	1	1	2	2	2	4	6	7	11	15	13	21	28	31		
1600	0	0	0	0	0	0	0	0	1	0	1	2	2	3	5	6	9	13	11	18	24	26	41	
1800	0	0	0	0	0	0	0	0	0	0	1	1	1	2	4	5	8	11	9	15	21	23	36	47
2000	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3	4	7	9	7	13	18	20	32	42
2500	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	5	7	5	10	13	15	24	32
3000	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3	5	3	7	10	11	19	26
3500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	4	2	5	8	9	16	21
4000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	1	4	6	6	13	18	

Clearance shall widen beginning at a point not less than 15 times the track gauge from the beginning of the curve. In this transition area, the clearance increases linearly.



Note:
 Double-track separation in the curve is to be measured in accordance with NEM 112.