	Standards for European Model Railroads	**NEM**
MOROP	**Clearance Perimeter**	**103**
	in track curves	Page 1 of 2

Binding Standard   **Dimensions in mm**   **Edition 2016**
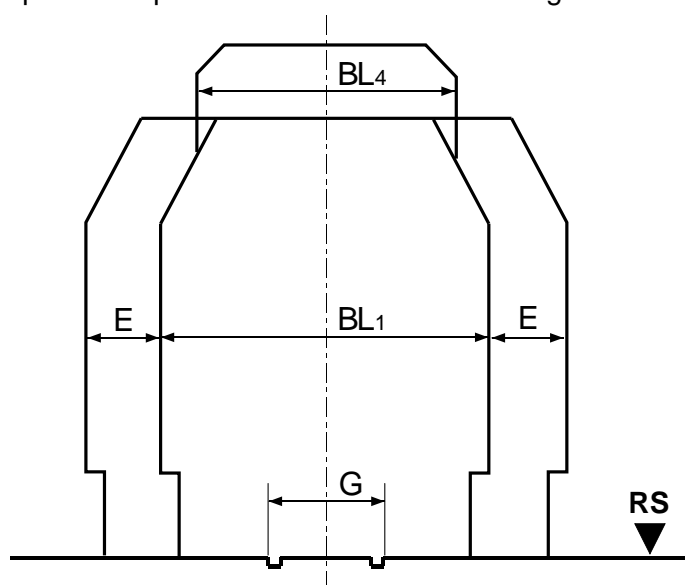(First English Edition)

In the area of track curves, the perimeter of the clearance space according to NEM 102, excepting the space for the overhead pantograph, is to be enlarged by dimension **E** with respect to the outer and inner curve edges, dependent upon the curve radius and rolling stock used.

The lateral deflection determines the enlargement. The largest lateral deflection on the inside of curves is produced by cars with bogies. The box length or the bogie pivot spacing of the longest deployed bogie car is thus decisive in determining the dimension **E**.

Therefore, cars with bogies are divided into three groups:

Car Group A
with up to 20.0 m box length and 14.0 m bogie pivot spacing,

Car Group B
with up to 24.2 m box length and 17.2 m bogie pivot spacing,

Car Group C
with up to 27.2 m box length and 19.5 m bogie pivot spacing.

Note:
Shortened models of the car group C (e.g. in H0 scale with a longitudinal scale of 1:100) are potentially assigned to car group B.

The **limiting dimensions for box length** correspond to the following model dimensions:

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

The size of the expansion **E** is to be taken from the table on page 2. The minimum value for car group A should always be maintained if possible, even when no vehicles with bogies are present.

Size Table for E:

Gauge	Z			N			TT			H0			S			0			I			II		
Radius of Track Curve	**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																				
225	2	2	4	3	5																			
250	1	2	3	3	5	6	6																	
275	1	2	3	3	4	6	5																	
300	1	2	3	2	4	5	5	7																
325	1	1	2	2	3	5	4	6																
350	1	1	2	2	3	4	4	6	8	8														
400	0	1	2	1	2	4	3	5	7	7	11													
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											
550	0	0	1	0	1	2	2	3	4	4	7	10	9	14										
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								
800	0	0	0	0	0	1	0	2	3	3	4	6	6	9	13	14	22							
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	37		
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	0	1	3	1	4	6	6	13	18

Notes:

1. **Values with gray background serve solely for interpolation and are not intended for use as they fall below the minimum radii according to NEM 111.**
2. **Track spacing in curves are to be measured according to NEM 112.**

In the transition zone to the track curve, the enlargement of the clearance perimeter of the sketch is to be provided for accordingly (a = maximum occurring bogie pivot spacing).