



1. Purpose

Character signs (different designations are common) feature the location in converging tracks up to which the vehicles may stand in one of the tracks without hindering the movement of vehicles in the other rail. They mark the limit of the useful length.

This standard enables the determination of the location of boundary signs.

The design of the boundary signs is specified by country and epoch and is not subject of this standard.

2. Determination of the decisive track spacing

The measure of track distance a at the point of the boundary signs consists of:

- the width BL_3 of the area clearances according to NEM 102 or B according to NEM 104 (i.e. the width of the area clearances without the extension in the door and window area) and
- a supplement z , depending on the angle of the turnout at its end (WE), according to Table 1, which takes into account the measurement between the unparallelled tracks in an approximate way and
- if necessary, surcharges for sheet extensions E according to NEM 103 respectively 104 in section 3.

Fig. 1: Measurement of the track spacing for the boundary sign

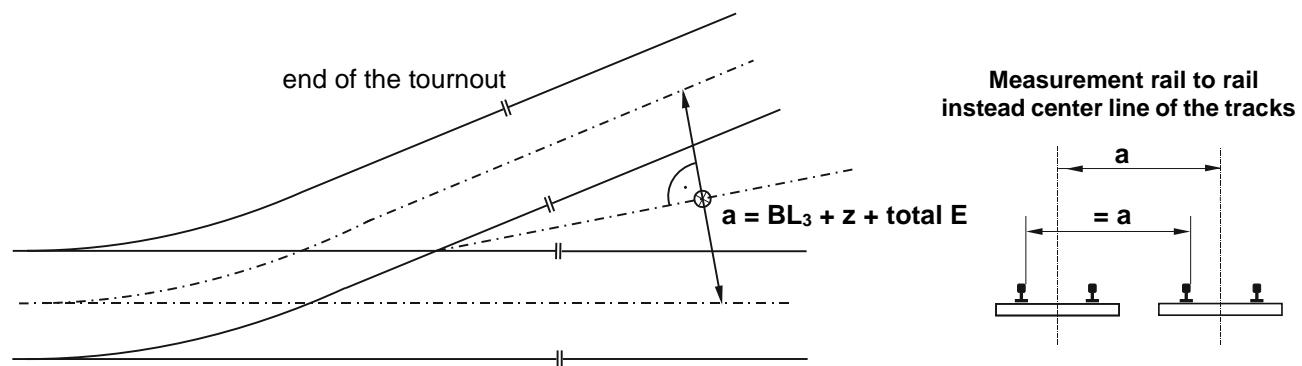


Table 1: Supplements z for the basic dimension of the track spacing at the boundary sign

Scale		Z	N	TT	H0	S	0	I	II
by angle of the turnout (WE)	up to 9°	-	-	-	-	0.5	0.5	0.5	0.5
	up to 12°	-	-	0.5	0.5	0.5	0.5	0.5	1
	up to 15°	-	0.5	0.5	0.5	0.5	1	1	1.5
	up to 22.5°	0.5	0.5	0.5	1	1	1.5	2.5	3
	up to 30°	0.5	1	1	1.5	2	3	4	5.5

3. Curve extensions

The curve extensions are to be determined separately for the two situations in which one vehicle can stand and another can move, and the resulting larger value E is decisive.

For the track traveled in each case, all extensions shall be taken into account that occur from the approximate limit sign point in both directions on one maximum vehicle length each. This may also require the inclusion of a switch curve.

The largest extension occurring in it then applies.¹⁾

For the respective track of the stationary vehicle, only the extensions on a maximum wagon length in the direction away from the turnout are to be considered and only if the limit sign is located to the outside of the curve.

4. Location of track-free signalling devices

When a track-free signalling device detects a car body end, e.g. in light barriers, the location of the boundary sign is considered as determined above.

When the track-free signalling release is done via means for axis detection, e.g. for track current circuits or axis counters, for the position of the isolation gap t or the axis counter to the determined position of the limit sign in the track direction a distance for the largest overhang of the car body to be added. This is at least $3 \times G$ according to NEM 103 (track gauge).

5. Calculation

Examples for the calculation of the decisive track spacing are given in the supplement to this standard.

The boundary marker(s) shall be placed where the track spacing has just reached the calculated dimension.

If a calculation results in a larger track spacing at the limit sign than a subsequent parallel track spacing, an attempt can be made to rectify this by using a switch with a smaller angle or/and larger radii in the tracks / in the switch.

If this is not possible or not sufficient, only the use of vehicles can be limited to smaller vehicle groups or the simultaneous use of both tracks can be excluded.

¹⁾ For more precise determinations in favor of greater useful track length, at the transition of different radii or at the transition from curves to straight lines in the above-mentioned sections, instead of the blanket assumption of the largest extension, the values in the transition zones of the curve extensions can also be determined and applied in accordance with NEM 103.