

Standards for European Model Railroads

## Transitional Facilities Bellow, Rubber Bead

NEM **304** 

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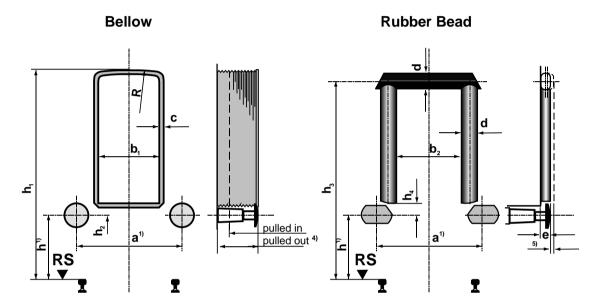
Recommendation

Dimensions in mm

Edition 2009 (First English Edition)

This standard determines the dimensions which are essential for the optical impression of the closed transition facilities of model vehicles which are freely capable of coupling.

Special features to be taken into account due to the concerns of model making partly require deviations from the limits set out in the original vehicle.



## **Dimension Table:**

| Scale | Bellow         |  |                |      |     | Rubber Bead    |                                 |                |      |     |
|-------|----------------|--|----------------|------|-----|----------------|---------------------------------|----------------|------|-----|
|       | h <sub>1</sub> | <b>h</b> <sub>2</sub> <sup>2)</sup><br>min | b <sub>1</sub> | C 3) | R   | h <sub>3</sub> | <b>h</b> 4 <sup>2)</sup><br>min | b <sub>2</sub> | d    | е   |
| Z     | 15.7           | 0.6  | 4.4            | 0.5  | 11  | 15.1           | 0.9                             | 6.2            | 1.2  | 0.7 |
| N     | 21.6           | 0.8  | 6.0            | 0.6  | 15  | 20.7           | 1.3                             | 8.5            | 1.6  | 1.0 |
| TT    | 28.8           | 1.1  | 8.2            | 0.7  | 20  | 27.6           | 1.7                             | 11.3           | 2.2  | 1.3 |
| H0    | 39.7           | 1.5  | 11.3           | 0.9  | 28  | 38.1           | 2.3                             | 15.6           | 3.0  | 1.7 |
| S     | 53.9           | 2.0  | 15.6           | 1.1  | 38  | 51.8           | 3.1                             | 21.3           | 4.1  | 2.3 |
| 0     | 76.7           | 2.9  | 22.2           | 1.6  | 54  | 73.7           | 4.4                             | 30.2           | 5.8  | 3.3 |
| 1     | 107.8          | 4.1  | 31.2           | 2.2  | 75  | 103.6          | 6.3                             | 42.5           | 8.1  | 4.7 |
| II    | 153.3          | 4.9  | 44.4           | 3.1  | 107 | 147.3          | 8.9                             | 60.4           | 11.5 | 6.7 |

## **Annotations:**

- The buffer dimensions  $\mathbf{a}$  and  $\mathbf{h}$  can be taken from NEM 303.
- The dimensions  $h_2$  and  $h_4$  should be as small as possible; they should therefore only be increased as far over  $h_2$  min and  $h_4$  min as is necessary for the function of coupling and buffers.
- <sup>3)</sup> Dimension c refers to the visible end frame.
- 4) The extended bellows are limited by the buffer plate plane.
- 5) If movable or flexible rubber beads are used, the bead may not exceed e/2 above the buffer level.

Concerning the transition devices that are **not** movable or flexible in the model, care must be taken to ensure that the proper functioning of the couplings is ensured (see NEM 356 / 359 / 360 / 365). If necessary, the unfolded replica of the bellows may be open at the bottom.