Pantograph for Overhead Line Operation

Obligatory Standard **Measurements in mm** **Published 1999**

First Published 1979

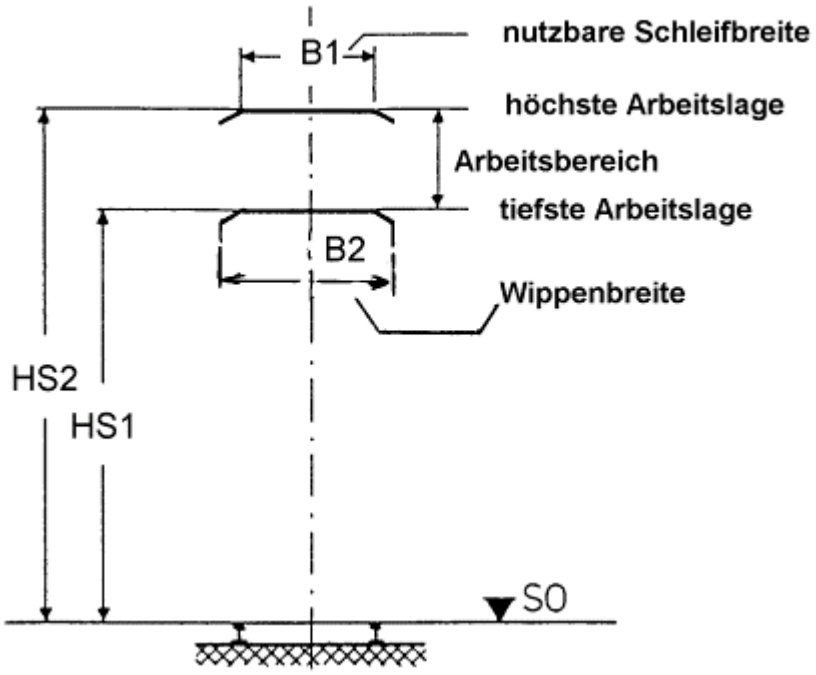
1 Purpose

This standard determines the usable collector width and the operating position of the pantograph for overhead line operation in accordance with NEM 201.

2 Organization

The terms "Wide Shoe" and "Narrow Shoe" are defined in NEM 201.

3 Pantograph dimensions and working range



Note:
The shape of the curve from the contact surface to the downward-turned tips, the inclination of the tips, and the overall pantograph width (B2) are somewhat determined by the pantograph manufacturer. Nevertheless, the width (B2) and height (H4 as defined in NEM 301) measurements of the fully-lowered pantograph shall not exceed the standards prescribed in NEM 301.

Dimension Table

Scale	B1 Wide	B1 Narrow	HS 1	HS 2
Z	7,5 + 0,5	3,5 + 0,5	25	31
N	10 + 1	5 + 1	34	41
TT	13,5 + 1,5	7,5 + 1,5	44	54
HO	18 + 2	10 + 2	60	75
S	25 + 2	14 + 2	80	101
0	34 + 2	22 + 2	110	142
I	48 + 2	30 + 2	150	198

4 Curved Track

This standard works with NEM 201 to provide for trouble-free operation of models using overhead wire so long as the pantograph contact surface is in close proximity to the locomotive's truck (bogie) pivot point. If the pantograph is mounted some distance from the pivot point, it might lose contact with the overhead wire, or otherwise come into contact with other parts of the wire suspension system, particularly on curves. The possibility of this occurring increases with the decrease in curve radius.

Remedies include closer mast spacing (to effectively reduce the zig-zag on the curve), reducing the curve length, increasing the curve radius, or by fitting the locomotive with wider, non-standard pantograph shoes.