

Conditions to be complied with for the pantographs of tractive units used in international services

*Conditions à respecter pour les pantographes des engins moteurs utilisés en service international
Bedingungen für die Stromabnehmer der Triebfahrzeuge im internationalen Verkehr*



UNION INTERNATIONALE DES CHEMINS DE FER
INTERNATIONALER EISENBAHNVERBAND
INTERNATIONAL UNION OF RAILWAYS

Leaflet to be classified in Volumes :

V - Rolling Stock

VI - Traction

VII - Way and Works

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All members of the International Union of Railways

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Important: the articles (points) in this leaflet have been renumbered in the new edition. The first digit of each point has been increased by one (i.e. 0 becomes 1, 1 becomes 2, and so on). Please take account of this when using cross-references from other leaflets.

The person responsible for this leaflet is named in the UIC Code

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Summary

This leaflet sets out the general characteristics of the pantographs of the various railways, which apply to lines carrying or suitable for carrying international traffic up to speeds of 200 km/h. For higher speeds, agreements should be reached by the railways concerned.

However, this leaflet also covers motive power units that may be worked on 25 kV high-speed new lines.

1 - General - Field of application

1.1 - The essential regulations to be observed in the construction of tractive units to enable them to run on international services are laid down in *UIC Leaflet 611* (see Bibliography - page 20).

Nevertheless, the question of current collection requires special attention in view of the diversity of the contact lines on each railway or each traction system.

1.2 - This leaflet sets out the general characteristics of the pantographs of the various railways, which apply to lines carrying or suitable for carrying international traffic up to speeds of 200 km/h. For higher speeds, agreements should be reached by the railways concerned.

1.3 - However, this leaflet also covers motive power units that may be worked on 25 kV high-speed new lines (see point 5.1.4 - page 7).

2 - General design

The general design of pantographs (articulation, bow suspension, operating mechanism, etc.) must be in line with the recommendations of ERRI Specialists' Committees (A 69: Wear of contact strips and contact wires when using contact strips made of metal or composite materials and A 129: Current collection at high speed).

3 - Compliance of lowered pantographs with the gauge

In the vertical position, the lowered pantograph must comply with the gauge defined in *UIC Leaflet 505-1* (see Bibliography - page 20). As railways operating a more restrictive gauge are unable to comply with all regulations in this leaflet, an agreement between them is essential for international services.

4 - Vertical range of movement of pantographs

Any actual increase in the vertical range of movement of the pantograph, taking into account vertical oscillations, depression of the suspension due to overloads, wear of the tyres, etc., must be specified with a view to guaranteeing current collection with minimum and maximum contact wire heights as shown in Appendix A - page 13.

For running on the NS system, the vertical range of the pantograph must, however, be limited to 5 860 mm above rail level.