

4th edition, August 2002

Translation

O R

Signal-lamps and signal-lamp brackets for locomotives, railcars and all tractive and self-propelled stock

*Signaux et porte-signaux des locomotives, autorails et de tous engins moteurs et automoteurs
Signale und Signalstützen der Lokomotiven, Triebwagen und Triebzüge*



Leaflet to be classified in Volumes :

IV - Operating
V - Transport stock
VI - Traction

Application :

With effect from 1 January 2002

All members of the International Union of Railways

A dispensation from the application of point 2.1 is, however, granted to the NSB as regards the measurement of 1,70 m.

Record of updates

1st edition, January 1957 New leaflet

3rd edition, July 1980

4th edition, August 2002 New edition published under FrameMaker. Amendments to points 2.6 and 2.7. Points 2.8 to 2.10 added.
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

Contents

Summary	1
1 - Scope	2
2 - Permanently-fixed electric signal-lamps	3
3 - Signal-lamp brackets	5
Bibliography	6

Summary

The provisions set out in this leaflet shall apply to the fitting of signals and signal brackets to locomotives, railcars, multiple-unit trains and driving trailers used in international traffic.

o 1 - Scope

The under-mentioned provisions shall apply to the fitting of signal-lamps and signal-lamp brackets to locomotives, rail motor vehicles and motor-coach trains used in international traffic. They are *obligatory* for new powered units and *recommendatory* for existing powered units.

2 - Permanently-fixed electric signal-lamps

- **2.1** - Locomotives, rail motors vehicle and motor-coach trains must be equipped, at both ends, with two permanently-fixed electric signal-lamps, placed on the same horizontal plane, at a height above rail level between 1,50 m and 1,70 m.
- **2.2** - The spacing between the two signals must be as wide as possible, without falling below 1,30 m; this measurement may, as an exception, be reduced to 1 m for streamlined stock.
- **2.3** - In addition, locomotives, rail motor vehicles and motor-coach trains must be designed in such a way that they may be fitted, when required, with a third permanently-fixed electric signal-lamp, placed, at each end, in the upper central section of the powered unit.

NB : Locomotives, rail motor vehicles or motor-coach trains likely to run on the CFF, DB, DR, DSB, MÁV, NS, and ÖBB lines, must be fitted with this third signal-lamp.

- **2.4** - Each of the two lower permanently-fixed electric signal-lamps must be fitted with an aspect changeover device enabling either a white or red aspect to be shown, except when these signals consist of superimposed optical lenses.
- R **2.5** - It is recommended that the aspect changeover device be placed inside tthe vehicle. In addition, it is recommended that the electric signal-lamps be individually controlled and that they be provided with holders likely to take coloured glasses (yellow or green).

- **2.6** - Front lights are to be designed as signal lamps and must not dazzle. The signal lamps used must have the following features:

Circular lamps must have a diameter of at least 170 mm.

Rectangular lamps must be at least 110 mm wide in the horizontal plane.

Lamps must comply with the optical parameters stipulated.

Degree of intensity of white light:

- | | | |
|---|------------------------|-----------------------------|
| - In the centre line: | Lower signal lamp: | between 300 and 700 candela |
| | Any upper signal lamp: | between 150 and 350 candela |
| - At 45° on either side of the centre line in the horizontal plane: | | between 20 and 40 candela |

Railways may decide to fit a switch button to dim temporarily the intensity of signal lamps to:

- Lower signal lamp: 100 Candela
- Upper signal lamp: 50 Candela

R 2.7 - Irrespective of the provisions set out in point **2.6**, railways may provide their front lights with an electrical switching device enabling them to function as headlamps, with the following mandatory features:

Degree of intensity of white light:

In the centre line:	Lower signal lamp:	> 12 000 candela
	Upper signal lamp:	12 000-16 000 Candela

The ratio of the intensity of the upper headlamp to the lower headlamp must be no more than 1:3.

O 2.8 - Headlamps used for high speed traffic (speeds of greater than 250 km/h) must have the following features:

Degree of intensity of white light:

In the centre line:	Lower headlamp:	40 000-70 000 candela
	Upper headlamp:	12 000-16 000 candela

UIC Leaflet 651, point 4.3.2.5.1 stipulates that the degree of intensity of white light for all headlamps in the dimmed position shall be 12 000-16 000 candela.

O 2.9 - The upper limit of the light beam must be tilted in such a way that when all headlamps are switched on, the vertical illumination at a distance of greater than or equal to 100 m is less than 0,5 lux at rail level.

O 2.10 - Suitable measures (e.g. regular checks on lamp voltages, cleaning) shall be taken to ensure compliance with the minimum intensities stipulates in point **2.6 - page 3** for signal lamps and headlamps.

3 - Signal-lamp brackets

- O 3.1** - Independently of the permanently-fixed electric signal-lamps, locomotives, rail motor vehicles and motor-coach trains must be equipped, at each end, with two signal-lamp brackets intended to accommodate discs or flags for day signalling or, when necessary, emergency lamps.
- R 3.2** - The signal-lamp brackets of streamlined stock may be retractable or removable.
- O 3.3** - These signal-lamp brackets shall, generally, be placed between the buffers and the corner of the vehicle, at a height between 1,50 m and 1,70 m above rail level.
- R 3.4** - It is recommended that locomotives, rail motor vehicles and motor-coach trains be designed so that they may be fitted, at each end, with a third signal-lamp bracket placed in the upper central section of the powered unit.
- O 3.5** - The signal-lamp brackets must have a rectangular fixing slot, measuring 56 x 12,5 mm, as defined in *UIC Leaflet 532, Plate 1*.
- O 3.6** - The signal-lamp brackets must be placed in such a way that the space necessary for the signals (lamps or discs), laid down in *UIC Leaflet 532, Plate 3*, remains free.

Bibliography

1. UIC leaflets

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Leaflet 532: Trailing stock - Signal-lamp brackets. Coaches: Fixed electric signal-lamps, 9th edition of 1.1.79; Reprint dated 1.1.91 and Amendment no. 2

2. Minutes of meetings

International Union of Railways

4th - 5th Committees R.S., May 1956

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