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Item 5 of the provisional agenda

Regulations Nos. 37 (Filament lamps), 99 (Gas-discharge light sources) and 128 (Light emitting diodes light sources)

Proposal for Supplement 45 to the 03 series of amendments to Regulation No. 37 (Filament lamps)

Submitted by the expert from the International Automotive Lighting and Light Signalling Expert Group (GTB)*

The text reproduced below was prepared by the expert from GTB to clarify the specifications of filament lamp category H19. The modifications to the existing text of the Regulation are marked in bold for new or strikethrough for deleted characters; modifications in the drawings are not marked.

* In accordance with the programme of work of the Inland Transport Committee for 2014–2018 (ECE/TRANS/240, para. 105 and ECE/TRANS/2014/26, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

I. Proposal

Annex 1, Sheets H19, replace by new sheets, to read:

(see next pages)

The drawings are intended only to illustrate the essential dimensions (in mm) of the filament lamp.

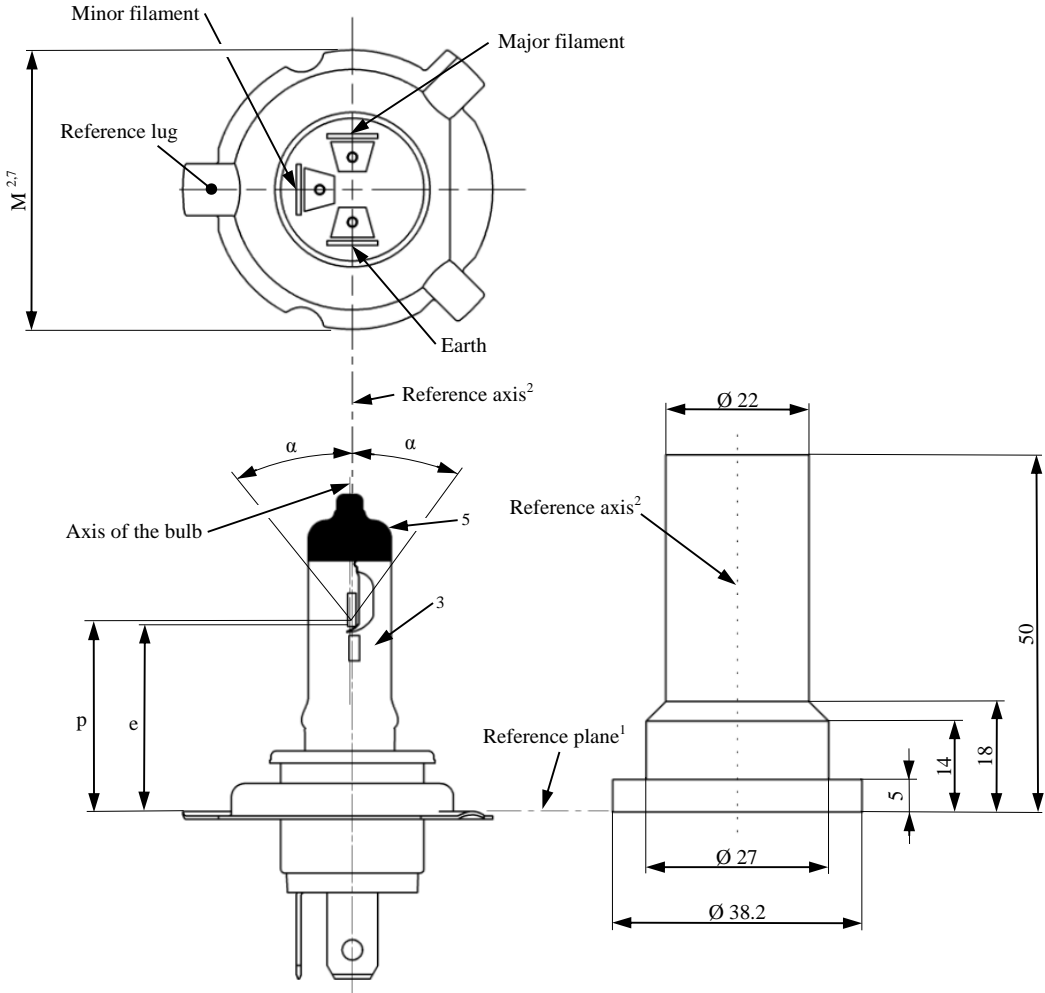


Figure 1
Main drawing

Figure 2
Maximum lamp outlines⁴

For the notes see sheet H19/5.

Category H19

Sheet H19/2

| <i>Dimensions in mm</i> | <i>Filament lamps of normal production</i> | | <i>Standard filament lamps</i> | | |
|---|--|-----------------|--------------------------------|-----------------|---------|
| | <i>12 V</i> | | <i>12 V</i> | | |
| e | 28.5 + 0.35 / - 0.15 | | 28.5 + 0.20 / - 0.0 | | |
| p | 28.95 | | 28.95 | | |
| α | max. 45° | | max. 45° | | |
| Cap PU43t-3 in accordance with IEC Publication 60061 (sheet 7004-171-1) | | | | | |
| Electrical and photometric characteristics | | | | | |
| Rated values | Volts | 12 ⁶ | | 12 ⁶ | |
| | Watts | 60 | 55 | 60 | 55 |
| Test values | Volts | 13.2 | 13.2 | 13.2 | 13.2 |
| Objective values | Watts | 72 max. | 68 max. | 72 max. | 68 max. |
| | Luminous flux | 1 750 ± 10% | 1 200 ± 10% | | |
| Reference luminous flux at approximately | | | 13.2 V | 1 750 | 1 200 |

For note 6 see sheet H19/5.

Table of the dimensions (in mm) referred to in the drawings on sheet H19/3

| Reference* | Dimension** | Tolerance | |
|---------------------------------|------------------------------------|-------------------------------------|-------------------------------|
| | | Filament lamps of normal production | Standard filament |
| a/26.0 | 0.7 | ±0.30 | ±0.20 |
| a/24.5 | 0.7 | ±0.40 | ±0.20 |
| b1/ 29.5 30.5 | 1.0 | ±0.30 | ±0.25 |
| b1/33.0 | b1/ 29.5 30.5 mv | ±0.30 | ±0.15 |
| b2/ 29.5 30.5 | 1.0 | ±0.30 | ±0.25 |
| b2/33.0 | b2/ 29.5 30.5 mv | ±0.30 | ±0.15 |
| c/ 29.5 30.5 | 1.7 | ±0.25 | ±0.15 |
| c/33 | c/ 29.5 30.5 mv | ±0.25 | ±0.15 |
| d | min. 1.1 | - | - |
| e ¹¹ | 28.5 | +0.35 / -0.15 | +0.20 / -0.0 |
| f ^{9, 10, 11} | 1.4 | ±0.30 | ±0.15 |
| g/26.0 | 0 | ±0.40 | ±0.30 ±0.25 |
| g/24.5 | 0 | ±0.50 | ±0.25 ±0.30 |
| h/ 29.5 30.5 | 0 | ±0.40 | ±0.25 |
| h/33.0 | h/ 29.5 30.5 mv | ±0.30 | ±0.15 |
| IR ^{9, 12} | 4.0 | ±0.60 | ±0.30 |
| IC ^{9, 10} | 5.2 | ±0.60 | ±0.30 |
| p/33.0 | Depends on the shape of the shield | - | - |
| q/33.0 | (p+q)/2 | ±0.60 ±0.50 | ±0.30 |
| B/33.0 | 8.6 | ±0.30 | ±0.30 |

* ".../24.5" means dimension to be measured at the distance from the reference plane indicated in mm after the stroke.

** ".../~~29.5~~ **30.5** mv" means the value measured at a distance of ~~29.5~~ **30.5** mm from the reference plane.

For the notes see sheet H19/5.

Category H19

Sheet H19/5

- 1 The reference plane is the plane formed by the seating points of the three lugs of the cap ring.
- 2 The reference axis is perpendicular to the reference plane and passes through the centre of the circle of diameter "M".
- 3 The light emitted from standard filament lamps and from normal production lamps shall be white.
- 4 The bulb and supports shall not exceed the envelope as in Figure 2.
- 5 The obscuration shall extend, at least, as far as the cylindrical part of the bulb. It shall also overlap the internal shield when the latter is viewed in a direction perpendicular to the reference axis.
- 6 The values indicated in the left hand column relate to the major filament. Those indicated in the right-hand column relate to the minor filament.
- 7 Plane V-V is the plane perpendicular to the reference plane and passing through the reference axis and through the intersection of the circle of diameter "M" with the axis of the reference lug.
- 8 Plane H-H is the plane perpendicular to both the reference plane and plane V-V and passing through the reference axis.
- 9 The end turns of the filament are defined as being the first luminous turn and the last luminous turn that are at substantially the correct helix angle.
- 10 For the minor filament, the points to be measured are the intersections, seen in direction 1, of either the lateral edge of the shield or the filament axis with the outside of the end turns defined under note 9.
- 11 "e" denotes the distance from the reference plane to the beginning of the minor filament as defined above.
- 12 For the major filament the points to be measured are the intersections, seen in direction 1, of a plane, parallel to plane H-H and situated at a distance of 0.3 mm below it, with the end turns defined under note 9.

Additional explanations to sheet H19/3

The dimensions below are measured in three directions:

- 1 For dimensions b1, a, c, d, e, f, IR and IC.
- 2 For dimensions ~~g, h, p and q~~ **g, h, p, q and B**.
- 3 For dimension b2.

Dimensions ~~p and q~~ **B, p and q** are measured in planes parallel to and 33.0 mm away from the reference plane.

Dimensions b1, b2 are measured in planes parallel to and ~~29.5~~ **30.5 mm** and 33.0 mm away from the reference plane.

Dimensions c and h are measured in planes parallel to and ~~29.5~~ **30.5 mm** and 33.0 mm away from the reference plane.

Dimensions a and g are measured in planes parallel to and 24.5 mm and 26.0 mm away from the reference plane.

Note: For the method of measurement, reference is made to Appendix E of IEC Publication 60809.

II. Justification

1. H19 is a double-filament halogen light source category containing an internal shield. H19 can be regarded as an improved version of category H4. Due to the fact that the minor coil is positioned more out of the shield than in the case of category H4, more light is available in the reflector for creating the passing beam. Tolerance analyses show that this shifted coil position may cause misunderstanding of the shield parameters. This proposal aims to avoid such misinterpretation.

2. The H19 sheets were refined by an improved description of the shield parameters (introduction of parameter “B”, tightened tolerance of parameter “q”) and of the relative position of the minor filament to the shield (modified measurement position for the parameters “b1”, “b2”, “c” and “h”). In addition, an editorial correction was made by exchanging the values of the tolerances of parameters “g” for the standard filament light source. These modifications are reflected in the drawings.
