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**Road vehicles — Sheath-type glow-plugs with conical seating and their cylinder head housing —**

**Part 4:  
M8 x 1 glow-plugs**

*Véhicules routiers — Bougies de préchauffage à fourreau et à siège conique, et leur logement dans la culasse —*

*Partie 4: Bougies M8 x 1*





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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 22, *Road vehicles*, Subcommittee SC 1, *Ignition equipment*.

This third edition cancels and replaces the second edition (ISO 6550-4:2009) of which it constitutes a minor revision.

ISO 6550 consists of the following parts, under the general title *Road vehicles — Sheath-type glow-plugs with conical seating and their cylinder head housing*:

- *Part 1: M14 × 1,25 glow-plugs*
- *Part 2: M12 × 1,25 glow-plugs*
- *Part 3: M10 glow-plugs*
- *Part 4: M8 × 1 glow-plugs*

# Road vehicles — Sheath-type glow-plugs with conical seating and their cylinder head housing —

## Part 4: M8 x 1 glow-plugs

### 1 Scope

This part of ISO 6550 specifies the main characteristics of M8 × 1 sheath-type glow-plugs with conical seating and their cylinder head housing, for use with diesel (compression-ignition) engines.

### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 68-1, *ISO general purpose screw threads — Basic profile — Part 1: Metric screw threads*

ISO 261, *ISO general purpose metric screw threads — General plan*

ISO 965-1, *ISO general purpose metric screw threads — Tolerances — Part 1: Principles and basic data*

ISO 965-3, *ISO general purpose metric screw threads — Tolerances — Part 3: Deviations for constructional screw threads*

ISO 2768-2:1989, *General tolerances — Part 2: Geometrical tolerances for features without individual tolerance indications*

ISO 8092-4:1997, *Road vehicles — Connections for on-board electrical wiring harnesses — Part 4: Pins for single- and multi-pole connections — Dimensions and specific requirements*

### 3 Dimensions and tolerances

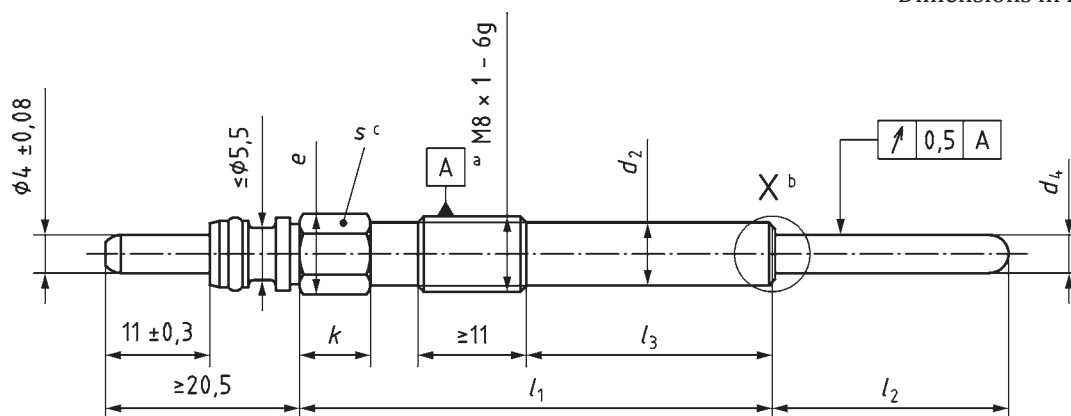
#### 3.1 General

Unless otherwise specified, the general geometric tolerances in accordance with ISO 2768-2:1989, tolerance class H, apply.

#### 3.2 Glow-plugs

Sheath-type glow-plug dimensions and tolerances shall be as shown in [Figures 1 to 6](#), and [Tables 1 and 2](#).

Dimensions in millimetres

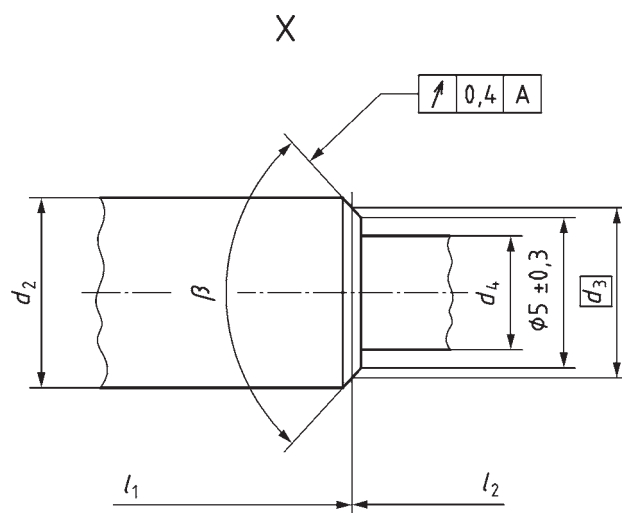


**Key**

- a Major diameter, in accordance with ISO 965-1 or 965-3.
- b See [Figure 2](#).
- c Hexagon.

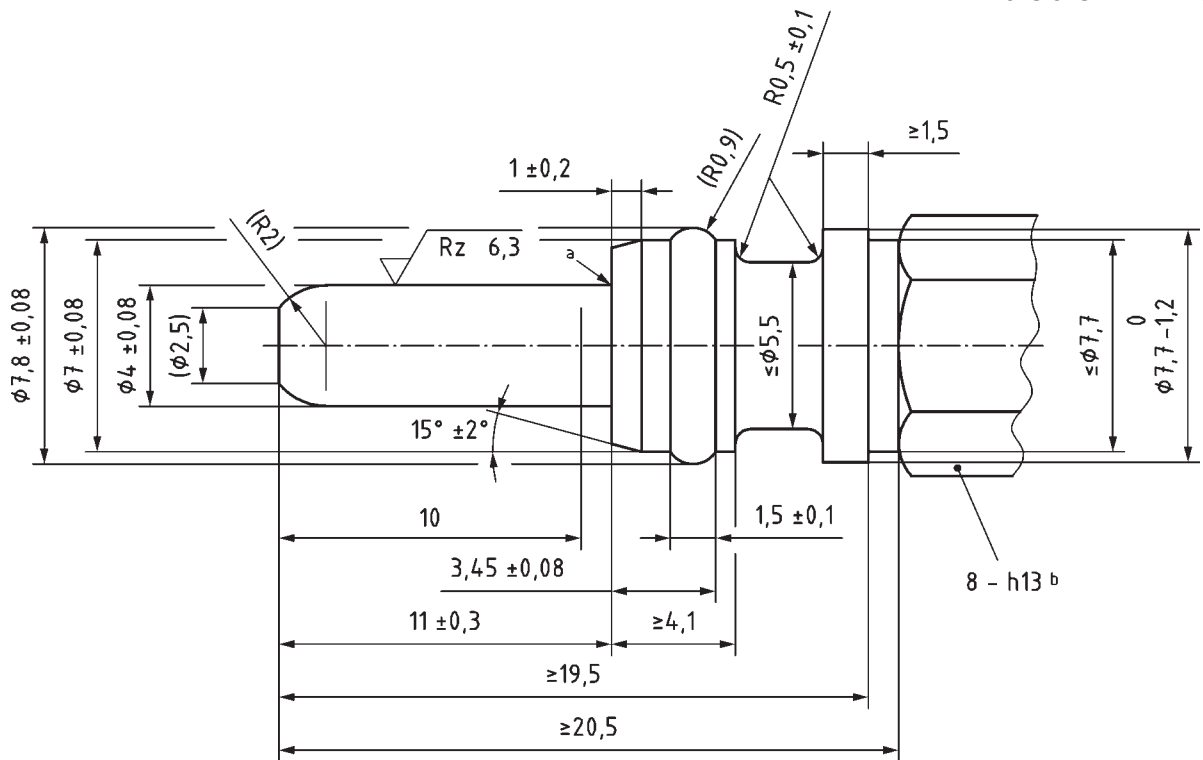
**Figure 1 — Glow-plug with pin terminal**

Dimensions in millimetres



**Figure 2 — Detail of X of [Figure 1](#)**

Dimensions in millimetres

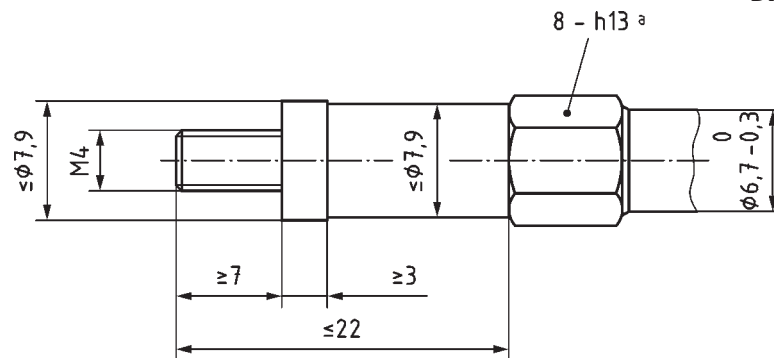


**Key**

- a Contour agreed between glow-plug and engine manufacturer.
- b Hexagon.

**Figure 3 — Glow-plug pin terminal**

Dimensions in millimetres

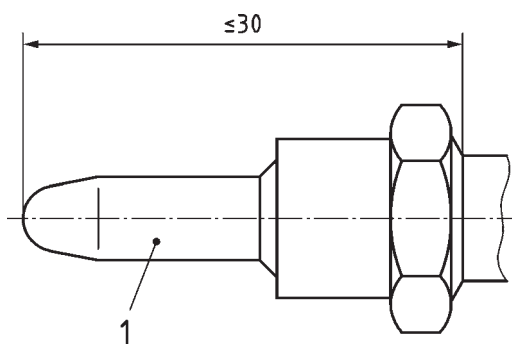


**Key**

- a Hexagon.

**Figure 4 — Glow-plug threaded terminal**

Dimensions in millimetres

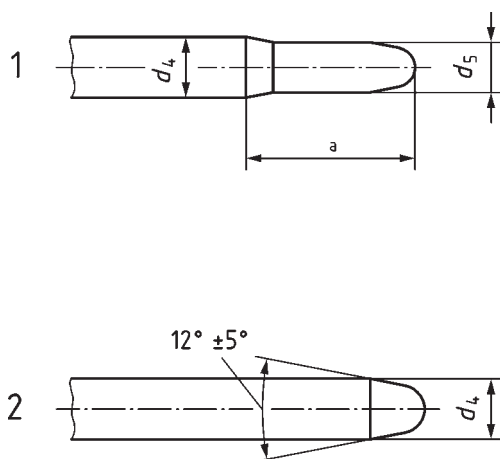


**Key**

- 1 pin ISO 8092-4:1997 Table 1, pin size 4

**Figure 5 — Optional glow-plug pin terminal**

Dimensions in millimetres



**Key**

- 1 glow-plug type A2, A4, A6, A8, B2, B4, B6 and B8
- 2 glow-plug type A1, A3, A5, A7, B1, B3, B5 and B7
- a Contour optional.

**Figure 6 — Reduced tip end and cone end**

**Table 1 — Glow-plug dimensions (dimension  $l_1$  and  $l_2$ )**

Dimensions in millimetres

|  |    |           |    |           |           |    |            |
|--|----|-----------|----|-----------|-----------|----|------------|
| $l_1^a \pm 0,5$  | 27 | <b>42</b> | 57 | 67        | <b>72</b> | 87 | <b>102</b> |
| $l_2^a \pm 0,5$  | 20 | <b>25</b> | 28 | <b>30</b> |           | 35 |            |
| <sup>a</sup> Dimensions $l_1$ and $l_2$ to be combined as appropriate. Bold numbers are to be preferred. |    |           |    |           |           |    |            |



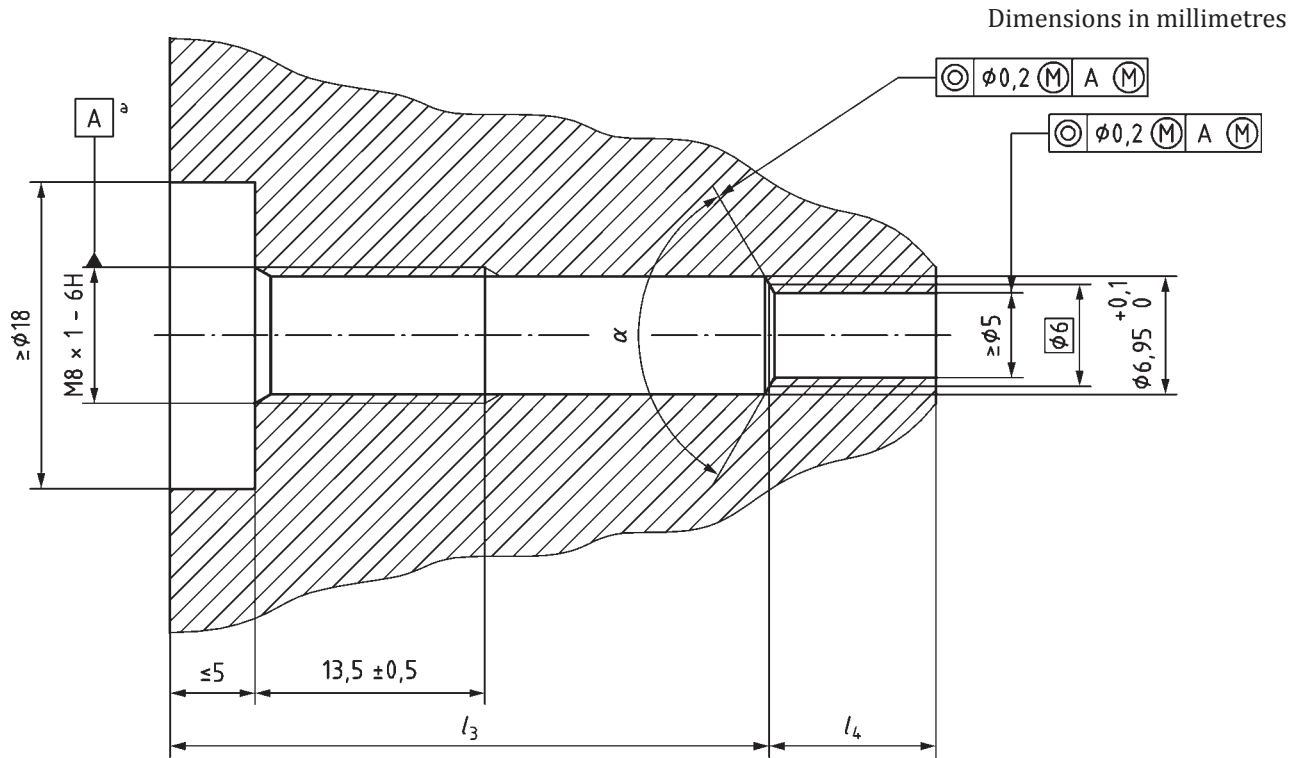
Table 2 — Glow-plug dimensions

Dimensions in millimetres

| Type | Terminal | Hexagon  |                  |                                  | Body                     |                                  |                               |                               | Glow-plug tube                     |                                    |                  |
|------|----------|----------|------------------|----------------------------------|--------------------------|----------------------------------|-------------------------------|-------------------------------|------------------------------------|------------------------------------|------------------|
|      |          | <i>s</i> | <i>e</i><br>min. | <i>k</i>                         | $\beta$<br>$\pm 2^\circ$ | <i>d</i> <sub>2</sub>            | <i>d</i> <sub>3</sub><br>ref. | <i>l</i> <sub>3</sub><br>min. | <i>d</i> <sub>4</sub><br>$\pm 0,2$ | <i>d</i> <sub>5</sub><br>$\pm 0,1$ | <i>a</i><br>min. |
| A1   | pin      | 8,0h13   | 8,6              | 7,5 <sup>1</sup> <sub>-0,3</sub> | 93°                      | 6,7 <sup>0</sup> <sub>-0,3</sub> | 6,0                           | 10                            | 4,0                                | —                                  | —                |
| A2   |          |          |                  |                                  |                          |                                  |                               |                               | 3,3                                | 5                                  |                  |
| A3   |          |          |                  |                                  |                          |                                  |                               |                               | 4,4                                | —                                  | —                |
| A4   |          |          |                  |                                  |                          |                                  |                               |                               | 3,5                                | 5                                  |                  |
| A5   | M4       |          |                  |                                  | 4,0                      |                                  |                               |                               | —                                  | —                                  |                  |
| A6   |          |          |                  |                                  | 3,3                      |                                  |                               |                               | 5                                  |                                    |                  |
| A7   |          |          |                  |                                  | 4,4                      |                                  |                               |                               | —                                  | —                                  |                  |
| A8   |          |          |                  |                                  | 3,5                      |                                  |                               |                               | 5                                  |                                    |                  |
| B1   | pin      | 8,0h13   | 8,6              | 7,5 <sup>1</sup> <sub>-0,3</sub> | 123°                     | 6,7 <sup>0</sup> <sub>-0,3</sub> | 6,0                           | 10                            | 4,0                                | —                                  | —                |
| B2   |          |          |                  |                                  |                          |                                  |                               |                               | 3,3                                | 5                                  |                  |
| B3   |          |          |                  |                                  |                          |                                  |                               |                               | 4,4                                | —                                  | —                |
| B4   |          |          |                  |                                  |                          |                                  |                               |                               | 3,5                                | 5                                  |                  |
| B5   | M4       |          |                  |                                  | 4,0                      |                                  |                               |                               | —                                  | —                                  |                  |
| B6   |          |          |                  |                                  | 3,3                      |                                  |                               |                               | 5                                  |                                    |                  |
| B7   |          |          |                  |                                  | 4,4                      |                                  |                               |                               | —                                  | —                                  |                  |
| B8   |          |          |                  |                                  | 3,5                      |                                  |                               |                               | 5                                  |                                    |                  |

### 3.3 Cylinder head housing

The dimensions and tolerances of the cylinder head housing for sheath-type glow-plugs shall be as given in [Figure 7](#) and [Table 3](#).



**Key**

- a Pitch diameter in accordance with ISO 965-1 or 965-3.
- $\alpha$   $90^\circ \pm 1^\circ$  or  $120^\circ \pm 1^\circ$

**Figure 7 — Cylinder head housing for 8 mm hexagon**

**Table 3 — Cylinder head housing dimensions**

Dimensions in millimetres

|              |  |    |    |    |    |    |     |
|--------------|--|----|----|----|----|----|-----|
| $l_3$ max.   | 22   | 37 | 52 | 62 | 67 | 82 | 97  |
| $l_1^a$      | 27   | 42 | 57 | 67 | 72 | 87 | 102 |
| $l_4$        | To be specified by the engine manufacturer.  |    |    |    |    |    |     |
| <sup>a</sup> | $l_3$ max. for cylinder head has to correspond to $l_1$ of the glow plug as in this table. |    |    |    |    |    |     |

**3.4 Threads**

The threads of  $M8 \times 1$  glow-plug and the corresponding tapped hole in cylinder head shall be in accordance with ISO 68-1, ISO 261, ISO 965-1, and ISO 965-3.

The thread  $M8 \times 1 - 6g$  shall be used for the glow-plugs.

The threads in the corresponding tapped holes in the cylinder heads shall be  $M8 \times 1 - 6H$ .

**3.5 Dimension limits of threads  $M8 \times 1$**

Dimension limits of threads  $M8 \times 1$  are given in [Table 4](#).

Table 4 — Dimension limits of threads M8 × 1

Dimensions in millimetres

| Dimensions     |      | Plug thread M8 × - 6g<br>(on finished plug) | Tapped hole in cylinder head<br>M8 × 1 - 6H |
|----------------|------|---|---|
| Major diameter | max. | 7,974                                       | not specified                               |
|                | min. | 7,794                                       | 8,000                                       |
| Pitch diameter | max. | 7,324                                       | 7,500                                       |
|                | min. | 7,212                                       | 7,350                                       |
| Minor diameter | max. | 6,747                                       | 7,153                                       |
|                | min. | 6,596 <sup>a</sup>                          | 6,917                                       |

<sup>a</sup> With a root radius of fillet  $\geq 0,100$  mm (0,1 *P*).

#### 4 Installation tightening torque

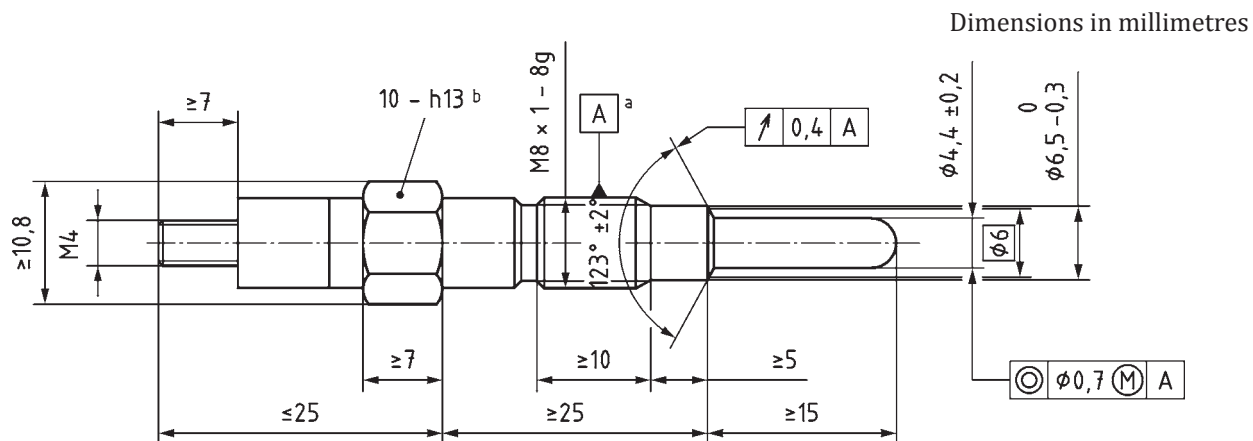
The installation torque values shall be 9 Nm to 12 Nm. These values apply to unused nickel or zinc plated sheath-type glow-plugs without lubricant on the threads.

If glow-plugs are plated with a different material and/or the threads are lubricated the applicable torque values shall be agreed between the glow-plug manufacturer and the engine manufacturer.

When the installation deformation by cylinder head housing material and by glow-plug plating is big, consultation should be held between glow-plug manufacturers and engine manufacturers.

## Annex A (informative)

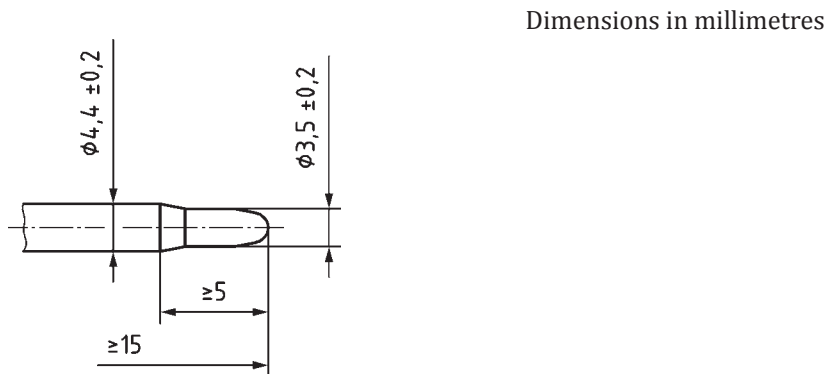
### M8 × 1 glow-plugs with 10 mm hexagon and their cylinder head housing



**Key**

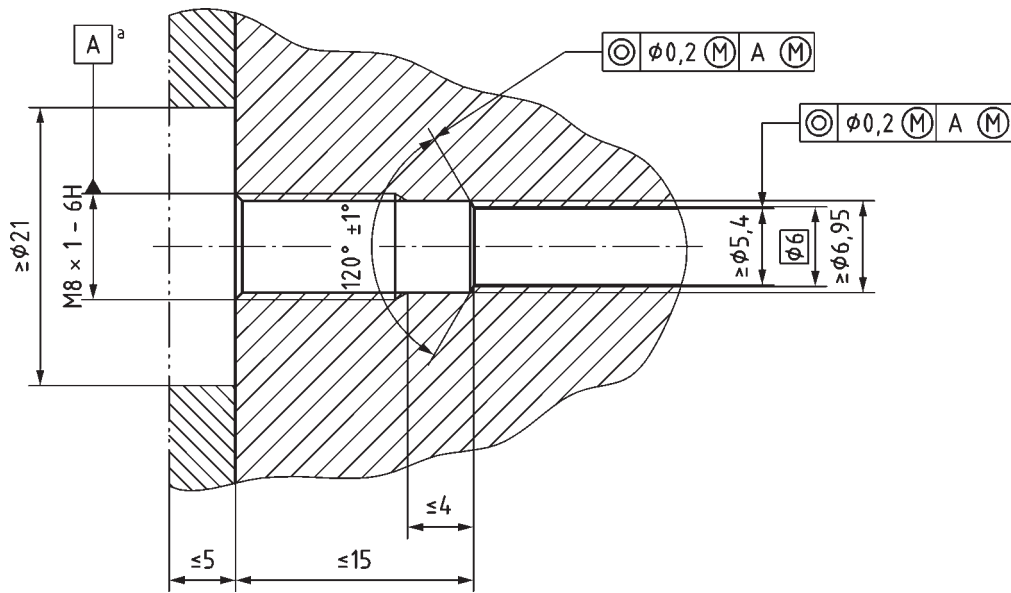
- a Major diameter, in accordance with ISO 965-1 and 965-3.
- b Hexagon.

**Figure A.1 — Glow-plugs with threaded terminal and 10 mm hexagon**



**Figure A.2 — Glow-plug tip with reduced cylinder**

Dimensions in millimetres



**Key**

a Pitch diameter, in accordance with ISO 965-1 and 965-3.

**Figure A.3 — Cylinder head housing dimensions**

## Bibliography

- [1] ISO 1101; *Geometrical Product Specifications (GPS) — General tolerancing — Tolerances of form, orientation, location and run-out*

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