

INTERNATIONAL STANDARD

ISO 6550-3

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

Part 3:
(M10 glow-plugs)

[ISO 6550-3:1996](https://standards.iso.org/standards/catalog/standards/sist/2e7a443e-0e5a-433c-b844-6b17b2389f7a/iso-6550-3-1996)

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

Partie 3: Bougies M10

INTERNATIONAL

ISO



Reference number
ISO 6550-3:1996(E)

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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 6550-3 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 2, *Ignition equipment*.

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*

Annex A forms an integral part of this part of ISO 6550.

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

Part 3: M10 glow-plugs

1 Scope

This part of ISO 6550 specifies the main characteristics of M10 sheath-type glow-plugs with conical seating and their cylinder head-housing, for use with diesel (compression-ignition) engines.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 6550. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 6550 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 68:1973, *ISO general purpose screw threads — Basic profile.*

ISO 261:1973, *ISO general purpose metric screw threads — General plan.*

ISO 965-1:1980, *ISO general purpose metric screw threads — Tolerances — Part 1: Principles and basic data.*

ISO 965-3:1980, *ISO general purpose metric screw threads — Tolerances — Part 3: Deviations for constructional threads.*

ISO 8092-1:1996, *Road vehicles — Connections for on-board electrical wiring harnesses — Part 1: Tabs for single-pole connections — Dimensions and specific requirements.*

ISO 8092-4:— ¹⁾, *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 Glow-plugs

Sheath-type glow-plug dimensions and tolerances are given in figure 1 and table 4.

1) To be published.

3.2 Cylinder head housing

The dimensions and tolerance of the cylinder head housing for sheath-type glow-plugs are given in figure 2 and table 5.

3.3 Threads

The threads of M10 glow-plugs and the corresponding tapped holes in the cylinder heads shall conform to ISO 68, ISO 261, ISO 965-1 and ISO 965-3.

The thread M10 × 1,25-6e is used for glow-plugs of type A. The thread in the corresponding tapped holes in the cylinder heads shall be M10 × 1,25-6H.

The thread M10 × 1-6g (but see 3.3.2) is used for glow-plugs of types B and C. The thread in the corresponding tapped holes in the cylinder heads shall be M10 × 1-6H.

3.3.1 Dimension limits of thread M10 × 1,25-6e

Dimension limits of thread M10 × 1,25-6e are given in table 1.

Table 1

Dimensions in millimetres

Dimensions		Plug thread (on finished plug)	Tapped hole in cylinder head
Major diameter	max.	9,937	not specified
	min.	9,725	10,000
Pitch diameter	max.	9,125	9,348
	min.	9,007	9,188
Minor diameter	max.	8,404	8,912
	min.	8,237 ¹⁾	8,647

1) With a root radius $\geq 0,125$ mm (0,1 P).

3.3.2 Dimension limits of thread M10 × 1-6g

Dimension limits of thread M10 × 1-6g are given in table 2. For existing designs tolerance class 6e is also permitted. New designs shall be to class 6g.

Table 2

Dimensions in millimetres

Dimensions		Plug thread (on finished plug)	Tapped hole in cylinder head
Major diameter	max.	9,974	not specified
	min.	9,794	10,000
Pitch diameter	max.	9,324	9,500
	min.	9,212	9,350
Minor diameter	max.	8,747	9,153
	min.	8,563 ¹⁾	8,917

1) With a root radius $\geq 0,1$ mm (0,1 P).

4 Installation tightening torque

The installation torque values shall be as given in table 3. The values apply to new sheath-type glow-plugs without lubricant on the threads. If threads are lubricated, the torque value shall be reduced by approximately one-third to avoid overstressing.

Table 3

Dimensions in millimetres

Glow-plug type	Tightening torque N·m	
	M10 ¹⁾	M4 ²⁾
A	10 to 20	0,8 to 1,5
B		—
C	10 to 15	2,5 max.

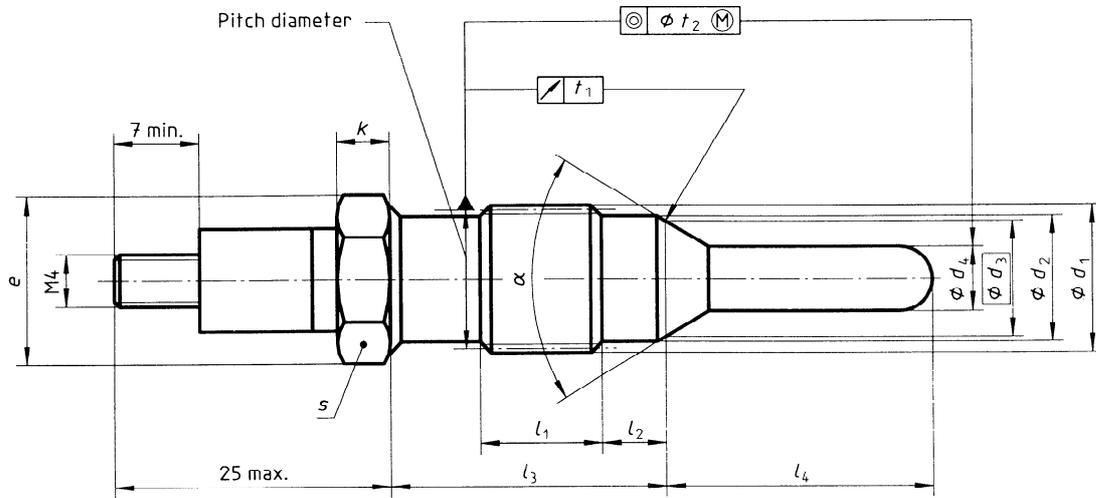
1) Engine manufacturers may specify a different torque for the first installation.
2) Differing specifications apply to the admissible tightening torque according to the nut used.

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Dimensions in millimetres

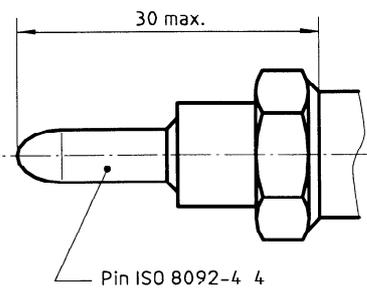


a) With threaded terminal (types A1 to A6 and C1 to C3)

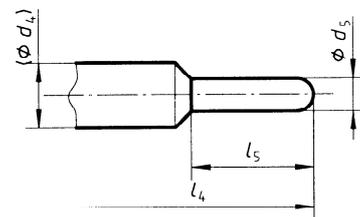


b) With flat tab terminal¹⁾
(types B1 and B2)

c) With pin terminal¹⁾
(types B3 and B4)



d) With pin terminal¹⁾
(type C4)



e) With reduced tip end diameter
at sheathed glow element¹⁾

1) For other dimensions see a).

Figure 1 — M10 sheath-type glow-plugs

Table 4

Dimensions in millimetres

Type	Terminal	Thread		Hexagon			Body				Glow-plug pin						
		d_1	l_1 min.	s	e min.	k min.	α	d_2	d_3 ref.	t_1	l_2	l_3	d_4 $\pm 0,2$	d_5 $\begin{matrix} 0 \\ -0,2 \end{matrix}$	l_4	l_5 min.	t_2
A1																	
A2																	
A3	M4	M10 × 1,25-6e	22,0	12,0 h13	13,3	4,0	123° ± 1°	8,2 _{-0,2}	7,0	0,2	10,0 ⁺¹ ₀	35,0 ± 1	5,0	—	20,0 ± 1 25,0 ± 1 30,0 ± 1	—	0,7
A4																	
A5																	
A6																	
B1	blade																
B2																	
B3	pin 1)	M10 × 1-6g 2)	10,0	9,6 h14	10,7	7,0	93° ± 2°	8,3 ± 0,13	6,4	0,18	9,1 ± 0,25 7,0 ± 0,25	25,9 ± 0,25 26,7 ± 0,25	5,0	—	27,0 ± 0,5 28,5 ± 0,5	—	0,7
B4																	
C1																	
C2	M4	M10 × 1-6g 2)	10,0	10,0 h13	11,0	7,0	63° ± 1°	8,5 _{-0,2}	7,0	0,2	11,5 min.	33,0 min.	5,0	4,0	25,0 ± 0,5	—	0,4
C3																	
C4	pin ISO 8092-4 4																

1) See annex A.

2) For existing designs tolerance class 6e is also permitted. New designs shall be to class 6g.

Dimensions in millimetres

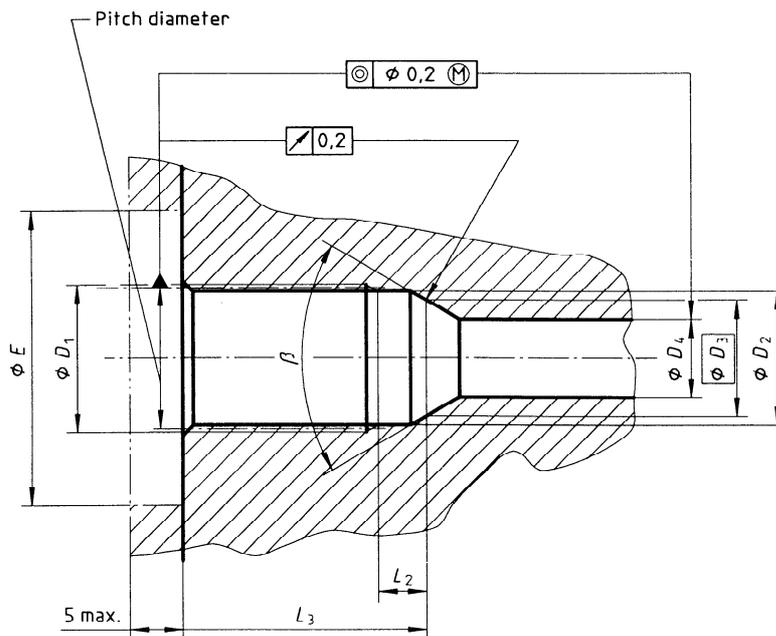


Figure 2 — Cylinder head housing for M10 glow-plugs

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Table 5

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Dimensions in millimetres

Glow-plug type	D_1	β	D_2	D_3	D_4	E	L_2	L_3
6H		$\pm 1^\circ$	min.	ref.	min.	min.	$\begin{smallmatrix} 0 \\ -1 \end{smallmatrix}$	max.
A1 to A3	M10 × 1,25	120°	8,7	7,0	6,5	23,0	9,0	31,0
A4 to A6							19,0	41,0
B1 and B4	M10 × 1	90°	8,8	6,4	5,5	20,0	5,0	17,0
B2 and B3							7,0	23,0
C1 to C4	M10 × 1	60°	8,8	7,0	6,5	21,0	10,0	31,0

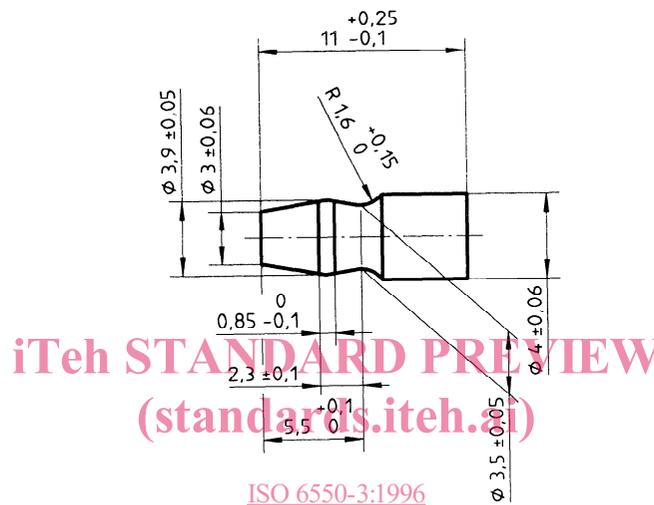
1) The determination of the exact dimension (above the minimum) is left to the manufacturer. The clearance between the probe and the cylinder head shall be kept to a minimum.

Annex A
(normative)

Pin dimensions

Figure A.1 shows the dimensions of the pin used as terminal with glow-plug types B3 and B4.

Dimensions in millimetres



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Figure A.1 — Pin dimensions