INTERNATIONAL STANDARD 2346

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Automobiles — Compact spark plugs M 14 × 1,25 with flat seating

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FOREWORD

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Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2346 was drawn up by Technical Committee ISO/TC 22, *Road vehicles.*

It was approved in October 1971 by the Member Bodies of the following countries :

Australia	Ireland	South Africa, Rep. of
Austria	Israel	Sweden
Belgium	Italy	Switzerland
Czechoslovakia	Japan	Thailand
Egypt, Arab Rep. of	Korea, Dem. P. Rep. of	Turkey
France	Netherlands	United Kingdom
Germany	Portugal	U.S.S.R.
Hungary	Romania	

No Member Body expressed disapproval of the document.

Printed in Switzerland

Automobiles — Compact spark plugs M 14 × 1,25 with flat seating

1 SCOPE

This International Standard specifies the main dimensional characteristics of a spark plug type used with spark ignition engines.

2 FIELD OF APPLICATION

The provisions of this International Standard apply to compact sparks plugs M 14 × 1,25 with flat seating.

3 REQUIRED CHARACTERISTICS

3.1 Terminals (see Figure 2 and Annex)

The preferred type is the solid post terminal.

The threaded terminal with nut is permitted (see Annex).

Engine manufacturers are encouraged to introduce solid post terminals in practice.[1)]

3.2 Dimensions and thread (see Figure 1)

3.2.1 *Gasket*

When the spark plugs have been tightened with a torque of 30 N·m (threads clean, smooth and dry), the gaskets shall be 1,4 to 2,0 mm in thickness. If the gaskets are of a different thickness, a corresponding adjustment to dimensions 9 ± 0,3, 9,5 ± 0,2 and 16 max. shall be made.

Non-captive gaskets may be used in special cases.

3.2.2 *Thread*

3.2.2.1 Dimension limits (in millimetres)

Dimension		Plug thread (on finished plug) 6e	Tapped hole in cylinder head 6H
Major diameter	max.	13,937	not specified
	min.	13,725	14,000
Pitch diameter	max.	13,125	13,368
	min.	12,993	13,188
Minor diameter	max.	12,404	12,912
	min.	12,181*	12,647

* With a root radius ⩾ 0,125 mm (0,1 *P*).

1) *This recommendation will be re-examined in 3 years.*

2) This value for the minor diameter is given in ISO/R 965/III.

3.2.2.2 Tolerance classes

The tolerance classes of thread M14 × 1,25 of finished spark plugs and of corresponding tapped holes in the cylinder head are as follows :

— 6e for spark plugs (see Note 2);

— 6H for tapped holes in the cylinder head.

NOTES

1 The threads M 14 × 1,25 of the spark plugs and the corresponding tapped holes in the cylinder head shall conform with :

— ISO/R 68, *ISO general purpose screw threads — Basic profile;*

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

— ISO/R 965/I and ISO/R 965/III, *ISO general purpose metric screw threads — Tolerances.*

2 In order that the spark plugs corresponding to this International Standard can be fitted in existing cylinder heads also in limiting cases, the value for the *upper limiting profile* of the minor diameter of the spark plug base has been slightly reduced with respect to the ISO value.

This maximum value of the minor diameter was calculated from a distance of *H*/6 for the *upper limiting profile* instead of 3*H*/16 given in Figure 6 of ISO/R 965/I, section 10, according to the formula given below :

$$\text{Minor diameter max.} = d_1 - es - 2\,(H/4 - H/6)$$

$$= 12{,}647 - 0{,}063 - 0{,}180$$

$$= 12{,}647 - 0{,}243^{2)} = 12{,}404$$

The value for the *basic profile* remains the same as for the ISO thread (12,647 − 0,063 = 12,584).

3 The initial clearance e = 0,063 mm between the pitch diameters of the thread and of the tapped hole is intended to prevent the possibility of seizure, as a result of combustion deposits on the bare threads, when removing the spark plugs.

This clearance is also intended to enable spark plugs with threads in accordance with this International Standard to be fitted in existing tapped holes.

3.3 Other dimensions of the spark plug and housing in the cylinder head

The other dimensions are indicated on Figures 1 and 2.

NOTE — The diameter 12,2 ± 0,5 mm shall be complied with between dimensions 20 and 24 mm.

Details not specified are left to the manufacturer's choice.

Dimensions in millimetres

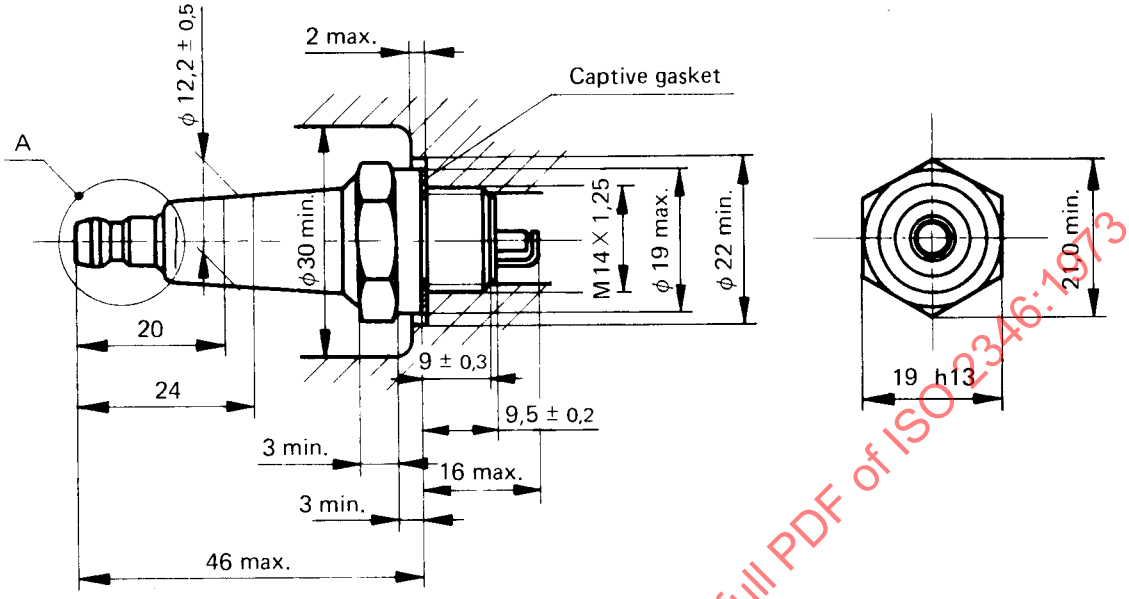

FIGURE 1 — **Compact spark plug M 14 × 1,25 with flat seating**

Dimensions in millimetres

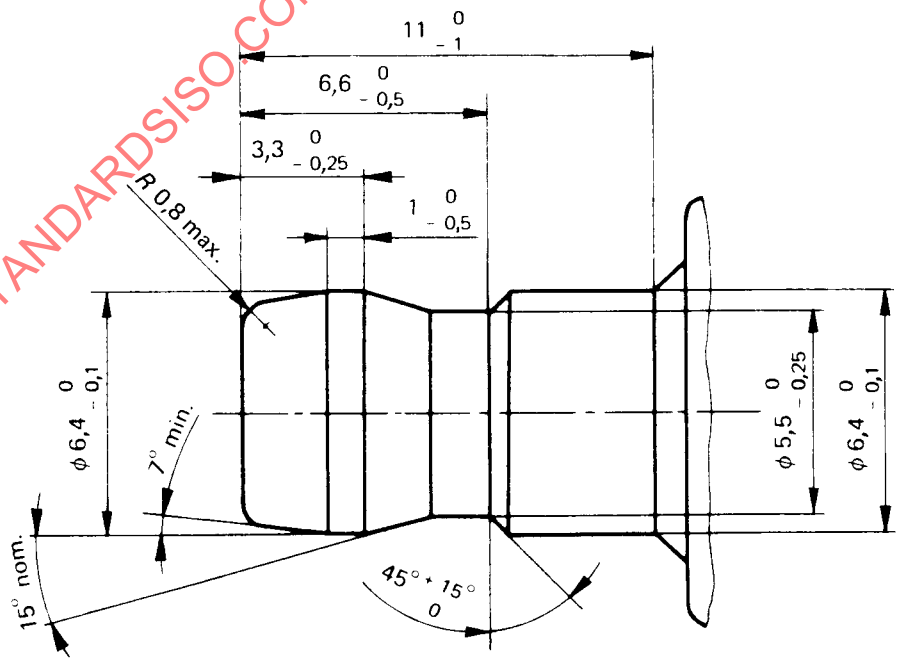

FIGURE 2 — **Solid post terminal (Detail A of Figure 1)**

ANNEX

THREADED TERMINAL

The external dimensions of the nuts shall be the same as those for the solid post terminal.

The internal dimensions of the nuts shall be left to the manufacturer's choice.

Dimensions in millimetres

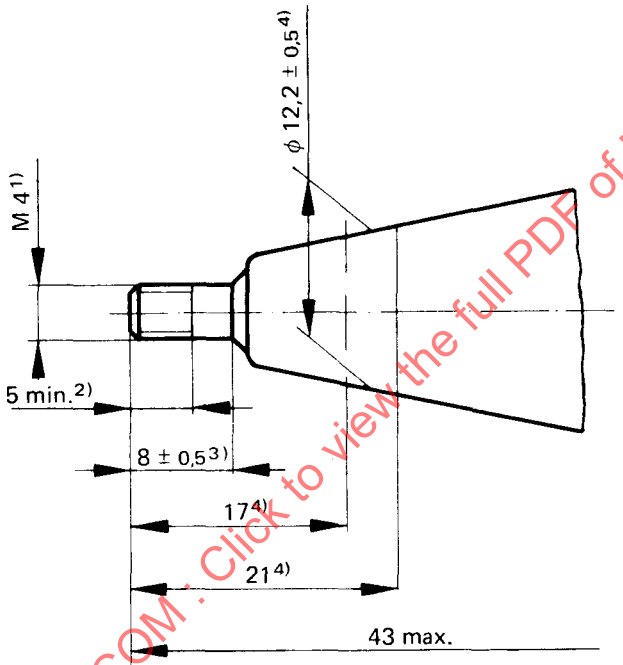

FIGURE 3 – **Threaded terminal**

1) 0,7 mm pitch complying with ISO/R 68 and ISO/R 261.

2) Useful length of thread.

3) Cylindrical part.

4) The diameter 12,2 ± 0,5 mm shall be complied with between dimensions 17 and 21 mm.