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IS 9900-3 (1981): High pressure mercury vapour lamps, Part 3: Dimensions of lamp caps. (Superseding IS : 2183 and IS: 7023) [ETD 23: Electric Lamps and their Auxiliaries]

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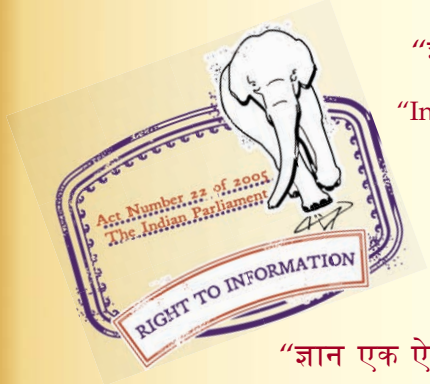

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Bhartṛhari—Nītiśatakam
"Knowledge is such a treasure which cannot be stolen"

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IS : 9900 (Part III) - 1981

(Reaffirmed 2002)

Indian Standard

SPECIFICATION FOR HIGH PRESSURE MERCURY VAPOUR LAMPS

PART III DIMENSIONS OF LAMP CAPS

UDC 621·3·032·8 : 006·78 : 621·327·534·2

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MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

February 1982

Indian Standard

SPECIFICATION FOR HIGH PRESSURE MERCURY VAPOUR LAMPS

PART III DIMENSIONS OF LAMP CAPS

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Indian Standard

SPECIFICATION FOR HIGH PRESSURE MERCURY VAPOUR LAMPS

PART III DIMENSIONS OF LAMP CAPS

0. FOREWORD

0.1 This Indian Standard (Part III) was adopted by the Indian Standards Institution on 28 July 1981, after the draft finalized by the Electric Lamps and Accessories Sectional Committee had been approved by the Electrotechnical Division Council.

0.2 As a first step towards standardization of high pressure mercury vapour lamps, a schedule covering dimensions and some of the essential characteristics of HPMV lamps (IS : 2183) was first published in 1963 and subsequently revised in 1973. A standard containing methods of tests for HPMV lamps (IS : 7023) was published in 1973. It has now been possible to evolve a more detailed specification covering standard types of HPMV lamps and methods of tests to be used for determining their electrical characteristics.

0.3 The designation and dimensions of the caps to be fitted on high pressure mercury vapour lamps are the same as those recommended by International Electrotechnical Commission in IEC 61-1 (1972) 'Lamp caps and holders together with gauges for the control of interchangeability and safety : Part I Lamp caps'.

0.4 This standard (Part III) is one of the series of Indian Standards which deals with high pressure mercury vapour lamps. This series will have the following four parts:

Part I Requirements and tests

Part II Standard lamp data sheets

Part III Dimensions of lamp caps

Part IV 'Go' and 'No-Go' gauges of lamp caps

This series of Indian Standards, therefore, in due course when all parts are published, will supersede IS : 2183-1973* and IS : 7023-1973†.

*Schedule for high pressure mercury vapour lamps (*first revision*).
†Methods of tests for high pressure mercury vapour lamps.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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1. SCOPE

1.1 This standard (Part III) covers the dimensions of bayonet B22d-3 (90°/135°)/25 × 26 and edison E 27/27, E 40/41 and E40/45 caps for high-pressure mercury vapour lamps.

2. DIMENSIONS

2.1 The dimensions of the caps shall comply with the appropriate tables as specified below:

a) B22d-3(90°/135°)/25×26	Table 1
b) E27/27	Table 2
c) E 40/41 and E40/45	Table 3

NOTE — The letter indicates the cap construction with the following code:

a) B means bayonet, and

b) E means screw thread.

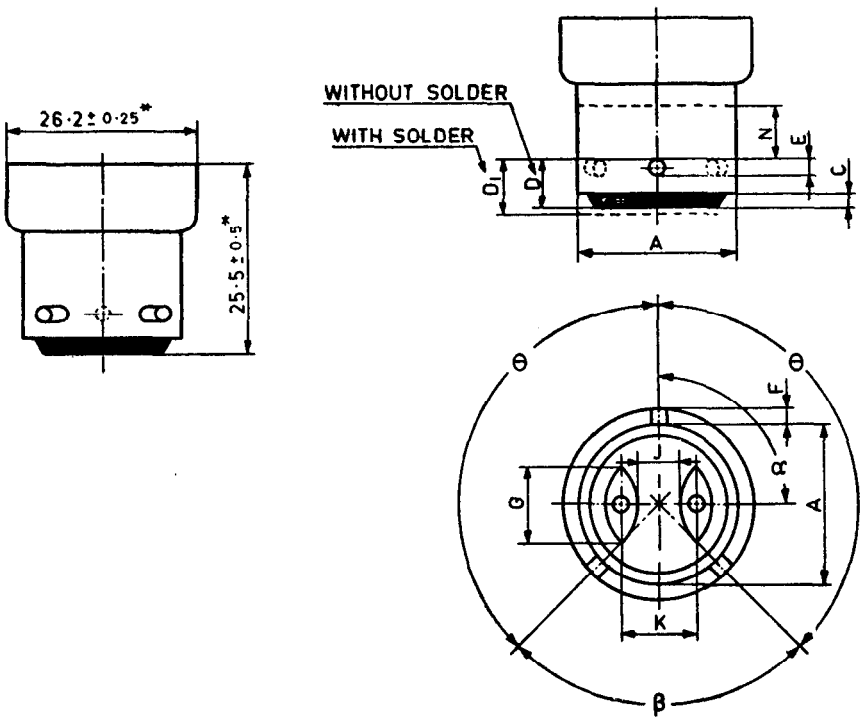
*Rules for rounding off numerical values (*revised*).

TABLE 1 DIMENSIONS OF BAYONET CAP B22d-3 (90°/135°)/25 × 26

(*Clause* 2.1)

(The drawings are intended only to indicate the dimensions to be controlled.)

All dimensions in millimetres.



*These dimensions are solely for cap design and are not to be gauged on the finished lamp.

(*Continued*)

TABLE 1 DIMENSIONS OF BAYONET CAP B22d-3 (90°/135°)/25 × 26 — *Contd*

NOTE 1 — Caps may be made with a flare the diameter of which shall be not more than 1 mm greater than the maximum permissible diameter of the corresponding cap without a flare.

NOTE 2 — For finished lamps the creeping distance over insulation shall be not less than 3 mm between live parts and not less than 2·5 mm between live parts and the metal shell.

Dimension	*Min*	*Max*
A	21·75	22·15
C	1·5*	—
D	6·0	7·0*
D_1	—	8·0
E	1·8	2·2
F	2·3	2·7
G	10·0	—
J	4·0	—
K	10·0*	11·3
N†	6·7	—
α	82°30′	97°30′
θ	135°	
β	90°	

*These dimensions are solely for cap design and are not to be gauged on the finished lamp.

†*N* denotes the minimum length to which dimension *A* must conform.

Reference IEC Sheet No. 7004-10A-2

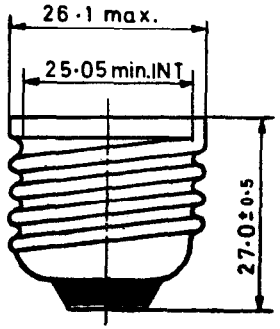
TABLE 2 DIMENSIONS OF SCREW CAPS E27/27

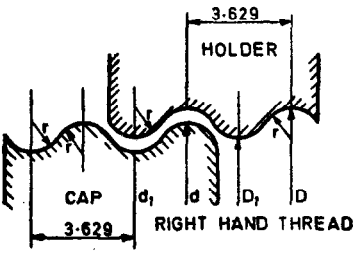
(*Clause* 2.1)

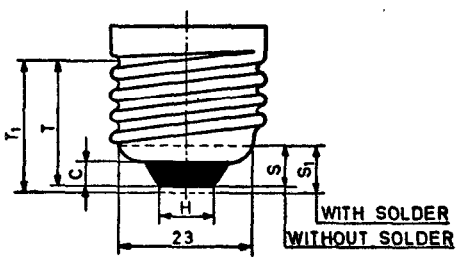
(The drawings are intended only to indicate the dimensions to be controlled.)

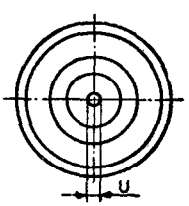
All dimensions in millimetres.

E-27/27









(*Continued*)

TABLE 2 DIMENSIONS OF SCREW CAPS E27/27 — *Contd*

NOTE 1 — Caps may be made with a flare the diameter of which shall be not more than 1 mm greater than the maximum permissible diameter of the corresponding cap without a flare.

NOTE 2 — For finished lamps, the creepage distance over insulation shall be not less than 3 mm.

DIMENSION		UNMOUNTED CAPS*		CAPS ON FINISHED LAMPS	
		Min	*Max*	*Min*	*Max*
Cap	*C*	3·5		3·5	
	H	9·5	11·5	9·5	11·5
	S	7·0	7·8		
	S_1			7·0	8·5
	T†	22·0			
	T_1‡			22·0	
	U§	1·35	1·75		
	d	26·05	26·38	26·05	26·45
	d_1		24·19		24·26
	r‖	1·025		1·025	

DIMENSION		*Min*	*Max*
Holder	*D*	26·55	
	D_1	24·36	24·66
	r‖	1·025	

*These dimensions are for cap design only and no provision is made for gauging.

†'*T*' is the distance from the contact plate to the completion of the effective thread.

‡'T_1' is the distance from the soldered contact plate to the completion of the effective thread.

§This dimension, which is derived from the theoretical thread profile, is for gauge design and is not to be checked on the cap or the holder.

‖This dimension applies only to caps intended for automatic threading.

Reference IEC Sheet No. 7004-21-7

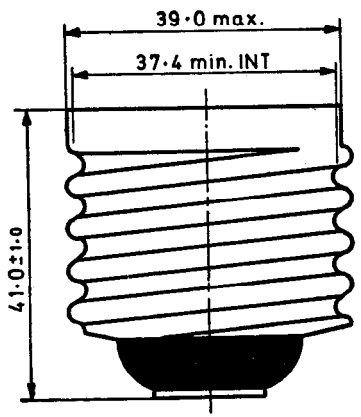
TABLE 3 DIMENSIONS OF SCREW CAPS E40/41 AND E40/45

(*Clause* 2.1)

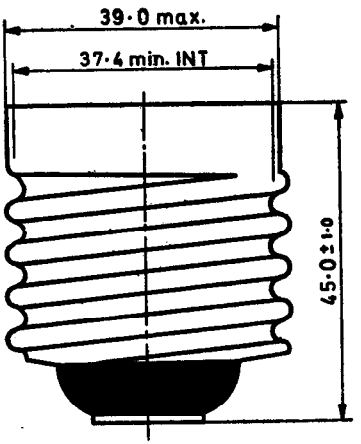
(The drawings are intended only to indicate the dimensions to be controlled.)

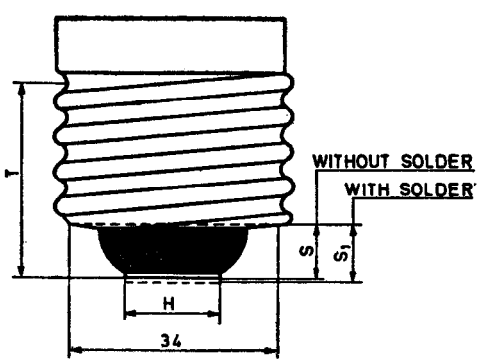
All dimensions in millimetres.

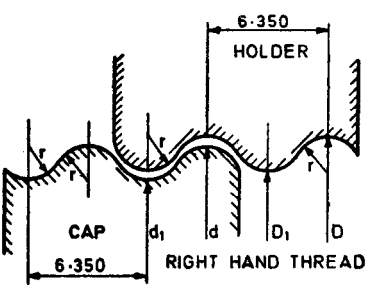
E40/41



E40/45







(*Continued*)

TABLE 3 DIMENSIONS OF SCREW CAPS E40/41 AND E40/45 — *Contd*

NOTE 1 — Caps may be made with a flare the diameter of which shall be not more than 1 mm greater than the maximum permissible diameter of the corresponding cap without a flare.

NOTE 2 — For finished lamps the creeping distance over insulation shall be not less than 5 mm.

NOTE 3 — Holder manufacturers are requested to take account, in their new designs, of the fact that the holder shall accommodate a cap with an overall length of 41 mm.

DIMENSION		E40	
		Min	*Max*
Cap	H	14·0	18·0
	S	8·0	9·0*
	S_2	—	10·0
	T†	34·0	—
	d	39·05	39·50
	d_1	35·45	35·90
Holder	D	39·60	40·05
	D_1	36·00	36·45
	r		1·85

*These dimensions are solely for cap design and are not to be gauged on the finished lamp.

†'*T*' is the distance from the contact plate of the cap to the completion of the thread.

Reference IEC Sheet No. 7004-24-4