IS 14897 (2000): Glass Bulb Designation System for Lamps - Guide [ETD 23: Electric Lamps and their Auxiliaries]

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Indian Standard

GLASS BULB DESIGNATION SYSTEM FOR LAMPS — GUIDE

ICS 29.140.20

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

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Price Group 2

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Electric Lamps and their Auxiliaries Sectional Committee had been approved by the Eletrotechnical Division Council.

This standard specifies a system of nomenclature about the designation of the glass bulbs used as envelopes for electric lamps. The use of such designation is intended to specify the description of the finished lamps towards its shape.

With several types of shapes being used in the manufacturing of electric lamps, this guide will provide information and guidance to the bulb manufacturers for proper understanding about the designation of finished lamps in respect of bulb shape and classification.

This standard is based on IEC Pub 60887 (1988) 'Glass bulb designation system for lamps', issued by the International Electrotechnical Commission (IEC).

Indian Standard

GLASS BULB DESIGNATION SYSTEM FOR LAMPS — GUIDE

1 SCOPE

This standard describes a system of nomenclature that provides designations of the glass bulbs used as envelopes for electric lamps. The application of such designations is directed towards the descriptions of finished lamps.

2 TERMINOLOGY

2.1 Bulb

The outer envelope of glass or other transparent or translucent material enclosing the essential components of an electric lamp.

2.2 Approximate Reference Line

A construction line transverse to the axis through the neck of the bulb. It defines the approximate position at which the rim of a cap, such as an Edison screw cap, would meet the neck of a bulb. The sole purpose of the approximate reference line is to aid the establishment of technical definitions of bulb shapes. This line appears in Fig. 1 and 2 as a C-D line. No such line exists for pressed glass bulbs.

3 BASIC COMPONENTS OF A DESIGNATION

3.1 General

Glass bulbs should be described by a designation consisting of a sequence of letter and number symbols without spaces, as follows:

a) A letter symbol consisting of up to three letters which describes the bulb shape. The letter or letters of this symbol may in some cases be a basic shape letter symbol only and in other cases it may be a combination of a basic shape symbol and a modifier or modifiers. Basic shapes, modifiers and special shapes are defined in **4**.

b) A number symbol which states the major diameter (nominal) of the bulb in millimetres.

3.2 Rectangular Bulbs

Rectangular PAR-type glass bulbs should be described by the letter symbol REC followed by two sets of numbers. The first number should designate the dimension of the shorter side; the second number should designate the dimension of the longer side. These numbers should be separated by the multi-plication symbol (X). The dimensions should be in millimetres.

4 BULB SHAPE CLASSIFICATION

4.1 Basic Shapes

The basic shape symbols are listed below. The descriptive information used in conjunction with the associated illustration in Fig. 1 forms the definition of each shape.

Letter Symbol	*General Meaning*	*Explanatory Notes*
A	—	A bulb shape having a spherical and section that is joined to the neck by a radius that a) has a centre outside the bulb b) has a magnitude greater than radius of the spherical section. c) is tangent to both the neck and the curve of the spherical end section. NOTE — These bulbs do not have any significant straight portion between the spherical end and the transitional radius into the neck.
B	Bulged	A bulb in which the curve making up the major portion of the side of the bulb has a radius greater than one-half the bulb diameter and a centre in the plane of the maximum diameter. This designation also applies when two radii are used, one for the lower part and a larger one for the upper part (candle type).
C	Conical	A bulb consisting of a conical or near-conical end section, which is joined to the neck by an approximately hemispherical section; if the end section is not conical, the curve making up the major portion of the side of the bulb has a centre below the plane of the maximum diameter.
E	Elliptical	A bulb similar to a "B" shape but having the sides formed by a section of an ellipse.
F	Flame	A bulb resembling the flame of a candle having irregular flutes on the sides.

Letter Symbol	*General Meaning*	*Explanatory Notes*
G	Globular	A bulb of essentially spherical shape.
K	—	A bulb which is similar in shape to an "M" bulb, except there is a conical transitional section between the major diameter and the neck rather than a curved section.
M	Mushroom	A bulb having a spherically shaped end section blended, above the major diameter, to a smaller radius curve centered on the major diameter, which blends with a transition curve of approximately the same radius for joining the neck.
P	—	A bulb having a spherical end section, and a conical mid-section the sides of which are tangent to the curve of the spherical section.
R	Reflector	A bulb that includes a parabolic or elliptical section below the major diameter designed to receive a reflective coating so as to direct the beam of light.

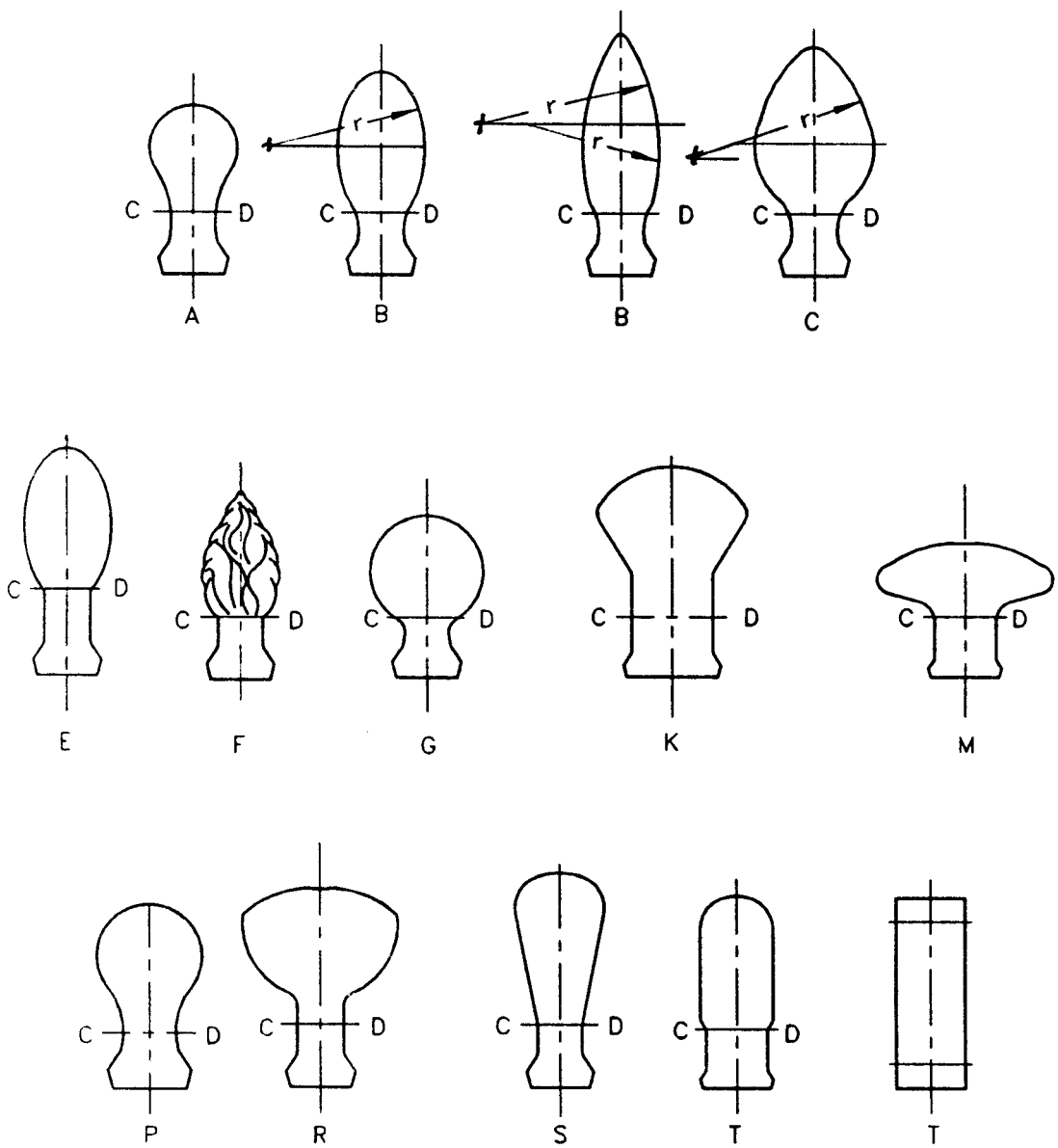

FIG. 1 BASIC BULB SHAPES

Letter Symbol	*General Meaning*	*Explanatory Notes*
S	Straight-sided	A bulb having a spherically shaped end section, a conical lower section and an intermediate curve joining the two.
T	Tubular	A bulb that is mostly cylindrical in form.

4.2 Modifiers

The basic shape designations in **4.1** may be modified by the addition, as a suffix, of one of the symbols listed below. The descriptive information used in conjunction with the associated illustration in Fig. 2, forms the definitions of each shape;

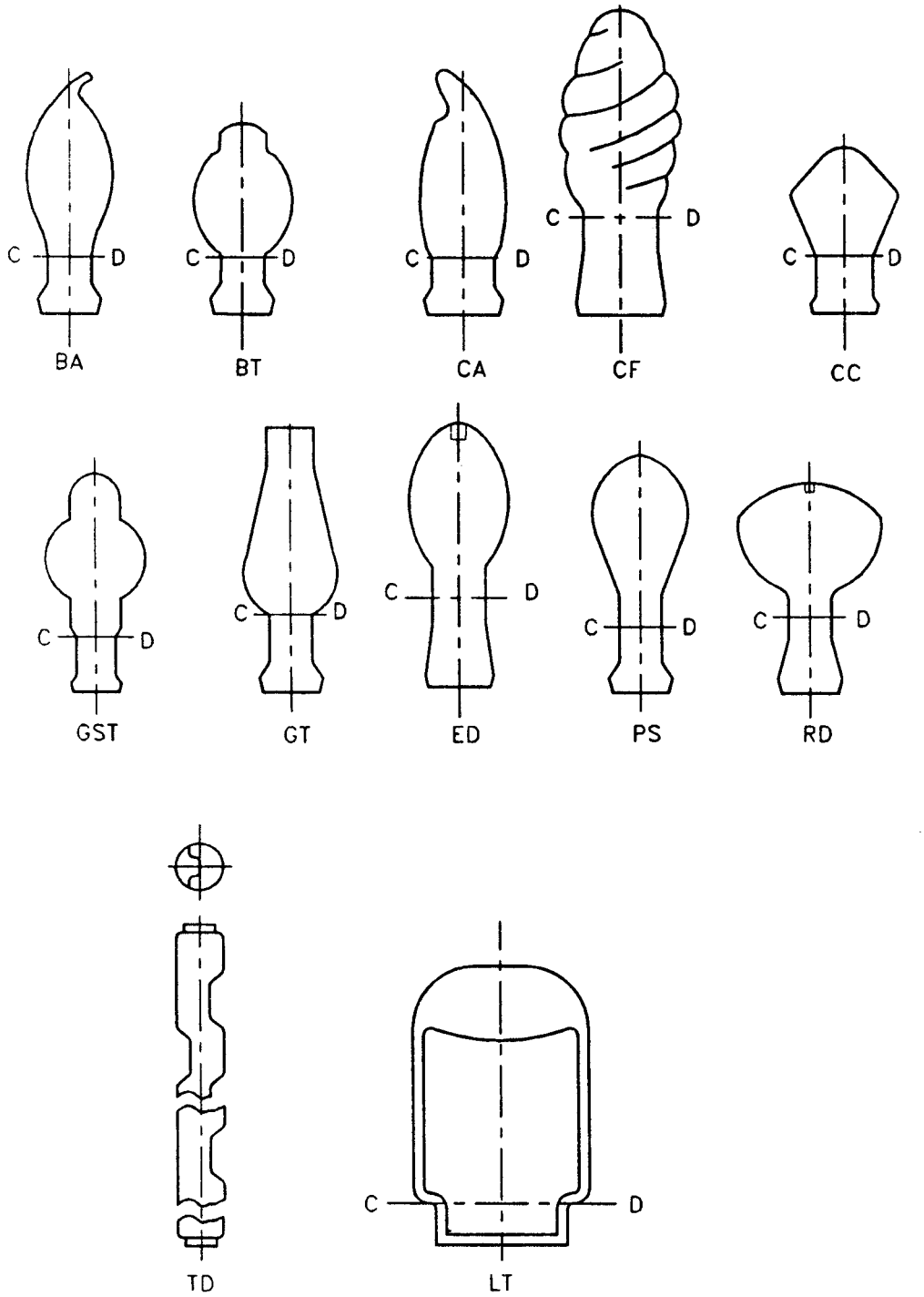

FIG. 2 MODIFIED BULB SHAPES

Letter Symbol	*General Meaning*	*Examples of Modified Shapes*
A	Angular tip	*CA* and *BA*
C	Conical section below the bulb and above the approximate base line	*CC*
D	Dimple pointing inwards or outwards	*ED*, *RD* and *TD*
F	Flutes which twist around the outside and taper towards the type of the bulb	*CF*
L	Lens end	*TL*
S	Tubular neck section below the bulb and above the approximate base line	*PS*
T	Tubular neck top section	*BT* land *GST*

4.3 Special Shapes

The symbols for special shapes are listed below. These do not follow the rules of a basic shape symbol and modifier but are already well established references. The descriptive information used in conjunction with the associated illustration in Fig. 3, forms the definition of each shape:

Letter Symbol	*General Meaning*	*Explanatory Notes*
PAR	[1]Parabolic aluminized reflector	A bulb formed by the sealing together during the lamp making process of a pressed glass parabolic reflector section and a pressed glass lens section. The lens section may be either plain or configurated.
REC	Rectangular	A "PAR" type bulb with a rectangular face.

5 EXAMPLES

The following are some typical designations together with their interpretation:

A60	An "A" shape bulb with a nominal major diameter of 60 mm.
T38	A tubular bulb, with a nominal tube diameter of 38 mm.
PAR121	A "PAR" shape lamp with a nominal major diameter of 121 mm.

[1] Aluminium is not the only material for use as a reflector coating.

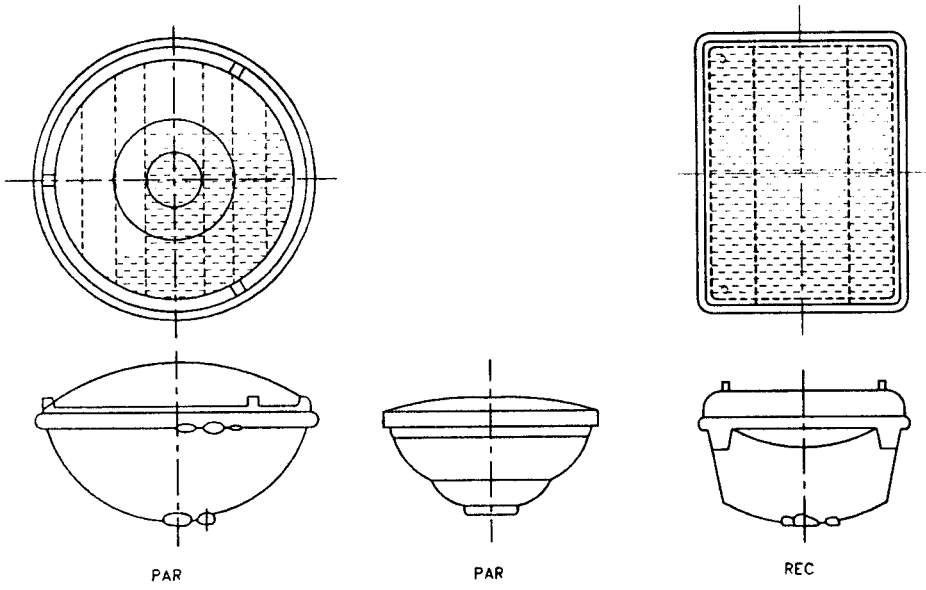

FIG. 3 SPEICAL BULB SHAPES

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Amendments Issued Since Publication

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