



SLOVENSKI STANDARD
SIST EN 40-2:2005
01-februar-2005

Drogovi za razsvetljavo – 2. del: Splošne zahteve in mere

Lighting columns - Part 2: General requirements and dimensions

Lichtmaste - Teil 2: Allgemeine Anforderungen und Maße

Candélabres d'éclairage public - Partie 2: Prescriptions générales et dimensions

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ICS:

93.080.40	Ó•ç æÁæ•ç^dææåå]iã ææå æ]i^æ	Street lighting and related equipment
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SIST EN 40-2:2005 **en**

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 40-2

October 2004

ICS 93.080.40

Supersedes EN 40-2:1976

English version

Lighting columns - Part 2: General requirements and dimensionsCandélabres d'éclairage public - Partie 2: Prescriptions
générales et dimensions

Lichtmaste - Teil 2: Allgemeine Anforderungen und Maße

This European Standard was approved by CEN on 16 August 2004.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Contents

	page
Foreword.....	3
1 Scope.....	4
2 Normative references	4
3 Terms and definitions.....	4
4 Main dimensions	5
4.1 Post top columns	5
4.2 Columns with brackets.....	5
4.3 Door openings and cable entry slots.....	8
4.3.1 Door openings.....	8
4.3.2 Cable entry slots	8
4.4 Base compartments and cableways	10
4.4.1 Compartment dimensions.....	10
4.4.2 Compartment door.....	10
4.4.3 Attachment of electrical equipment.....	10
4.4.4 Electrical cableways.....	10
4.4.5 Protection category	10
4.4.6 Earthing terminals.....	13
4.5 Column planting depth and base plate.....	13
4.5.1 Planting depth	13
4.5.2 Base plate	13
4.6 Flange plates.....	15
4.7 Connection dimensions for lanterns.....	16
4.7.1 General.....	16
4.7.2 Post top lanterns.....	17
4.7.3 Side entry lanterns.....	18
5 Tolerances	19
5.1 Straightness	19
5.2 Total length of post top columns	20
5.3 Total length of columns with brackets	20
5.4 Bracket projection.....	21
5.5 Lantern fixing angle	21
5.6 Door opening and cable entry slot.....	21
5.7 Column cross-section	21
5.7.1 Metal columns	21
5.7.2 Concrete columns.....	21
5.8 Connection dimensions for lantern fixing.....	21
5.9 Twist in columns	22
5.9.1 Columns with roots.....	22
5.9.2 Columns with flange plates	22
5.10 Thickness tolerance.....	22
5.11 Verticality tolerance	22
Annex A (informative) Passive safety.....	23
Bibliography	24

Foreword

This document (EN 40-2:2004) has been prepared by Technical Committee CEN/TC 50 “*Lighting columns and spigots*”, the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2005, and conflicting national standards shall be withdrawn at the latest by April 2005.

This document supersedes EN 40-2:1976.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This Part gives the necessary requirements for specifiers and manufacturers of columns. The majority of lighting columns are made from steel, aluminium or concrete and are normally of a stepped tubular, round, octagonal or polygonal cross-section. They are usually of neutral design with a lantern spigot either at the post top or at the end of a bracket and are produced to certain standard dimensions and tolerances.

This Part of EN 40 is the second in a series relating to specifications for lighting columns. When complete, EN 40 will consist of the following Parts:

Part 1: Definitions and terms

Part 2: Dimensions and tolerances

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Part 3: Design and verification

3-1 Specification for characteristic loads

3-2 Verification by testing

3-3 Verification by calculation

Part 5: Requirements for steel lighting columns

Part 6: Requirements for aluminium lighting columns

Part 7: Requirements for fibre reinforced polymer composite lighting columns

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

EN 40-2:2004 (E)**1 Scope**

This document specifies the requirements and dimensions for lighting columns, brackets, base compartments, cableways and earthing terminals. It applies to post top columns not exceeding 20 m height for post top lanterns and columns with brackets not exceeding 18 m height for side entry lanterns.

This Part does not attempt to restrict the actual appearance or shape of the column or bracket. The majority of lighting columns are normally of a stepped tubular, round, octagonal or polygonal cross-section. Lighting columns may be manufactured from materials other than those listed in the foreword (e.g. wood, plastic, cast iron) or in other forms (e.g. lattice and telescopic).

This document specifies performance related to the essential requirements of resistance to horizontal (wind) loads and performance under vehicle impact (passive safety) in support of the Essential Requirement No 4 Safety in use measured according to the corresponding test methods included in this document or available in separate documents.

2 Normative references

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

EN 40-1:1991, *Lighting columns — Part 1: Definitions and terms*

EN 755-8:1998, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 8: Porthole tubes, tolerances on dimensions and form*

EN 10051, *Continuously hot-rolled uncoated plate, sheet and strip of non-alloy and alloy steels — Tolerances on dimensions and shape*

EN 10210-2:1997, *Hot finished structural hollow sections of non-alloy and fine grain structural steels — Part 2: Tolerances, dimensions and sectional properties*

EN 10219-2:1997, *Cold formed welded structural hollow sections of non-alloy and fine grain steels — Part 2: Tolerances, dimensions and sectional properties*

EN 12767, *Passive safety of support structures for road equipment — Requirements and test methods*

EN 50102, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)*

EN 60529, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989)*

EN ISO 7091, *Plain washers — Normal series — Product grade C (ISO 7091:2000)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 40-1:1991 apply.

4 Main dimensions

4.1 Post top columns

The nominal height (h in m) shall be the height from ground level to the spigot as shown in Figure 1.

Values of h should be selected from Table 1.

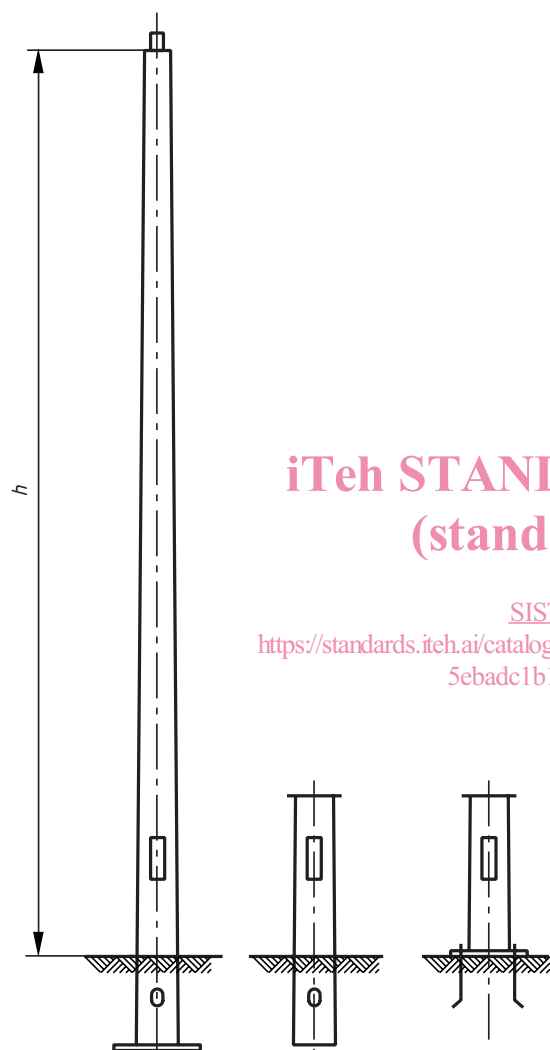


Table 1 — Nominal height for post top columns

h in m
3
4
5
6
7
8
9
10
12
14
15
16
18
20

Figure 1 — Nominal height (the shape of the column is not specified in this document)

4.2 Columns with brackets

4.2.1 The nominal height (h in m) shall be the height from ground level at the column to the height of the point of entry to the lantern as shown in Figure 2.

EN 40-2:2004 (E)

Values of h should be selected from Table 2.

4.2.2 The bracket projection (w in m) shall be the horizontal dimension from the column axis to the point of entry to the lantern as shown in Figure 2.

Values for w should be selected from Table 3.

NOTE It is recommended that w should be equal to or less than $h/4$.

4.2.3 The lantern fixing angle (α in degrees) shall be as shown in Figure 2. Values of α should be selected from Table 4.

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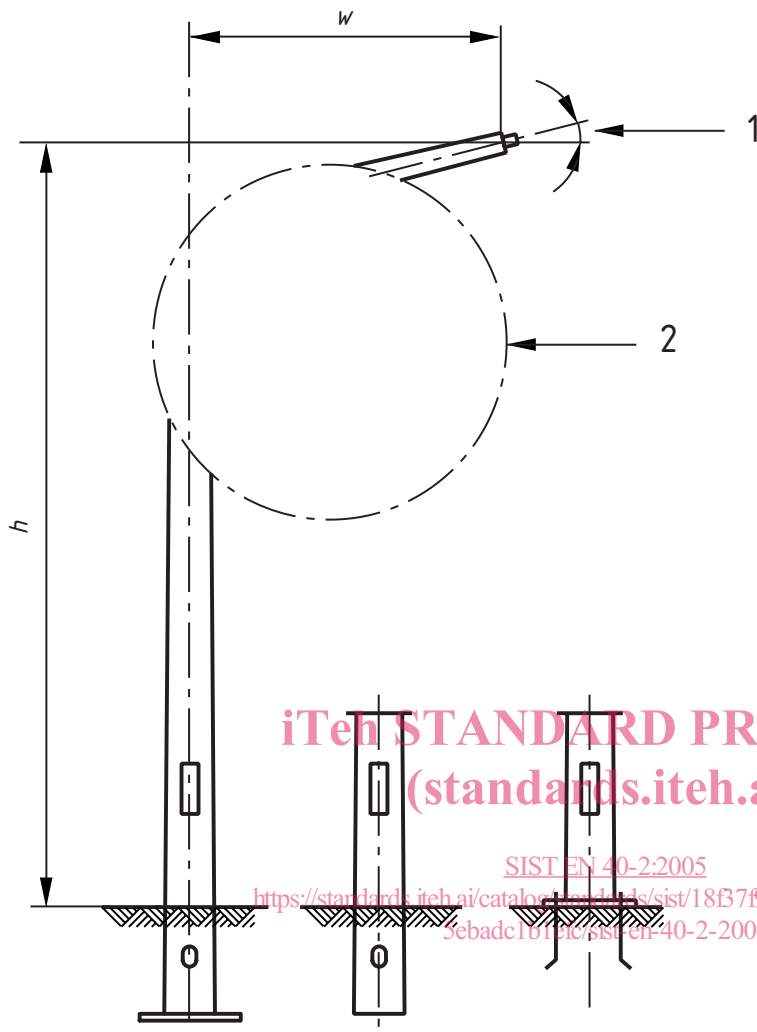


Table 2 — Nominal height for columns with brackets

h in m
5
6
7
8
9
10
12
14
15
16
18

Table 3 — Bracket projection

w in m
0,3
0,5
0,75
1,0
1,25
1,5
2,0
2,25
2,5
3,0
3,5
4,5

Table 4 — Lantern fixing angle

α in degrees
3
5
10
15

Key

- 1 Lantern fixing angle α in degrees
- 2 The shape of the bracket is not specified in this standard

Figure 2 — Nominal height, bracket projection and lantern fixing angle (the shape of the column and bracket is not specified in this standard)

EN 40-2:2004 (E)

4.3 Door openings and cable entry slots

4.3.1 Door openings

The position of the door opening or openings shall be as shown in Figure 3. Dimension *c* shall be not less than 300 mm. No maximum dimension is specified.

It is recommended that dimension *c* should be approximately 600 mm.

The door opening dimensions shall be *a* and *b* as shown in Figure 3.

Typical door opening dimensions are shown in Table 5.

Table 5 — Door opening dimensions

a in mm	b in mm
132	38
186	45
200	75
300	85
400	60
400	85
400	90
400	100
500	100
500	120
600	115
600	130
680 ^a	95 ^a
680 ^a	130 ^a
900 ^a	130 ^a
^a For concrete only.	

In the interest of safety the door opening should be positioned parallel to the bracket on the side away from the direction of traffic. Figure 2 shows the position for right hand drive roads.

Door openings should be smooth and free from obstructions with no sharp edges, flashes or burrs, which could cause injury.

For metal columns the door opening corner radius *N* shall be a minimum of 20 mm or half the door width *b*.

4.3.2 Cable entry slots

The position of the cable entry slot if required shall be as shown in Figure 3.

The cable entry slot dimensions *x* and *y* should be selected from Table 6.

Dimensions in millimetres

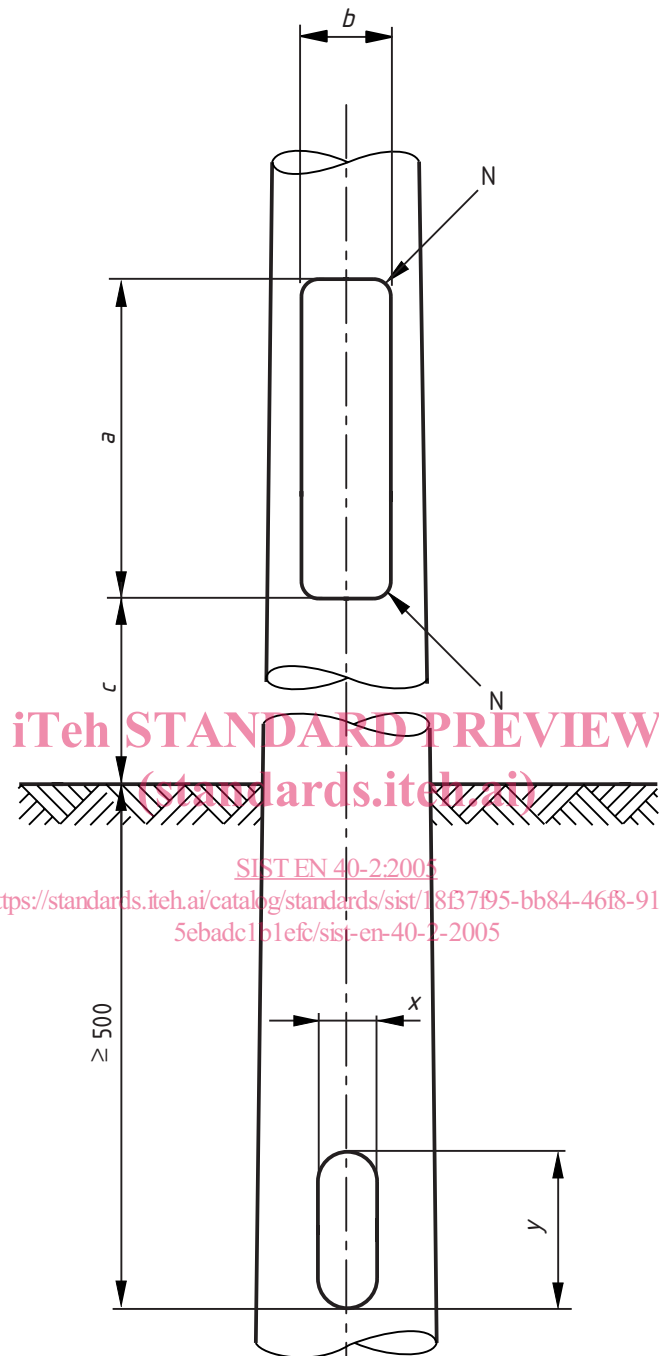


Figure 3 — Door openings and cable entry slots