UDC 621.882.219.71.092.3

October 1992

Slotted set screws with flat point

(ISO 4766 : 1983)

English version of DIN EN 24 766

DIN
EN 24 766

This standard incorporates the English version of ISO 4766.

Gewindestifte mit Schlitz und Kegelkuppe
(ISO 4766 : 1983)

Supersedes DIN 551,
September 1986
edition.

European Standard EN 24 766 : 1992 has the status of a DIN Standard.

A comma is used as the decimal marker.

National foreword

The publication of this standard is in keeping with a decision made by CEN/TC 185 to adopt, without alteration, a series of ISO Standards covering slotted set screws as European Standards. The responsible German body involved in their publication is the *Normenausschuß Mechanische Verbindungselemente* (Fasteners Standards Committee).

As a consequence, all DIN Standards covering such screws have been superseded by the corresponding DIN EN Standards (see table below).

EN Standard	DIN EN Standard	Title	Previous DIN Standard
24 766	24 766	Slotted set screws with flat point	551
27 434	27 434	Slotted set screws with cone point	553
27 435	27 435	Slotted set screws with long dog point	417
27 436	27 436	Slotted set screws with cup point	438

It may be assumed that the differences in the specifications made here and those of the superseded DIN Standard will not give rise to any problems regarding interchangeability of slotted set screws (except for screws of size M 1,2).

See National appendix for guideline values for the mass of slotted set screws not given in the European Standard.

In clause 2, ISO Standards 3269 and 4042 are referred to as being at the stage of draft. These standards have since been published.

The DIN Standards corresponding to the ISO Standards referred to in clause 2 of the EN are as follows:

ISO Standard	DIN Standard
ISO 225	DIN EN 20 225
ISO 3269	DIN ISO 3269 (at present at the stage of draft)
ISO 3506	DIN ISO 3506 (at present at the stage of draft)
ISO 4042	DIN ISO 4042
ISO 4759-1	DIN ISO 4759 Part 1

The DIN 4000-2-3 tabular layout of article characteristics applies for screws as covered here.

Continued overleaf.
EN comprises 5 pages.

Standards referred to
(and not included in **References**)

DIN 4000 Part 2 Tabular layout of article characteristics for bolts, screws and nuts

DIN EN 20 225 Bolts, screws, studs and nuts; symbols and designations for dimensioning

Previous editions

DIN LON 339: 07.26; DIN 551: 10.22, 05.25, 06.43, 01.51, 04.56, 02.72, 09.86.

Amendments

In comparison with DIN 551, September 1986 edition, the following amendments have been made.

a) Thread sizes M 1 and M 1,4 have been dropped, as have been the specifications for surface roughness.
b) Guideline values for the mass of set screws have been given in a National appendix.
c) Tolerance 6g has been specified for the thread diameter.
d) M 1,2 set screws shall be of product grade A.
e) Property class 22H set screws need not be thermally blackened any longer.
f) The standard designation has been changed.

International Patent Classification

F 16 B 035/00
F 16 B 023/00

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 24 766

July 1992

UDC 621.882.219.71.092.3

Descriptors: Fasteners, screws, set screws, dimensions, specifications, dimensional tolerances, designation.

English version

Slotted set screws with flat point
(ISO 4766 : 1983)

Vis sans tête, fendues, à bout plat (ISO 4766 : 1983)

Gewindestifte mit Schlitz und Kegelkuppe (ISO 4766 : 1983)

This European Standard was approved by CEN on 1992-07-17 and is identical to the ISO Standard as referred to. 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.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

In 1992, CEN/TC 185 'Threaded and unthreaded fasteners and accessories', the Secretariat of which is held by DIN, decided to submit International Standard

ISO 4766 : 1983 Slotted set screws with flat point

to Formal Vote. The result was positive.

In the countries bound to implement this European Standard, a national standard identical to this European Standard shall be published, and conflicting national standards withdrawn, by 1993-01-31 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of the International Standard ISO 4766 : 1983 was approved by CEN as a European Standard without any modification.

1 Scope and field of application

This International Standard specifies the characteristics of slotted set screws with flat point and thread sizes from M 1,2 to M 12 inclusive and product grade A.

If other specifications are required, it is recommended that they should be selected from existing International Standards, for example ISO 261, ISO 888, ISO 898, ISO 965, ISO 3506.

2 References

ISO 225, *Fasteners — Bolts, screws, studs and nuts — Symbols and designations of dimensions.*

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

ISO 888, *Bolts, screws and studs — Nominal lengths, and thread lengths for general purpose bolts.*

ISO 898, *Mechanical properties of fasteners.*

ISO 965, *ISO general purpose metric screw threads — Tolerances.*

ISO 3269, *Fasteners — Acceptance inspection.* [1]

ISO 3506, *Corrosion-resistant stainless steel fasteners — Specifications.*

ISO 4042, *Threaded components — Electroplated coatings components.* [1]

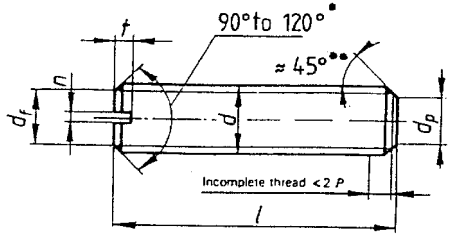
ISO 4753, *Fasteners — Ends of parts with external metric ISO thread.*

ISO 4759/1, *Tolerances for fasteners — Part 1: Bolts, screws and nuts with thread diameters* > 1,6 *and* < 150 mm *and product grades A, B and C.*

---

1) At present at the stage of draft.

3 Dimensions



* The 120° angle is mandatory for short length screws above the dotted stepped line.

** The 45° angle applies only to the portion of the point below the root diameter of the thread.

Dimensions in millimetres

Thread size d		M 1,2	M 1,6	M 2	M 2,5	M 3	(M 3,5)[1]	M 4	M 5	M 6	M 8	M 10	M 12
P[2]		0,25	0,35	0,4	0,45	0,5	0,6	0,7	0,8	1	1,25	1,5	1,75
d_f	max.	Minor thread diameter											
d_p	min.	0,35	0,55	0,75	1,25	1,75	1,95	2,25	3,2	3,7	5,2	6,64	8,14
	max.	0,6	0,8	1	1,5	2	2,2	2,5	3,5	4	5,5	7	8,5
n	nom.	0,2	0,25	0,25	0,4	0,4	0,5	0,6	0,8	1	1,2	1,6	2
	min.	0,26	0,31	0,31	0,46	0,46	0,56	0,66	0,86	1,06	1,26	1,66	2,06
	max.	0,4	0,45	0,45	0,6	0,6	0,7	0,8	1	1,2	1,51	1,91	2,31
t	min.	0,4	0,56	0,64	0,72	0,8	0,96	1,12	1,28	1,6	2	2,4	2,8
	max.	0,52	0,74	0,84	0,95	1,05	1,21	1,42	1,63	2	2,5	3	3,6

l[1], 3)		
nom.	min.	max.
2	1,8	2,2
2,5	2,3	2,7
3	2,8	3,2
4	3,7	4,3
5	4,7	5,3
6	5,7	6,3
8	7,7	8,3
10	9,7	10,3
12	11,6	12,4
(14)	13,6	14,4
16	15,6	16,4
20	19,6	20,4
25	24,6	25,4
30	28,6	30,4
35	34,5	35,5
40	39,5	40,5
45	44,5	45,5
50	49,5	50,5
55	54,4	55,6
60	59,4	60,6

Range of commercial lengths

1) Sizes in brackets should be avoided if possible.

2) P = pitch of the thread.

3) Min. and max. values according to ISO 4759/1, but rounded to one decimal place.

4 Specifications and reference International Standards

Material		Steel	Stainless steel	Non-ferrous metal
Thread	Tolerance	6g		
	International Standards	ISO 261, ISO 965		
Mechanical properties	Property class	14H, 22H	A1 - 50	1)
	International Standards	ISO 898/5	ISO 3506	
Tolerances	Product grade	A		
	International Standard	ISO 4759/1		
Finish		Plain Requirements for electroplating are covered in ISO 4042. If different electroplating requirements are desired or if requirements are needed for other finishes, they should be negotiated between supplier and customer.		
Acceptability		The acceptance procedure is covered in ISO 3269.		

1) Will be covered in a future International Standard.

5 Designation

Example for the designation of a slotted set screw with flat point, thread size d = M5, nominal length l = 12 mm and property class 14H :

Set screw ISO 4766 - M5 × 12 - 14H

National appendix
(informative)

Mass of set screws

The values given are guideline values.

Nominal length \ Thread size	M 1,2	M 1,6	M 2	M 2,5	M 3	M 3,5	M 4	M 5	M 6	M 8	M 10	M 12
	Approximate mass (7,85 kg/dm³), in kg per 1000 units											
2	0,011	0,027	0,029									
2,5	0,014	0,033	0,039	0,058								
3	0,017	0,039	0,048	0,075	0,12							
4	0,024	0,051	0,067	0,11	0,16	0,21	0,26					
5	0,031	0,063	0,086	0,15	0,2	0,27	0,34	0,52				
6	0,038	0,075	0,11	0,19	0,24	0,33	0,42	0,65	0,90			
8		0,10	0,15	0,23	0,32	0,45	0,58	0,90	1,25	2,30		
10			0,19	0,30	0,41	0,57	0,74	1,15	1,60	3,00	4,20	
12				0,37	0,50	0,69	0,90	1,40	1,95	3,70	5,20	7,40
14					0,59	0,81	1,06	1,65	2,30	4,40	6,20	8,88
16					0,68	0,93	1,22	1,90	2,65	5,10	7,20	10,4
20						1,17	1,54	2,40	3,35	6,50	9,20	13,3
25								3,03	4,23	8,25	11,7	17,0
30									5,10	10,0	14,2	20,7
35										11,8	16,7	24,3
40										13,5	19,2	28,0
45											21,7	31,7
50											24,2	35,4
55												39,1
60												42,8