DIN6927-83 (1728x2295x2 tiff)
Fax:062084389 Aug 17 2001 9:18 P.01/03

UDC 621.882.31.082.1 : 621.882.55

November 1983

Prevailing torque type all-metal nuts with flange

DIN 6927

Sechskantmuttern mit Flansch, mit Klemmteil; Ganzmetallmuttern

In keeping with current practice in standards published by the International Organization for Standardization (ISO), a comma has been used throughout as the decimal marker.

For connection with International Standard ISO 7044 published by the International Organization for Standardization (ISO), see Explanatory notes.

Dimensions in mm

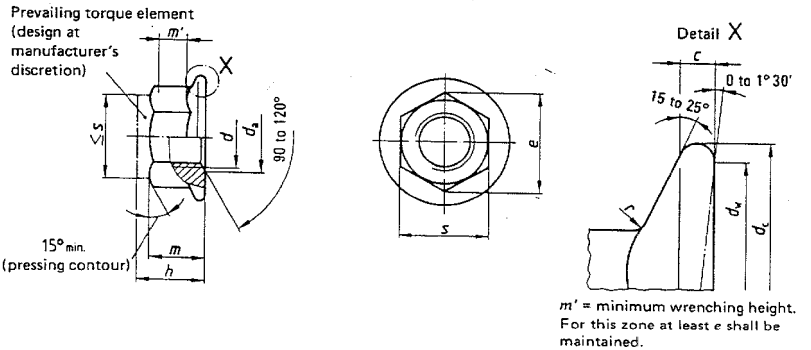
1 Field of application

This standard gives specifications for prevailing torque type all-metal nuts with flange, with metric threads with diameters from 5 to 20 mm, assigned to product grade A.

If, in special cases, nuts are to comply with specifications other than those given in this standard, e.g. regarding materials other than those specified in DIN 267 Part 15, resistance to corrosion or the like, these shall be the subject of particular agreement at the time of ordering (see also "Field of application" clause in DIN 267 Part 15).

Note. The nut dimensions correspond to those specified in DIN 6923 (ISO 4161), plus the dimensions of the prevailing torque element.

2 Dimensions, designation



m' = minimum wrenching height. For this zone at least e shall be maintained.

Designation of an M 12 prevailing torque type all-metal nut with flange, assigned to property class 8:

Hexagon nut DIN 6927 – M 12 – 8

The DIN 4000 – 2 – 7 tabular layout of article characteristics shall apply for nuts complying with this standard.

Continued on pages 2 and 3

Thread size d		M 5	M 6	M 8	M 10	M 12	(M 14)	M 16	M 20
		–	–	M 8 X 1	M 10 X 1,25	M 12 X 1,5	(M 14 X 1,5)	M 16 X 1,5	M 20 X 1,5
		–	–	–	(M 10 X 1)	(M 10 X 1,25)	–	–	–
P 1)		0,8	1	1,25	1,5	1,75	2	2	2,5
C	min.	1	1,1	1,2	1,5	1,8	2,1	2,4	3
d_a	min.	5	6	8	10	12	14	16	20
	max.	5,75	6,75	8,75	10,8	13	15,1	17,3	21,6
d_c	max.	11,8	14,2	17,9	21,8	26	29,9	34,5	42,8
d_w	min.	9,8	12,2	15,8	19,6	23,8	27,6	31,9	39,9
e	min.	8,79	11,05	14,38	16,64	20,03	23,36	26,75	32,95
h	max.	6,2	7,3	9,4	11,4	13,8	15,9	18,3	22,4
m	min.	4,7	5,7	7,6	9,6	11,6	13,3	15,3	18,9
m'	min.	2,2	3,1	4,5	5,5	6,7	7,8	9	11,1
s Nominal dimension	=max.	8	10	13	15	18	21	24	30
	min.	7,78	9,78	12,73	14,73	17,73	20,67	23,67	29,16
r 2)	max.	0,3	0,36	0,48	0,6	0,72	0,88	0,96	1,2

The sizes in brackets should be avoided, if possible.

1) P = pitch of coarse thread as specified in DIN 13 Part 12.

2) Radius r shall apply both for the edges of adjoining flats and for the transition between hexagon corners and flange.

Technical delivery conditions

Material		Steel
General requirements		As specified in DIN 267 Part 1 and Part 15.
Thread	Tolerance	6H 1)
	Standard	DIN 13 Part 12 and Part 15
Mechanical properties (body of nut)	Property class (material)	8, 10, 12 (≤ M 16)
	Standard	DIN ISO 898 Part 2, DIN 267 Part 23
Performance properties		As specified in DIN 267 Part 15.
Permissible dimensional deviations and deviations of form	Product grade	A
	Standard	DIN ISO 4759 Part 1
Surface		As processed. DIN 267 Part 2 (at present at the stage of draft) shall apply with regard to the peak-to-valley heights of the surfaces. DIN 267 Part 20 shall apply with regard to permissible surface irregularities. DIN 267 Part 9 shall apply with regard to electroplating.
Acceptance testing		DIN 267 Part 5 (at present at the stage of draft) shall apply with regard to acceptance testing.

1) See DIN 267 Part 15 in this respect.

DIN6927-83 (1728x2273x2 tiff) [3]
Fax:062084389 Aug 17 2001 9:19 P.03/03

4 Masses

The values of mass given are guideline values.

Thread size d	M 5	M 6	M 8	M 10	M 12	M 14	M 16	M 20
Mass (7,85 kg/dm^3) kg per 1000 units ≈								

Approximately the same masses may be assumed for fine thread nuts.
The masses are yet to be determined.

5 Marking

The requirements specified in DIN 267 Part 15 shall apply for the marking of nuts.

Note for the user

Tolerance class 6H shall apply for the thread of nuts with and without coating.

Where a protective coating is applied, e.g. an electroplated coating complying with DIN 267 Part 9, it may be necessary, depending on the coating thickness, to enlarge the thread diameters in order to achieve the zero line (H position) (see DIN 267 Part 9). An excessive oversize however can impair the resistance of the bolt/nut assembly to stripping.

Standards referred to

DIN 13 Part 12	ISO metric screw threads; coarse and fine threads from 1 to 300 mm diameter, selection of diameters and pitches
DIN 13 Part 15	ISO metric screw threads; fundamental deviations and tolerances for screw threads from 1 mm diameter
DIN 267 Part 1	Fasteners; technical delivery conditions; general requirements
DIN 267 Part 2	(at present at the stage of draft) Fasteners; technical delivery conditions; types of finish and dimensional accuracy
DIN 267 Part 5	(at present at the stage of draft) Fasteners; technical delivery conditions; acceptance testing
DIN 267 Part 9	Fasteners; technical delivery conditions; electroplated components
DIN 267 Part 15	Fasteners; technical delivery conditions; prevailing torque type nuts
DIN 267 Part 20	Fasteners; technical delivery conditions; surface irregularities on nuts
DIN 267 Part 23	Fasteners; technical delivery conditions; property classes for nuts with fine thread (ISO classes)
DIN 6923	Hexagon nuts with flange
DIN 4000 Part 2	Tabular layouts of article characteristics for bolts, screws and nuts
DIN ISO 898 Part 2	Mechanical properties of fasteners; nuts with specified proof load values
DIN ISO 4759 Part 1	Tolerances for fasteners; bolts, screws and nuts with thread diameters $\geq 1{,}6$ and ≤ 150 mm and product grades A, B and C

Explanatory notes

The international designation for nuts complying with ISO 7044 is, for example:

Prevailing torque type hexagon nut with flange ISO 7044 – M12 – 8 – NF

On the basis of ISO 2320 (see DIN 267 Part 15), ISO 7044 differentiates between

normal friction nuts (NF) and

low friction nuts (LF).

Low friction nuts (LF nuts) are not normally found in Germany. Thus, the present standard does not adopt letter symbols LF and NF specified in ISO Standards for the purpose of distinguishing between the types. There is no difference between the dimensions of the two types of nuts (see DIN 267 Part 15 in this respect).

International Patent Classification

F 16 B 37/00