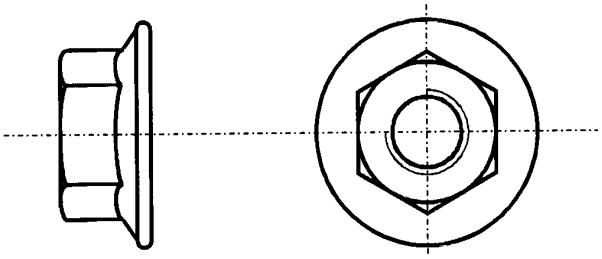
HEXAGON FLANGED NUTS
PRODUCT GRADE A

THIS NORME REPLACES NORME C21 3312

This is a translation, the French original shall be used in all cases of litigation *Date of translation: 15/11/2004*



1. OBJECT AND FIELD OF APPLICATION

This norme specifies the characteristics of metric hexagon flanged nuts, of product grade A, with a nominal diameter between 5 and 16 mm inclusive.

2. INSTRUCTIONS FOR USE

2.1.FITTING SUITABILITY OF PRODUCTS FROM THIS NORME

The fitting suitability of these nuts is improved by the presence of a large lead chamfer.
These nuts can be used equally for manual assembly, automatic feeding and tightening.

2.2CONSTITUTION OF ASSEMBLIES

These nuts are designed to provide a good distribution of stresses in the threads and on the bearing surface.

The flange bearing surface being greater than that used for the calculation of tightening torques of hexagon products without flange, it is imperative to take this into account when calculating the tightening torque.

The test values for the aptitude to friction in paragraph 6 are only valid in the reference test conditions and must not be allocated to an assembly on an vehicle.

2.3.CHOICE OF NUTS

Nuts with numbers shown in the tables of § 7 are to be used unless this is technically impossible. If the use of another quality class, coating or other dimensions is essential contact the Standard Fasteners correspondent to obtain the part number.

2.4.CLEARANCE FOR TIGHTENING TOOLS

Refer to norme B11 1200.

3. NUT DIMENSIONS

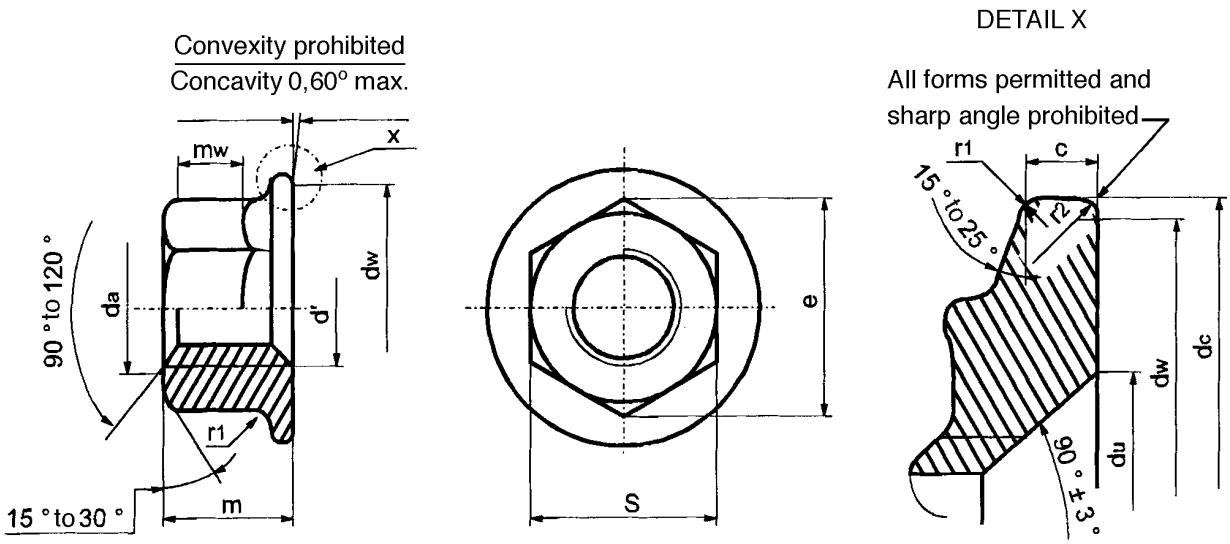


TABLE 1

Nominal diameter "d"	Pitch	dc		dw		du		m		S		e min.	c min.	Da max. (1)	r_1 (2)	mw min. (3)
		min.	max.	min.	max.	min.	max.	min.	max.	min.	max.					
4	0,70	10,2	10,6	9,6	10,4	4,5	4,7	3,7	4	6,78	7	7,66	0,9	4,3	0,29	2,0
5	0,80	11,4	11,8	10,4	11,2	5,6	5,8	4,7	5	7,78	8	8,71	1	5,75	0,30	2,2
6	1,00	13,8	14,2	12,8	13,6	7,4	7,6	5,7	6	9,78	10	10,95	1,1	6,75	0,36	3,1
8	1,25	17,4	17,9	16,4	17,2	10,1	10,4	7,6	8	12,73	13	14,25	1,2	8,75	0,48	4,5
10	1,50	21,3	21,8	20,1	21,1	11,7	12,1	9,6	10	15,73	16	17,61	1,5	10,80	0,60	5,5
12	1,75	25,4	26	23,9	25,1	14	14,4	11,6	12	17,73	18	19,85	1,8	13	0,72	6,7
(14)	2,00	29,3	29,9	27,7	29,1	16	16,4	13,3	14	20,67	21	23,1	2,1	15,1	0,88	7,8
16	2,00	33,9	34,5	32,1	33,7	18	18,4	15,3	16	23,67	24	26,51	2,4	17,3	0,96	9,0

The value r2 max. is the resultant between dc and dw.
(1) da min. = d nominal.
(2) Radius r_1 applies both to across corners and across flats of the hexagon.
(3) Height of wrench engagement.
( ) Diameter to be avoided.

4. SPECIFICATIONS

MATERIAL

The nuts defined in this norme are produced in steel. They may be produced in stainless steel.

GENERAL CHARACTERISTICS

Quality class 8 or 10 (norme C20 0020).

The quality class of stainless steel nuts is to be specified in accordance with the details of norme NF E 25-400-0.

THREAD

ISO metric thread

Tolerance class 6H (norme B11 3110), unless otherwise stated.

MANUFACTURING TOLERANCES

The nuts must be produced to product grade A, the manufacturing tolerances are given in norme C20 0220 and paragraph 8 of this norme.

MARKING OF THE DIRECTION OF TIGHTENING

Example

Nuts with left hand threads must be marked with an arrow indicating the direction of tightening (fig. 1).

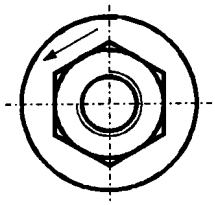


Fig. 1

QUALITY CLASS MARKING

Example

The quality class marking must conform to the details of norme C20 0020.

However, the marking code (clock face system) is permissible on the top of the flange on condition that it does not interfere with the dimensional limits of table 1 (fig. 2).

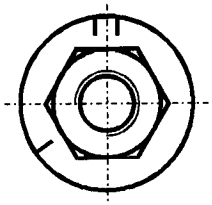


Fig. 2

PROTECTION

Nuts are supplied zinc plated according to the requirements of norme B15 4102.

Electrolytic zinc plating, according to normes B15 4100 and B15 4101, is tolerated until 01/07/2006.

Any change to the coating must be validated by the relevant PSA departments.

5. SUPPLY OF NUTS

The general requirements concerning the supply of nuts are given in the technical specifications B20 0110.

6. APTITUDE TO FRICTION TEST

The aptitude to friction test must be carried out in accordance with norme C10 0054 :
FN 0,12/0,18.

7. REFERENCES

a) Nuts of quality class 8 (Assembly with screws or studs of quality class ≤ 8.8).

Designation : ECROU H EMB M8X125 AC8 Z5FJR

d x pitch	NUMBERS
	Coating Z5FJR
M4 X 0,70	79 03 233 060
M5 X 0,80	79 03 233 041
M6 X 1,00	**79 03 233 042**
M8 X 1,25	**79 03 233 043**
M10 X 1,50	**79 03 233 044**
M12 X 1,75	79 03 233 045

b) Nuts of quality class 10 (Assembly with screws or studs of quality class 10.9).

Designation : ECROU H EMB M8X125 AC10 Z5FJR

d x pitch	NUMBERS
	Coating Z5FJR
M6 X 1,00	79 03 233 047
M8 X 1,25	79 03 233 048
M10 X 1,50	79 03 233 049
M12 X 1,75	79 03 233 050

c) Nuts of quality class 8 – Coarse pitch thread (Assembly with screws or studs of quality class ≤ 8.8).

Designation : ECROU H EMB M8X125 AC8 Z5FNR

d x picth	NUMBERS
	Coating Z5FNR
M6 X 1,00	79 03 233 063
M8 X 1,25	79 03 233 056

d) Nuts of quality class 8 – Fine pitch thread (Assembly with screws or studs of quality class ≤ 8.8).

Designation : ECROU H EMB M8X125 AC8 Z5FJR

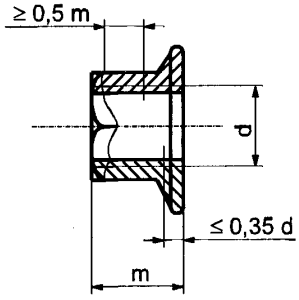
d x pitch	NUMBERS
	Coating Z5FJR
M10 x 1,25	79 03 233 052

e) Nuts of quality class 8 – Fine pitch thread (Assembly with screws or studs of quality class ≤ 8.8).

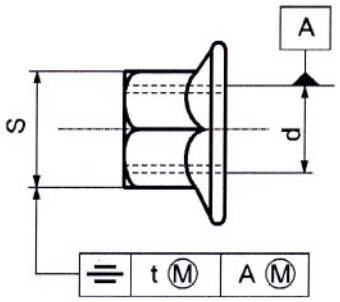
Designation : ECROU H EMB M8X125 AC10 Z5FJR

d x pitch	NUMBERS
	Coating Z5FJR
M14 x 1,50	79 03 233 061

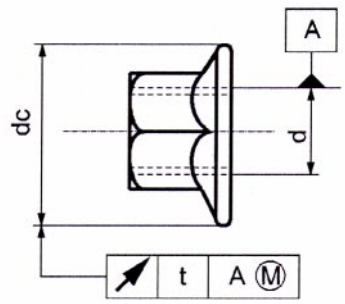
8. GEOMETRIC TOLERANCES



- The internal diameter (D1) must be within specified tolerances (B11 3110) on a minimum height of 0,5 m maximum.
- Furthermore, the internal diameter (D1) may exceed the specified tolerance (B11 3110) on a maximum height of 0,35 d on the flange side.



⏥	S	t
6 < S ≤ 10		0,44
10 < S ≤ 18		0,54
18 < S ≤ 30		0,66



	dc	t
10 < dc ≤ 18		0,54
18 < dc ≤ 30		0,66
30 < dc ≤ 50		0,78

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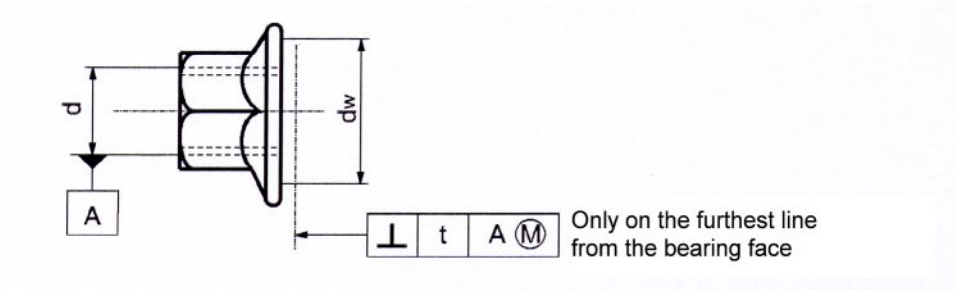

⊥ Bearing	t
d = 5	0,15
d = 8	0,15
d = 10	0,18
d = 12	0,27
d = 16	0,34

9.RECORDS AND REFERENCE DOCUMENTS

9.1. RECORDS

9.1.1.CREATION

- OR : 01/06/1994 – CREATION OF THE NORME

9.1.2.SUBJECT OF THE MODIFICATION

- E : 26/03/2004 – Modification to paragraph PROTECTION in § 4
- D : 28/10/2003 – NORME C21 3311 INSERTED AND MODIFICATION TO § 2 AND 7.

9.2. REFERENCE DOCUMENTS

9.2.1. PSA DOCUMENTS

9.2.1.1.Normes

B11 1200	TIGHTENING OF SCREWS AND NUTS ACCESSIBILITY AND CLEARANCE REQUIRED FOR THE OPERATION
B11 3110	ISO METRIC THREAD FOR GENERAL USE
B15 4100	COATINGS - ELECTROLYTIC ZINC PLATING
B15 4101	COATINGS – ELECTROLYTIC ZINC DEPOSITS AND ASSOCIATED FINISHES
B15 4102	ELECTROLYTIC ZINC COATINGS AND ASSOCIATED FINISHES SHERARDISING PROCESS (IN BULK)
B20 0110	SUPPLY OF PRODUCTS – GENERAL REQUIREMENTS
C10 0054	SCREWS STUDS NUTS APTITUDE TO FRICTION TEST - METHOD
C20 0020	NUTS CLASSIFICATION AND CHARACTERISTICS
C20 0060	GENERAL CHARACTERISTICS OF PREVAILING TORQUE NUTS
C20 0220	TOLERANCES FOR NUT FASTENERS

9.2.1.2.Others

9.2.2.EXTERNAL DOCUMENTS

NF E25-400-0

9.3.EQUIVALENT TO :

9.4.CONFORMS TO :

9.5.KEY WORDS

ECROUS, EMBASE, HEXAGONAUX

(Nuts, Flanced, Hexagon)