

STRENGTH INFORMATION FOR HEXAGON NUTS

Ref: ISO 898/2-1980/ASTM A 563M-1980/ISO 261-1973/DIN 267-Part 4/DIN 898-Part 6/DIN 267-Part 24

DESIGNATION:

Metric Thread nuts are identified by a letter M for thread profile form. Letter M is followed by the values of nominal thread diameter and pitch, expressed in millimeters and separated by the sign "x" (example: M 8 x 1.25). The absence of an indicated pitch means a coarse (normal) pitch is specified (example: M 8).

MATERIAL:

Nuts shall be made of steel conforming to the chemical composition limits.

PROPERTY CLASS		CHEMICAL COMPOSITION LIMITS %			
		C max.	Mn min.	P max.	S max.
4, 5, 6	-	0.50	-	0.110	0.150
8, 9	04	0.58	0.25	0.060	0.150
10	05	0.58	0.30	0.048	0.058
12	-	0.58	0.45	0.048	0.058

Nuts property class 4, 5, 6 and 04 may be manufactured for free cutting steel. Permissible with max. Sulphur 0.34%, Phosphorus 0.12%, Lead 0.35%.
Alloying elements may be added if necessary.
Nuts property class 05, 8, 9, 10, 12 shall be hardened and tempered.

NUT MATING SCREW PROPERTY CLASSES

Nuts with nominal height .08 Diameter min. (effective thread length 0.6 Diameter min.) Are designated by a number to indicate the maximum appropriate class of screws.

NUT PROPERTY CLASS DESIGNATION	MATING SCREWS	
	SCREW PROPERTY CLASS	DIAMETER RANGE
5	3.6, 4.6, 4.8	M 16 and smaller
	5.6, 5.8	All diameters
6	6.8	All diameters
8, 04, 17H	8.8	All diameters
9	8.8	Larger than M 16 to M 39
	9.8	M 16 and smaller
10, 05, 22H	10.9	All diameters
12	12.9	M 39 and smaller

MARKING: Hex nuts of thread diameter M 5 and larger and property classes equal to or higher than 8 and 05, shall be marked with property class

PROOF LOAD VALUES - COARSE THREAD

NOMINAL THREAD DIA. mm	PITCH mm	STRESS AREA A _s mm ²	PROPERTY CLASS						
			04	05	6	8	9	10	12
			PROOF LOAD (A _s x S _p), N						
5	0.8	14.2	5400	7100	9500	11500	13000	14800	16300
6	1	20.1	7640	10000	13500	16300	18400	20900	23100
8	1.25	36.6	13900	18300	24900	30400	34400	38100	42500
10	1.5	58.0	22000	29000	39400	48100	54500	60300	67300
12	1.75	84.3	32000	42200	59000	70800	80100	88500	100300
14	2	115	43700	57500	80500	96000	109300	120800	136900
16	2	157	59700	78500	109900	131900	149200	164900	186800
18	2.5	192	73000	96000	138200	176600	176600	203500	230400
20	2.5	245	93100	122500	176400	225400	225400	259700	294000
22	2.5	303	115100	152000	218200	278800	278800	321200	363600
24	3	353	134100	176000	245200	324800	324800	374200	423600
27	3	459	174400	229500	330500	422300	422300	486500	550800
30	3.5	561	213200	280500	403900	516100	516100	594700	673200
33	3.5	694	263700	347000	499700	638500	638500	735600	832800
36	4	817	310500	408500	588200	751600	751600	866000	980400
39	4	976	370900	488000	702700	897900	897900	1035000	1171000