

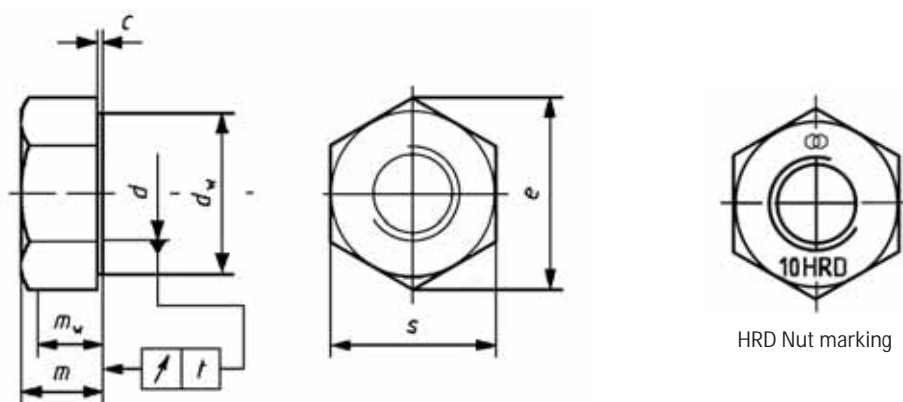
Specifications, mechanical properties and standards for nuts

General requirements	EN 14399-1
Thread tolerance	6H tapped oversized
Thread standards	ISO 261, ISO 965-2
Mechanical properties; property class	10
Mechanical properties; standard	EN ISO 898-2

Proof load value and hardness of nuts

Thread d	Nominal stress area of standard test mandrel mm ²	Proof load kN HRD ^a Nuts (nuts with height $m = 1 d$)	Vickers Hardness	
			Min	Max
M12	84.3	104.9	272	353
M16	157	195.5		
M20	245	305.0		
M22	303	377.2		
M24	353	439.5		
M27	459	571.5		
M30	561	698.4		
M36	817	1017.1		

^a – the proof load values are based on the stress under proof load of 1,245 MPa



Dimensions of HRD nuts ^a

All dimensions in millimetres

Thread d		M12	M16	M20	M22	M24	M27	M30	M36
p^b		1.75	2	2.5	2.5	3	3	3.5	4
d_a	max	13	17.3	21.6	23.7	25.9	29.1	32.4	38.9
	min	12	16	20	22	24	27	30	36
d_w	max	^c							
	min	20.1	24.9	29.5	33.3	38.0	42.8	46.6	55.9
e	min	23.91	29.56	35.03	39.55	45.20	50.85	55.37	66.44
m	max	12.35	16.35	20.65	22.65	24.65	27.65	30.65	36.65
	min	11.65	15.65	19.35	21.35	23.35	26.35	29.35	35.35
m_w	min	9.32	12.52	15.48	17.08	18.68	21.08	23.48	28.28
c	max	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	min	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
s	max	22	27	32	36	41	46	50	60
	min	21.16	26.16	31	35	40	45	49	58.8
t		0.38	0.47	0.58	0.63	0.72	0.80	0.87	1.05

a – dimensions apply after Greenkote[®]

b – p is the pitch of thread

c – $d_{w \max} = s_{\text{actual}}$