

TEKNINEN OSA

Suosittelavat alkureijät kierretapeille

Metrisen

d	P	porakoko
M 2	0,4	1,6
M 2,5	0,45	2,05
M 3	0,5	2,5
M 3,5	0,6	2,9
M 4	0,7	3,3
M 5	0,8	4,2
M 6	1,0	5,0
M 7	1,0	6,0
M 8	1,25	6,8
M 10	1,5	8,5
M 12	1,75	10,2
M 14	2,0	12,0
M 16	2,0	14,0
M 18	2,5	15,5
M 20	2,5	17,5
M 22	2,5	19,5
M 24	3,0	21,0
M 27	3,0	24,0
M 30	3,5	26,5
M 33	3,5	29,5

Metrisen hienokierre

d	P	Porakoko	d	P	Porakoko
M 2	0,25	1,75	M 20	1,5	18,5
M 2,5	0,35	2,15	M 20	2,0	18,0
M 3	0,35	2,65	M 22	1,5	20,5
M 3,5	0,35	3,15	M 24	1,0	23,0
M 4	0,5	3,5	M 24	1,5	22,5
M 5	0,5	4,5	M 24	2,0	22,0
M 6	0,75	5,2	M 27	1,5	25,5
M 8	1,0	7,0	M 27	2,0	25,0
M 10	1,0	9,0	M 30	1,5	28,5
M 10	1,25	8,8	M 30	2,0	28,0
M 12	1,0	11,0			
M 12	1,25	10,8			
M 12	1,5	10,5			
M 14	1,25	12,8			
M 14	1,5	12,5			
M 16	1,0	15,0			
M 16	1,5	14,5			
M 18	1,0	17,0			
M 18	1,5	16,5			
M 20	1,0	19,0			

UNC

d	k / t	Porakoko
1/4"	20	5,1
5/16"	18	6,6
3/8"	16	8,0
7/16"	14	9,4
1/2"	13	10,8
9/16"	12	12,2
5/8"	11	13,5
3/4"	10	16,5
7/8"	9	19,5
1."	8	22,25

UNF

d	k / t	Porakoko
1/4"	28	5,5
5/16"	24	6,9
3/8"	24	8,5
7/16"	20	9,9
1/2"	20	11,5
9/16"	18	12,9
5/8"	18	14,5
3/4"	16	17,5
7/8"	14	20,5
1."	12	23,25

Putkikierre

d	k / t	Porakoko
R 1/8	28	8,8
R 1/4	19	11,8
R 3/8	19	15,25
R 1/2	14	19,0
R 5/8	14	21,0
R 3/4	14	24,5
R 7/8	14	28,25
R 1.	11	30,75

Teräsruvien minimimurtolujuus N

Nimellis Ø	Jännitysala mm ²	Lujuusluokka				
		4. 6	5. 8	8. 8	10. 9	12. 9
M 3	5,03	2010				
M 4	8,78	3510				
M 5	14,2	5680	7380	11350	14800	17300
M 6	20,1	8040	10400	16100	20900	24500
M 7	28,9	11600	15000	23100	30100	35300
M 8	36,6	14600	19000	29200	38100	44600
M 10	58	23200	30200	46400	60300	70800
M 12	84,3	33700	43800	67400	87700	103000
M 14	115	46000	59800	92000	120000	140000
M 16	157	62800	81600	125000	163000	192000
M 18	192	76800	99800	159000	200000	234000
M 20	245	98000	127000	203000	255000	299000
M 22	303	121000	158000	252000	315000	370000
M 24	353	141000	184000	293000	367000	431000
M 27	459	184000	239000	381000	477000	560000
M 30	561	224000	292000	466000	583000	684000
M 33	694	278000	361000	576000	722000	847000
M 36	817	327000	425000	678000	850000	997000

Teräsruvien minimimiyöto-(0,2) kuorma N

Nimellis Ø	Jännitysala mm ²	Lujuusluokka				
		4. 6	5. 8	8. 8	10. 9	12. 9
M 3	5,03	1210				
M 4	8,78	2110				
M 5	14,2	3410	5680	9090	12800	15300
M 6	20,1	4820	8040	12900	18100	21700
M 7	28,9	6940	11600	18500	26000	31200
M 8	36,6	8780	14600	23400	32900	39500
M 10	58	13900	23200	37100	52200	62600
M 12	84,3	20200	33700	54000	75900	91000
M 14	115	27600	46000	73600	104000	124000
M 16	157	37700	62800	100000	141000	170000
M 18	192	46100	76800	123000	173000	207000
M 20	245	58800	98000	157000	220000	265000
M 22	303	72700	121000	194000	273000	327000
M 24	353	84700	141000	226000	318000	381000
M 27	459	110000	184000	294000	413000	496000
M 30	561	135000	224000	359000	505000	606000
M 33	694	167000	278000	444000	625000	750000
M 36	817	196000	327000	523000	735000	882000

Teräsruvien ja muttereiden kirstysmomentit Nm

Kierre	4.6	5.8	8.8	10.9	12.9
M 3	0,5				
M 4	1,2				
M 5	2,4	4,1	6,5	8,1	9,7
M 6	4,2	6,9	11	14	17
M 8	10	17	27	33	40
M 10	20	33	53	74	89
M 12	34	57	91	128	154
M 14	54	91	145	204	244
M 16	83	139	222	313	375
M 18	103	172	275	386	463
M 20	163	271	434	610	732
M 22	219	365	584	822	986
M 24	281	469	750	1050	1270
M 27	406	677	1080	1520	1830
M 30	555	925	1480	2080	2500
M 33	748	1250	1990	2800	3360
M 36	965	1610	2570	3620	4340

Korjauskertoimia

Ruuvi	Mutteri tai kierrereikä	Voit.	Kerr.
sähkösinkitty	sähkösinkitty	kuiva	0,89
sähkösinkitty	sähkösinkitty	öljy	0,74
sähkösinkitty	pinnoittamaton	kuiva	0,89
sähkösinkitty	pinnoittamaton	öljy	0,93
kuumasinkitty	pinnoittamaton	kuiva	1,13
kuumasinkitty	pinnoittamaton	öljy	0,89

1 kpm n. 10 Nm

Arvot edellyttävät momenttiavaimen käyttöä.

Käytettäessä koneellista mutterin kiristäjää on

kirstysmomentti 0,93 x taulukon arvo.

Käyttämällä korjauskertoimia voidaan taulukon arvoista laskea muita kitkaolosuhteita vastaavat momentit.

Nimellishalkaisija		Kierteen nousu			Kierteitä tuumalla					
mm	tuuma	M	M-hieno		WH	UNC	BSF	UNF	SAE	R
3	1 BA	0,5	0,35		-	-	-	-	-	-
3,5	0 BA	0,6	0,35		-	-	-	-	-	-
4	1/8"	0,7	0,5		40	-	-	-	-	28
4,5	5/32"	0,75	0,5		32	-	-	-	-	-
5	3/16"	0,8	0,5		24	-	-	-	-	-
5,5	7/32"	-	0,5		24	-	28	-	-	-
6	1/4"	1,0	0,75		20	20	26	28	28	19
7	9/32"	1,0	0,75		-	-	-	-	-	-
8	5/16"	1,25	1,0		18	18	22	24	24	-
9	3/8"	1,25	1,0		16	16	20	24	24	19
10	7/16"	1,5	1,25	1,0	14	14	18	20	20	-
11	1/2"	1,5	-		12	13	16	20	20	14
12	9/16	1,75	1,5	1,25	12	12	16	18	18	-
14	5/8"	2,0	1,5		11	11	14	18	18	14
16	11/16"	2,0	1,5		11	-	14	-	-	-
18	3/4"	2,5	2,0	1,5	10	10	12	16	16	-
20	13/16"	2,5	1,5	2,0	10	-	12	-	-	-
22	7/8"	2,5	1,5	2,0	9	9	11	14	14	-
24	15/16"	3,0	2,0	1,5	9	-	-	-	-	-
27	1."	3,0	2,0		8	8	10	12	14	-
30	1.1/8"	3,5	2,0		7	7	9	12	-	-
33	1.1/4"	3,5	2,0		7	7	9	12	-	-
36	1.3/8"	4,0	3,0		6	6	8	12	-	-
39	1.1/2"	4,0	3,0		6	6	8	12	-	-
42	1.5/8"	4,5	3,0		5	-	8	-	-	-
45	1.3/4"	4,5	3,0		5	5	7	-	-	-
48	1.7/8"	5,0	3,0		4 ½	-	-	-	-	-
52	2."	5,0	3,0		4 ½	4 ½	7	-	-	-
56	2.1/4"	-	4,0		4	4 ½	6	-	-	-
64	2.1/2"	-	4,0		4	4	6	-	-	-
72	2.3/4"	-	4,0		4 ½	4	6	-	-	-
80	3."	-	4,0		3 ½	4	5	-	-	-

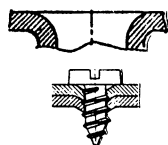
Kierteenmuovaavan ruuvien esireijät (ohjeelliset)

d	M3			M4			M5			M6			M8		
	toleranssi H11														
materiaalin paksuus	St	Al	Cu	St	Al	Cu	St	Al	Cu	St	Al	Cu	St	Al	Cu
1,0	2,7														
1,5	2,7			3,6			4,5								
1,8	2,75	2,7		3,6			4,5								
2,0	2,75	2,7		3,6			4,5			5,4					
2,2	2,75			3,6			4,5			5,4			7,25		
2,5	2,75			3,65	3,6		4,5			5,4			7,25		
3,0	2,75			3,65	3,6		4,5			5,45			7,25		
3,2	2,75			3,65	3,6		4,55	4,5		5,45			7,25		
3,5	2,75			3,65			4,55			5,45			7,25		
4,0	2,75			3,65			4,55			5,5	5,45		7,3		
5,0	2,75			3,7	3,65		4,6			5,5	5,45		7,4	7,3	
5,5	2,75			3,7	3,65		4,6			5,5			7,4	7,3	
6,0	2,75			3,7	3,65		4,6			5,5			7,4	7,3	
6,5							4,65			5,5			7,4	7,35	
7,0							4,65			5,55	5,5		7,5	7,4	
7,5							4,65			5,55	5,5		7,5	7,4	
8 - 10							4,65			5,55			7,5	7,4	
10 - 15													7,5		

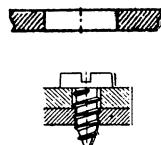
Levyruuvien alkureijät

Kierre	Levyn paksuus	Teräs, nikkeli, messinki ja kupari		Alumiini		Fenoli-muovi	Selluloosa-asettaati, -nitraatti, polyakrylaatti ja -styreeni
		Reikä A	Reikä B	Reikä A	Reikä B		
2,9	- 0,56	2,2	2,2			2,55	2,4
	0,56 - 0,63	2,5	2,3	2,2			
	0,63 - 0,75	2,5	2,3	2,2	2,2		
	0,75 - 0,88	2,5	2,4	2,2	2,2		
	0,88 - 1,25		2,4	2,2	2,2		
	1,25 - 1,38		2,4		2,2		
	1,38 - 1,75		2,5		2,3		
	1,75 - 2,50		2,6		2,4		
3,5	- 0,56	2,8	2,6			3,2	3,0
	0,56 - 0,75	2,8	2,7	2,8			
	0,75 - 0,88	2,8	2,7	2,8	2,6		
	0,88 - 1,25		2,8	2,8	2,6		
	1,25 - 1,38		2,8		2,7		
	1,38 - 1,75		2,9		2,8		
	1,75 - 2,5		3,0		2,8		
	2,50 - 3,00		3,2		3,0		
3,00 - 6,00				3,0			
4,2	- 0,50	3,5				3,8	3,7
	0,50 - 0,63	3,5	3,2	3,5			
	0,63 - 0,88	3,5	3,2	3,5	2,9		
	0,88 - 1,13	3,5	3,2	3,5	3,0		
	1,13 - 1,38	3,5	3,3	3,5	3,2		
	1,38 - 2,50		3,5		3,5		
	2,50 - 3,00		3,8		3,7		
	3,00 - 3,50		3,9		3,8		
3,50 - 10,0				3,9			
4,8	- 0,50	4,0				4,5	4,3
	0,50 - 0,75	4,0	3,7	4,0			
	0,75 - 1,13	4,0	3,7	4,0	3,7		
	1,13 - 1,38	4,0	3,9	4,0	3,7		
	1,38 - 1,75		3,9		3,7		
	1,75 - 2,50		4,0		3,8		
	2,50 - 3,00		4,1		3,8		
	3,00 - 3,50		4,3		3,9		
	3,50 - 4,00		4,4		3,9		
	4,00 - 4,75		4,4		4,0		
4,75 - 10,0				4,2			
5,5	- 1,13	4,7	4,2			5,0	4,8
	1,13 - 1,38	4,7	4,3		4,1		
	1,38 - 1,50		4,3		4,1		
	1,50 - 1,75		4,5		4,2		
	1,75 - 2,25		4,6		4,4		
	2,25 - 3,00		4,7		4,6		
	3,00 - 3,50		5,0		4,6		
	3,50 - 4,00		5,0		4,8		
	4,00 - 4,75		5,1		4,8		
	4,75 - 10,0				4,9		
6,3	- 1,38	5,3		4,9		6,0	5,6
	1,38 - 1,75			5,0	5,0		
	1,75 - 2,00			5,2	5,0		
	2,00 - 3,00			5,3	5,2		
	3,00 - 4,00			5,8	5,3		
	4,00 - 4,75			5,8	5,4		
	4,75 - 5,00				5,6		
5,00 - 10,0				5,8			

REIKÄ A:

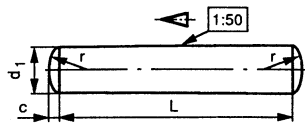


REIKÄ B:



KARTIOSOKKA

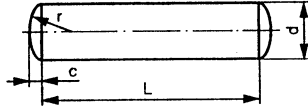
DIN 1
ISO 2339



d1	h10	1	1,5	2	2,5	3	4	5	6	8	10	12	16
c	max.	0,15	0,23	0,3	0,4	0,45	0,6	0,75	0,9	1,2	1,5	1,8	2,5
r		1	1,5	2	2,5	3	4	5	6	8	10	12	16

LIERIÖSOKKA

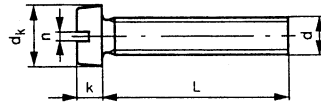
DIN 7
ISO 2338



d	m6	2	2,5	3	4	5	6	8	10	12	16
c	max.	0,3	0,4	0,45	0,6	0,75	0,9	1,2	1,5	1,8	2,5
r		2	2,5	3	4	5	6	8	10	12	16

URARUUVI

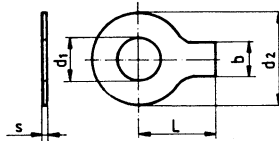
DIN 84
ISO 1207



d	M2	M2,5	M3	M3,5	M4	M5	M6	M8	M10
P	0,4	0,45	0,5	0,6	0,7	0,8	1	1,25	1,5
dk	3,8	4,5	5,5	6	7	8,5	10	13	16
k	1,3	1,6	2	2,4	2,6	3,3	3,9	5	6
n	0,5	0,6	0,8	1	1,2	1,2	1,6	2	2,5

LUKITUSLAATTA

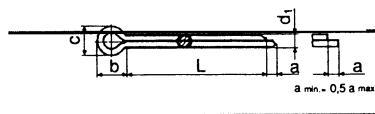
DIN 93



	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27	M30
d1	6,4	8,4	10,5	13	15	17	19	21	23	25	28	31
d2	19	22	26	30	33	36	40	42	50	50	58	63
s	0,5	0,75	0,75	1	1	1	1	1	1	1	1,6	1,6
b	7	8	10	12	12	15	18	18	20	20	23	26
L	18	20	22	28	28	32	36	36	42	42	48	52

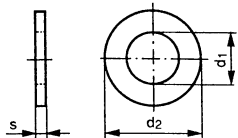
SAKSISOKKA

DIN 94
ISO 1234



d	1	1,6	2	2,5	3,2	4	5	6,3	8	10	13	
d1	max.	0,9	1,4	1,8	2,3	2,9	3,7	4,6	5,9	7,5	9,5	12,4
	min.	0,8	1,3	1,7	2,1	2,7	3,5	4,4	5,7	7,3	9,3	12,1
a	max.	1,6	2,5	2,5	2,5	3,2	4	4	4	4	6,3	6,3
b		3	3,2	4	5	9,4	8	10	12,6	16	20	26
c	min.	1,6	2,4	3,2	4	5,1	6,5	8	10,3	13,1	16,6	21,7
	max.	1,8	2,8	3,6	4,6	5,8	7,4	9,2	11,8	15	19	24,8

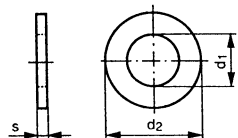
ALUSLEVY
DIN 125
ISO 7089



	M2	M2,5	M3	M3,5	M4	M5	M6	M7	M8	M10	M12	M14	M16	M18
d1	2,2	2,7	3,2	3,7	4,3	5,3	6,4	7,4	8,4	10,5	13	15	17	19
d2	5	6	7	8	9	10	12	14	16	20	24	28	30	34
s	0,3	0,5	0,5	0,5	0,8	1	1,6	1,6	1,6	2	2,5	2,5	3	3

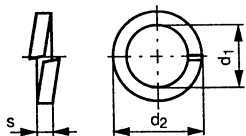
	M20	M22	M24	M27	M30	M33	M36	M39	M42	M45	M48	M52	M56	M60
d1	21	23	25	28	31	34	37	40	43	46	50	54	58	62
d2	37	39	44	50	56	60	66	72	78	85	92	98	105	110
s	3	3	4	4	4	5	5	6	7	7	8	8	9	9

ALUSLEVY
DIN 126
ISO 7091



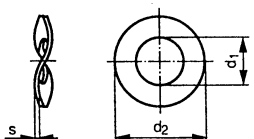
	M20	M22	M24	M27	M30	M33	M36	M39	M42	M45	M48	M52	M56	M60
d1	22	24	26	30	33	36	39	42	45	48	52	56	62	66
d2	37	39	44	50	56	60	66	72	78	85	92	98	105	110
s	3	3	4	4	4	5	5	6	7	7	8	8	9	9

JOUSIALUSLEVY
DIN 127



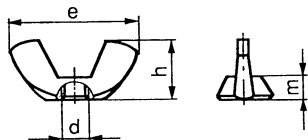
	M3	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24	M30
d1 min.	3,1	4,1	5,1	6,1	8,1	10,2	12,2	14,2	16,2	18,2	20,2	22,5	24,5	30,5
d2 max.	6,2	7,6	9,2	11,8	14,8	18,1	21,1	24,1	27,4	29,4	33,6	35,9	40	48,2
s	0,8	0,9	1,2	1,6	2	2,2	2,5	3	3,5	3,5	4	4	5	6

AALTOLAATTA
DIN 137B



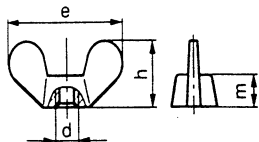
	M3	M4	M5	M6	M8	M10	M12	M14	M16	M20	M22	M24
d1	3,2	4,3	5,3	6,4	8,4	10,5	13	15	17	21	23	25
d2	8	9	11	12	15	21	24	28	30	36	40	44
s	0,5	0,5	0,5	0,5	0,8	1	1,2	1,6	1,6	1,6	1,8	1,8

SIIPIMUTTERI
Amer.malli



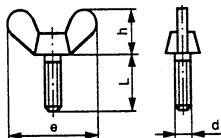
	M3	M4	M5	M6	M8	M10	M12	M16	M20
d									
P	0,5	0,7	0,8	1	1,25	1,5	1,75	2	2,5
m	2,9	2,9	4,1	5,1	5,6	6,8	9	10,7	13,5
e	17,6	17,6	22,5	27,8	30,3	36,2	49,4	58,3	68,5
h	8,6	8,6	11	13,6	14,8	17,7	24,1	28,5	33,8

SIIPIMUTTERI
DIN 315



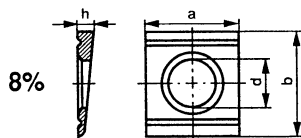
d	M3	M4	M5	M6	M8	M10	M12	M14	M16	M20	M24
P	0,5	0,7	0,8	1	1,25	1,5	1,75	2	2	2,5	3
m min.	2,9	3,2	4	5	6,5	8	10	11,2	13	16	20
e max.	17,6	20	26	33	39	51	65	65	73	90	110
h max.	8,6	10,5	13	17	20	25	33,5	33,5	37,5	46,5	56,5

SIIPIRUUVI
DIN 316



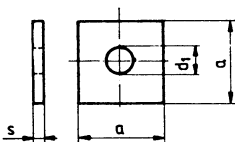
d	M4	M5	M6	M8	M10	M12	M16
P	0,7	0,8	1	1,25	1,5	1,75	2
e max.	24	26	33	39	51	65	73
h max.	12	13	17	20	25	33,5	37,5

VINOALUSLEVY
DIN 434



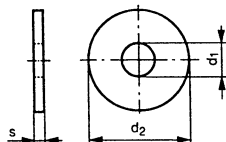
	M8	M10	M12	M16	M20	M22	M24	M27	M30
d	9	11	14	18	22	24	26	30	33
a	22	22	26	32	40	44	56	56	62
b	22	22	30	36	44	50	56	56	62
h	3,8	3,8	4,9	5,9	7	8	8,5	8,5	9

NELIÖALUSLEVY
DIN 436



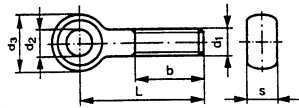
	M10	M12	M16	M20	M22	M24	M27	M30
d1	11	13,5	17,5	22	24	26	30	33
a	30	40	50	60	70	80	90	95
s	3	4	5	5	6	6	6	6

KORIALUSLEVY
DIN 440R
ISO 7094



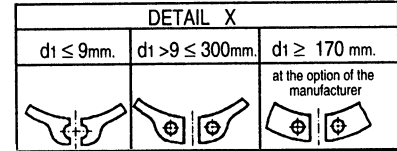
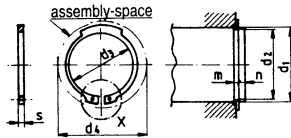
	M5	M6	M8	M10	M12	M16	M20	M24	M27	M30
d1	5,5	6,6	9	11	13,5	17,5	22	26	30	33
d2	18	22	28	34	44	56	72	85	98	105
s	2	2	3	3	4	5	6	6	6	6

SILMÄRUUVI
DIN 444



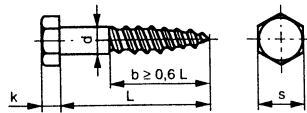
d1	M6	M8	M10	M12	M16	M20	M24	M27	M30	
P	1	1,25	1,5	1,75	2	2,5	3	3	3,5	
b(1)	18	22	26	30	38	46	54	60	66	b(1) L < 125
b(2)	-	28	32	36	44	52	60	66	72	b(2) L 125 - 200
b(3)	-	-	-	49	57	65	73	79	85	b(3) L > 200
d2 H9	6	8	10	12	16	18	22	25	28	
d3 max.	14	18	20	25	32	40	45	50	55	
s max.	7	9	12	14	17	22	25	27	30	

AKSELIVARMISTIN
DIN 471



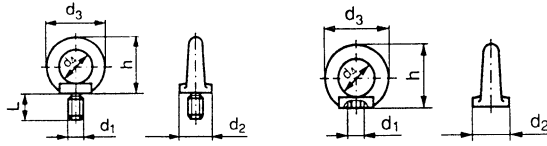
d1	4	5	6	7	8	9	10	11	12	13	14	15	16	17
s	0,4	0,6	0,7	0,8	0,8	1	1	1	1	1	1	1	1	1
d3	3,7	4,7	5,6	6,5	7,4	8,4	9,3	10,2	11	11,9	12,9	13,8	14,7	15,7
d4	8,6	10,3	11,7	13,5	14,7	16	17	18	19	20,2	21,4	22,6	23,8	25
d2	3,8	4,8	5,7	6,7	7,6	8,6	9,6	10,5	11,5	12,4	13,4	14,3	15,2	16,2
m H13	0,5	0,7	0,8	0,9	0,9	1,1	1,1	1,1	1,1	1,1	1,1	1,1	1,1	1,1
n min.	0,3	0,3	0,5	0,5	0,6	0,6	0,6	0,8	0,8	0,9	0,9	1,1	1,2	1,2
d1	18	19	20	21	22	23	24	25	26	27	28	29	30	31
s	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,5	1,5	1,5	1,5
d3	16,5	17,5	18,5	19,5	20,5	21,5	22,2	23,2	24,2	24,9	25,9	26,9	27,9	28,6
d4	26,2	27,2	28,4	29,6	30,8	31	33,2	34,2	35,5	35,4	37,9	39,1	40,5	40,3
d2	17	18	19	20	21	22	22,9	23,9	24,6	25,6	26,6	27,6	28,6	29,3
m H13	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,6	1,6	1,6	1,6
n min.	1,5	1,5	1,5	1,5	1,5	1,5	1,7	1,7	1,7	2,1	2,1	2,1	2,1	2,6
d1	32	33	34	35	36	37	38	39	40	42	44	45	47	48
s	1,5	1,5	1,5	1,5	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75	1,75
d3	29,6	30,5	31,5	32,2	33,2	34,2	35,2	36	36,5	38,5	40,5	41,5	43,5	44,5
d4	43	43,4	45,4	46,8	47,8	48	50,2	50,2	52,6	55,7	56	59,1	58,5	62,5
d2	30,3	31,3	32,3	33	34	35	36	37	37,5	39,5	41,5	42,5	44,5	45,5
m H13	1,6	1,6	1,6	1,6	1,85	1,85	1,85	1,85	1,85	1,85	1,85	1,85	1,85	1,85
n min.	2,6	2,6	2,6	3	3	3	3	3	3,8	3,8	3,8	3,8	3,8	3,8
d1	50	52	54	55	56	57	58	60	62	63	65	67	68	70
s	2	2	2	2	2	2	2	2	2	2	2,5	2,5	2,5	2,5
d3	45,8	47,8	49,8	50,8	51,8	52,8	53,8	55,8	57,8	58,8	60,8	62,5	63,5	65,5
d4	64,5	66,7	67	70,2	71,6	70	73,6	75,6	77,8	79	81,4	82	84,8	87
d2	47	49	51	52	53	54	55	57	59	60	62	64	65	67
m H13	2,15	2,15	2,15	2,15	2,15	2,15	2,15	2,15	2,15	2,15	2,15	2,65	2,65	2,65
n min.	4,5	4,5	4,5	4,5	4,5	4,5	4,5	4,5	4,5	4,5	4,5	4,5	4,5	4,5
d1	72	75	77	78	80	82	85	87	88	90	92	95	97	98
s	2,5	2,5	2,5	2,5	2,5	2,5	3	3	3	3	3	3	3	3
d3	67,5	70,5	72,5	73,5	74,5	76,5	79,5	81,5	82,5	84,5	86,5	89,5	91,5	92,5
d4	89,2	92,7	94	96,1	98,1	100,3	103,3	104	106,5	108,5	114	114,8	116	117
d2	69	72	74	75	76,5	78,5	81,5	83,5	84,5	86,5	88,5	91,5	93,5	94,5
m H13	2,65	2,65	2,65	2,65	2,65	2,65	3,15	3,15	3,15	3,15	3,15	3,15	3,15	3,15
n min.	4,5	4,5	4,5	4,5	5,3	5,3	5,3	5,3	5,3	5,3	5,3	5,3	5,3	5,3
d1	100	105	110	115	120	125	130	135	140	145	150	160	170	180
s	3	4	4	4	4	4	4	4	4	4	4	4	4	4
d3	94,5	98	103	108	113	118	123	128	133	138	142	151	160,5	170,5
d4	120,2	125,8	131,2	137,3	143,1	149	154,4	159,8	165,2	170,6	177,3	182,3	188	210
d2	96,5	101	106	111	116	121	126	131	136	141	145	155	165	175
m H13	3,15	4,15	4,15	4,15	4,15	4,15	4,15	4,15	4,15	4,15	4,15	4,15	4,15	4,15
n min.	5,3	6	6	6	6	6	6	6	6	6	7,5	7,5	7,5	7,5

KANSIRUUVI
DIN 571



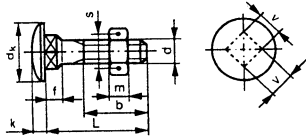
d	6	8	10	12	16	20
k	4	5,5	7	8	10	13
s	10	13	17	19	24	30

NOSTOSILMUKKA
DIN 580 ja 582



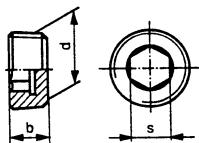
d1	M8	M10	M12	M16	M20	M22	M24	M27	M30	M33	M36
P	1,25	1,5	1,75	2	2,5	2,5	3	3	3,5	3,5	4
d2	20	25	30	35	40	45	50	50	65	65	75
d3	36	45	54	63	72	81	90	90	108	108	126
d4	20	25	30	35	40	45	50	50	60	60	70
h	36	45	53	62	71	81	90	90	109	109	128
L	13	17	20,5	27	30	35	36	38	45	45	54

LUKKORUUVI
DIN 603



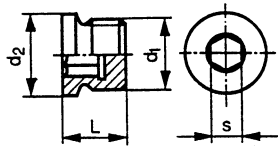
d	M5	M6	M8	M10	M12	M16	
P	0,8	1	1,25	1,5	1,75	2	
b(1)	16	18	22	26	30	38	b(1) L < 125
b(2)	22	24	28	32	36	44	b(2) L 125 - 200
b(3)	-	-	41	45	49	57	b(3) L > 200
dk max.	13,55	16,55	20,65	24,65	30,65	38,8	
f max.	4,1	4,6	5,6	6,6	8,75	12,9	
k max.	3,3	3,88	4,88	5,38	6,95	8,95	
v max.	5,48	6,48	8,58	10,58	12,7	16,7	
m	4	5	6,5	8	10	13	
s	8	10	13	17	19	24	

PUTKITULPPA
DIN 906



d	M8	M10	M12	M14	M16	M18	M20	M22	M24	M30	M36	M42
P	1	1	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
b js16	8	8	10	10	10	10	10	10	12	12	15	18
s D12	4	5	6	7	8	9	10	10	12	17	19	22
d	R1/4	R3/8	R1/2	R3/4	R1.	R1.¼	R1.½					
b js16	10	10	10	12	12	18	20					
s D12	7	8	10	12	17	22	24					

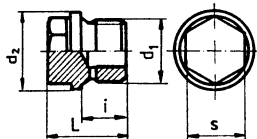
PUTKITULPPA
DIN 908



d1		M8	M10	M12	M14	M16	M18	M20	M22	M24	M30	M36	M42
P		1	1	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
d2	h14	12	14	17	19	21	23	25	27	29	36	42	49
s	D12	4	5	6	6	8	8	10	10	12	17	19	22
L		10	11	15	15	15	16	18	18	18	20	21	21

d1		R1/8	R1/4	R3/8	R1/2	R3/4	R1.	R1.¼	R1.½
d2	h14	14	18	22	26	32	39	49	55
s	D12	5	6	8	10	12	17	22	24
L		11	15	15	18	20	21	21	21

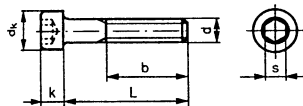
PUTKITULPPA
DIN 910



d1		M8	M10	M12	M14	M16	M18	M20	M22	M24	M30	M36	M42
P		1	1	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
d2	h14	14	14	17	19	21	23	25	27	29	36	42	49
s		10	10	13	13	17	17	19	19	22	24	27	30
L		17	17	21	21	21	24	26	26	27	30	32	33
i		8	8	12	12	12	12	14	14	14	16	16	16

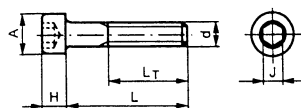
d1		R1/4	R3/8	R1/2	R3/4	R1.	R1.¼	R1.½
d2	h14	18	22	26	32	39	49	55
s		13	17	19	24	27	30	30
L		21	21	26	30	32	33	33
i		12	12	14	16	16	16	16

KUUSIÖKOLORUUVI
DIN 912
ISO 4762

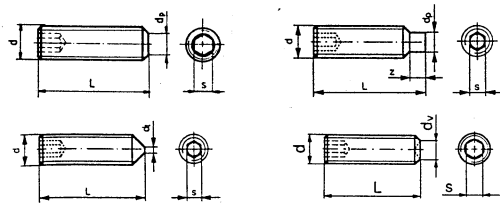


d		M3	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24	M30
P		0,5	0,7	0,8	1	1,25	1,5	1,75	2	2	2,5	2,5	2,5	3	3,5
b		18	20	22	24	28	32	36	40	44	48	52	56	60	72
dk	max.	5,5	7	8,5	10	13	16	18	21	24	27	30	33	36	45
k	max.	3	4	5	6	8	10	12	14	16	18	20	22	24	30
s		2,5	3	4	5	6	8	10	12	14	14	17	17	19	22

KUUSIÖKOLORUUVI
Lieriökanta
UNC



d		1/4	5/16	3/8	1/2	5/8	3/4	7/8	1.
kierteitä/tuuma		20	18	16	13	11	10	9	8
LT	min.	25	28	32	38	45	50	57	63
H		6,4	7,9	9,5	12,7	15,9	19	22,2	25,4
A		9,5	11,1	14,2	19	22,2	25,4	28,5	33,3
J		3/16	7/32	5/16	3/8	1/2	9/16	9/16	5/8



PIDÄTINRUUVI

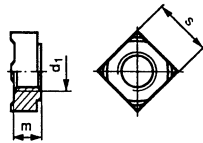
DIN 913, 914, 915 ja 916

ISO 4026, 4027, 4028 ja 4029

d	M3	M4	M5	M6	M8	M10	M12	M14	M16	M20	M24
P	0,5	0,7	0,8	1	1,25	1,5	1,75	2	2	2,5	3
dp max.	2	2,5	3	4	5,5	7	8,5	10	12	15	18
dt max.	-	-	-	1,5	2	2,5	3	4	4	5	6
dv	1,4	2	2,5	3	5	6	8	9	10	14	16
s	1,5	2	2,5	3	4	5	6	6	8	10	12
z short	min.	0,75	1	1,25	1,5	2	2,5	3	-	-	-
	max.	1	1,25	1,5	1,75	2,25	2,75	3,25	-	-	-
z long	min.	1,5	2	2,5	3	4	5	6	-	-	-
	max.	1,75	2,25	2,75	3,25	4,3	5,3	6,3	-	-	-

HITSAUSMUTTERI

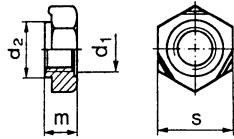
DIN 928



d1	M4	M5	M6	M8	M10
P	0,7	0,8	1	1,25	1,5
m h14	3,5	4,2	5	6,5	8
s h14	7	9	10	14	17

HITSAUSMUTTERI

DIN 929

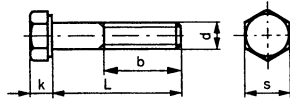


d1	M3	M4	M5	M6	M8	M10	M12	M14	M16
P	0,5	0,7	0,8	1	1,25	1,5	1,75	2	2
m h14	3	3,5	4	5	6,5	8	10	11	13
s h13	7,5	9	10	11	14	17	19	22	24
d2 d11	4,5	6	7	8	10,5	12,5	14,8	16,8	18,8

KUUSIORUUVI

DIN 931

ISO 4014

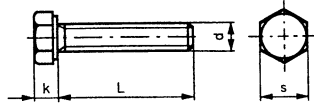


d	M4	M5	M6	M7	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27
P	0,7	0,8	1	1	1,25	1,5	1,75	2	2	2,5	2,5	2,5	3	3
b(1)	14	16	18	20	22	26	30	34	38	42	46	50	54	60
b(2)	-	22	24	26	28	32	36	40	44	48	52	56	60	66
b(3)	-	-	-	-	-	45	49	53	57	61	65	69	73	79
k	2,8	3,5	4	4,8	5,3	6,4	7,5	8,8	10	11,5	12,5	14	15	17
s	7	8	10	11	13	17	19	22	24	27	30	32	36	41
d	M30	M33	M36	M39	M42	M45	M48	M52	M56	M60				
P	3,5	3,5	4	4	4,5	4,5	5	5	5,5	5,5				
b(1)	66	72	78	84	90	96	102	-	-	-	b(1) L < 125			
b(2)	72	78	84	90	96	102	108	116	124	132	b(2) L 125 - 200			
b(3)	85	91	97	103	109	115	121	129	137	145	b(3) L > 200			
k	18,7	21	22,5	25	26	28	30	33	35	38				
s	46	50	55	60	65	70	75	80	85	90				

KUUSIORUUVI

DIN 933

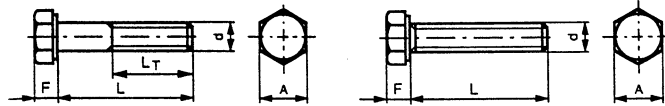
ISO 4017



d	M4	M5	M6	M7	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27
P	0,7	0,8	1	1	1,25	1,5	1,75	2	2	2,5	2,5	2,5	3	3
k	2,8	3,5	4	4,8	5,3	6,4	7,5	8,8	10	11,5	12,5	14	15	17
s	7	8	10	11	13	17	19	22	24	27	30	32	36	41
d	M30	M33	M36	M39	M42	M45	M48	M52						
P	3,5	3,5	4	4	4,5	4,5	5	5						
k	18,7	21	22,5	25	26	28	30	33						
s	46	50	55	60	65	70	75	80						

KUUSIORUUVI

UNC ja UNF

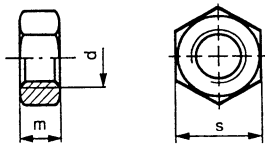


d	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1.				
k/tuuma UNC	20	18	16	14	13	12	11	10	9	8				
k/tuuma UNF	28	24	24	20	20	18	18	16	14	12				
LT(1)	19	22	25	29	32	35	38	44	51	57	L < 6"			
LT(2)	25	29	32	35	38	41	44	51	57	64	L > 6"			
F	4	5,2	6	7,1	7,9	9,1	9,9	11,9	13,9	15,5				
A	7/16	1/2	9/16	5/8	3/4	13/16	15/16	1.1/8	1.5/16	1.1/2				

MUTTERI

DIN 934

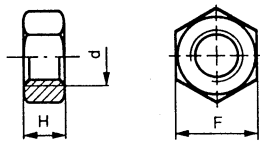
ISO 4032



d	M3	M4	M5	M6	M7	M8	M10	M12	M14	M16	M18	M20	M22	M24
P	0,5	0,7	0,8	1	1	1,25	1,5	1,75	2	2	2,5	2,5	2,5	3
P hienok.	-	0,75	0,9	0,75	-	1	1,25	1,5	1,5	1,5	2	2	2	2
	-	-	-	-	-	-	-	1	-	-	1	-	1	-
m	2,4	3,2	4	5	5,5	6,5	8	10	11	13	15	16	18	19
s	5,5	7	8	10	11	13	17	19	22	24	27	30	32	36
d	M27	M30	M33	M36	M39	M42	M45	M48	M52	M56	M60	M64	M68	M72
P	3	3,5	3,5	4	4	4,5	4,5	5	5	5,5	5,5	6	6	6
P hienok.	2	2	2	3	3	3	3	3	3	4	4	4	4	4
	1,5	1,5	1,5	2	1,5	1,5	1,5	2	1,5	2	2	-	-	2
m	22	24	26	29	31	34	36	38	42	45	48	51	54	58
s	41	46	50	55	60	65	70	75	80	85	90	95	100	105

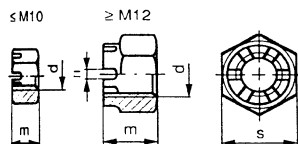
MUTTERI

UNC ja UNF



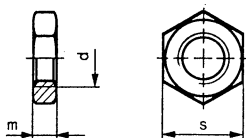
d	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1.	1.1/8	1.1/4
k/tuuma UNC	20	18	16	14	13	12	11	10	9	8	7	7
k/tuuma UNF	28	24	24	20	20	18	18	16	14	12/14	12	12
H	5,6	6,7	8,3	9,5	11,1	12,3	13,9	16,3	19	21,8	24,6	27
F	7/16	1/2	9/16	11/16	3/4	7/8	15/16	1.1/8	1.5/16	1.1/2	1.11/16	1.7/8

KRUUNUMUTTERI
DIN 935



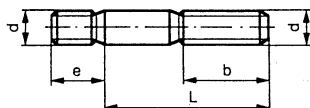
d	M5	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27	M30
P	0,8	1	1,25	1,5	1,75	2	2	2,5	2,5	2,5	3	3	3,5
m	6	7,5	9,5	15	15	16	19	21	22	26	27	30	33
s	8	10	13	17	19	22	24	27	30	32	36	41	46
n	1,4	2	2,5	2,8	3,5	3,5	4,5	4,5	4,5	5,5	5,5	5,5	7

MUTTERI (matala)
DIN 936/439B



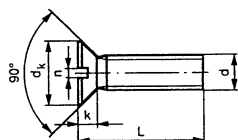
d	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27	M30
P	0,7	0,8	1	1,25	1,5	1,75	2	2	2,5	2,5	2,5	3	3	3,5
P hienok.	-	-	-	1	1,25	1,5	1,5	1,5	2	2	2	2	-	2
	-	-	-	-	1	1,25	1,25	-	1,5	1,5	1,5	1,5	1,5	1,5
	-	-	-	-	-	1	1	-	1	1	1	-	-	-
m 936/439B	-/2,2	-/2,7	-/3,2	5/4	6/5	7/6	8/7	8	9	9/10	10/11	10/12	12/13,5	12/15
s	7	8	10	13	17	19	22	24	27	30	32	36	41	46

VAARNARUUVI
DIN 939



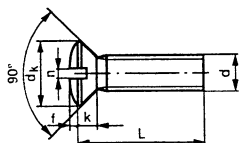
d	M6	M8	M10	M12	M14	M16	M20	M22	M24	M27	M30	
P	1	1,25	1,5	1,75	2	2	2,5	2,5	3	3	3,5	
b(1)	18	22	26	30	34	38	46	50	54	60	66	b(1) L < 125
b(2)	24	28	32	36	40	44	52	56	60	66	72	b(2) L 125 - 200
e ~ 1,25d	7,5	10	12	15	18	20	25	28	30	35	38	

URARUUVI
DIN 963
ISO 2009



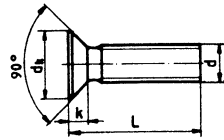
d	M2	M2,5	M3	M3,5	M4	M5	M6	M8	M10	M12	M16	M20
P	0,4	0,45	0,5	0,6	0,7	0,8	1	1,25	1,5	1,75	2	2,5
dk	3,8	4,7	5,6	6,5	7,5	9,2	11	14,5	18	22	29	36
k max.	1,2	1,5	1,65	1,93	2,2	2,5	3	4	5	6	8	10
n	0,5	0,6	0,8	0,8	1	1,2	1,6	2	2,5	3	4	5

URARUUVI
DIN 964
ISO 2010



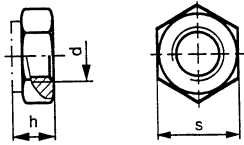
d	M3	M4	M5	M6	M8
P	0,5	0,7	0,8	1	1,25
dk	5,6	7,5	9,2	11	14,5
k max.	1,65	2,2	2,5	3	4
f ~	0,75	1	1,25	1,5	2
n	0,8	1	1,2	1,6	2

URARUUVI
DIN 965
ISO 7046



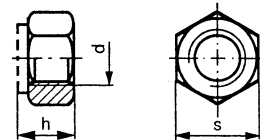
d	M3	M4	M5	M6	M8
P	0,5	0,7	0,8	1	1,25
dk	5,6	7,5	9,2	11	14,5
k max.	1,65	2,2	2,5	3	4

LUKKOMUTTERI
DIN 980
ISO 7042



d	M6	M8	M10	M12	M14	M16	M20
P	1	1,25	1,5	1,75	2	2	2,5
s max.	10	13	17	19	22	24	30
h max.	6	7,5	9	11	12	14	18

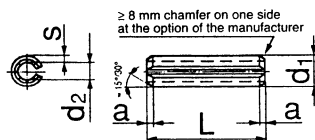
LUKKOMUTTERI
DIN 985



d	M3	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27
P	0,5	0,7	0,8	1	1,25	1,5	1,75	2	2	2,5	2,5	2,5	3	3
s	5,5	7	8	10	13	17	19	22	24	27	30	32	36	41
h	4	5	5	6	8	10	12	14	16	18,5	20	22	24	27

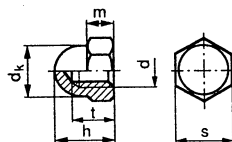
d	M30	M33	M36	M39	M42	M45	M48	M52	M56	M60	M64
P	3,5	3,5	4	4	4,5	4,5	5	5	5,5	5,5	6
s	46	50	55	60	65	70	75	80	85	90	95
h	30	33	36	39	42	45	48	52	56	60	64

JOUSISOKKA
DIN 1481
ISO 8752



d	2	2,5	3	4	5	6	8	10	12	13	14	16	18	20
d1 min.	2,3	2,8	3,3	4,4	5,4	6,4	8,5	10,5	12,5	13,5	14,4	16,5	18,5	20,5
d1 max.	2,4	2,9	3,5	4,6	5,6	6,7	8,8	10,8	12,8	13,8	14,8	16,8	18,9	20,9
d2 ~	1,5	1,8	2,1	2,8	3,4	3,9	5,5	6,5	7,5	8,5	8,5	10,5	11,5	12,5
s	0,4	0,5	0,6	0,8	1	1,25	1,5	2	2,5	2,5	3	3	3,5	4
a	0,35	0,4	0,5	0,65	0,9	1,2	2	2	2	2	2	2	2	3

HATTUMUTTERI
DIN 1587

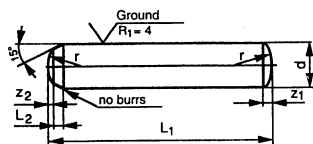


d	M3	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24
P	0,5	0,7	0,8	1	1,25	1,5	1,75	2	2	2,5	2,5	2,5	3
m max.	2,5	3,2	4	5	6,5	8	10	11	13	15	16	18	19
s	5,5	7	8	10	13	17	19	22	24	27	30	32	36
h	6,5	8	10	12	15	18	22	25	28	32	34	39	42
dk max.	5	6,5	7,5	9,5	12,5	16	18	21	23	26	28	31	34
t	4,5	5,5	7,5	8	11	13	16	18	21	25	26	29	31

LIERIÖSOKKA

DIN 6325

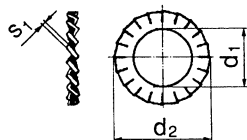
ISO 8734



d	m6	2	2,5	3	4	5	6	8	10	12	14	16	20
L2		0,6	0,7	0,8	1	1,2	1,5	1,8	2	2,5	2,5	3	4
r ~		2	2,5	3	4	5	6	8	10	12	16	16	20
z1 ~		0,3	0,4	0,45	0,6	0,75	0,9	1,2	1,5	1,8	2	2,5	3
z2 ~		0,18	0,25	0,3	0,4	0,5	0,6	0,8	1	1,3	1,3	1,7	2

TÄHTIALUSLEVY

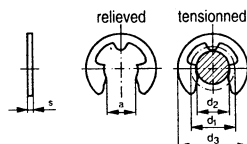
DIN 6798A



	M2,5	M3	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M24	M30
d1	2,7	3,2	4,3	5,3	6,4	8,4	10,5	13	15	17	19	21	25	31
d2	5,5	6	8	10	11	15	18	20,5	24	26	30	33	38	48
s1	0,4	0,4	0,5	0,6	0,7	0,8	0,9	1	1	1,2	1,4	1,4	1,51,5	1,6

PIKAVARMISTIN

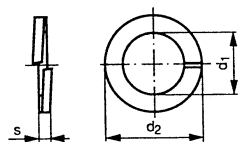
DIN 6799



d2	h11	1,2	1,5	1,9	2,3	3,2	4	5	6	7	8	9	10	12	15
d1	min.	1,4	2	2,5	3	4	5	6	7	8	9	10	11	13	16
	max.	2	2,5	3	4	5	7	8	9	11	12	14	15	18	24
s		0,3	0,4	0,5	0,6	0,6	0,7	0,7	0,7	0,9	1	1,1	1,2	1,3	1,5
a		1,01	1,28	1,61	1,94	2,7	3,34	4,11	5,26	5,84	6,52	7,63	8,32	10,45	12,61
d3		3,25	4,25	4,8	6,3	7,3	9,3	11,3	12,3	14,3	16,3	18,8	20,4	23,4	29,4

JOUSIALUSLEVY

DIN 7980

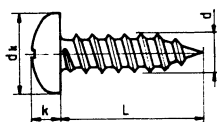


	M3	M4	M5	M6	M8	M10	M12	M14	M16	M20	M22	M24	M27	M30
d1 min.	3,1	4,1	5,1	6,1	8,1	10,2	12,2	14,2	16,2	20,2	22,5	24,5	27,5	30,5
d2 max.	5,6	7	8,8	9,9	12,7	16	18	21,1	24,4	30,6	32,9	35,9	38,9	44,1
s	1	1,2	1,6	1,6	2	2,5	2,5	3	3,5	4,5	4,5	5	5	6

LEVYRUUVI

DIN 7981

ISO 7049

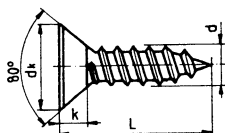


d	2,9	3,5	3,9	4,2	4,8	5,5	6,3
dk	5,6	6,9	7,5	8,2	9,5	10,8	12,5
k	2,2	2,6	2,8	3,05	3,55	3,95	4,55

LEVYRUUVI

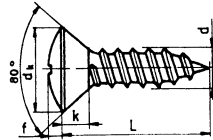
DIN 7982

ISO 7050



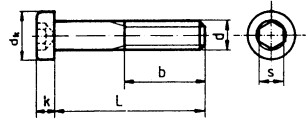
d	2,9	3,5	3,9	4,2	4,8	5,5	6,3
dk	5,5	6,8	7,5	8,1	9,5	10,8	12,4
k ~	1,7	2,1	2,3	2,5	3	3,4	3,8

LEVYRUUVI
DIN 7983
ISO 7051



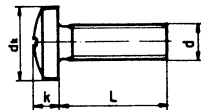
d	2,9	3,5	3,9	4,2	4,8	5,5	6,3
dk	5,5	6,8	7,5	8,1	9,5	10,8	12,4
k ~	1,7	2,1	2,3	2,5	3	3,4	3,8
f ~	0,9	1,2	1,3	1,4	1,5	1,7	2

KUUSIOKOLORUUVI
DIN 7984



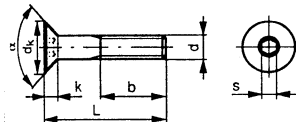
d	M4	M5	M6	M8	M10	M12	M14	M16	M20	M24
P	0,7	0,8	1	1,25	1,5	1,75	2	2	2,5	3
b	14	16	18	22	26	30	34	38	46	54
dk	7	8,5	10	13	16	18	21	24	30	36
k	2,8	3,5	4	5	6	7	8	9	11	13
s	2,5	3	4	5	7	8	10	12	14	17

URARUUVI
DIN 7985
ISO 7045



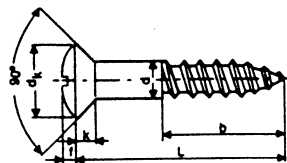
d	M2	M2,5	M3	M4	M5	M6	M8	M10
P	0,4	0,45	0,5	0,7	0,8	1	1,25	1,5
dk	4	5	6	8	10	12	16	20
k	1,6	2	2,4	3,1	3,8	4,6	6	7,5

KUUSIOKOLORUUVI
DIN 7991



d	M3	M4	M5	M6	M8	M10	M12	M14	M16	M20	M24	
P	0,5	0,7	0,8	1	1,25	1,5	1,75	2	2	2,5	3	
b(1)	12	14	16	18	22	26	30	34	38	46	54	b(1) L < 125
b(2)	-	-	-	24	28	32	36	40	44	52	60	b(2) L 125 - 200
dk	6	8	10	12	16	20	24	27	30	36	39	
k max.	1,7	2,3	2,8	3,3	4,4	5,5	6,5	7	7,5	8,5	14	
a	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	
s	2	2,5	3	4	5	6	8	10	10	12	14	

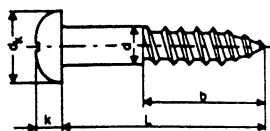
PUURUUVI
DIN 7995



b=0,6l

d	2,5	3	3,5	4	4,5	5	5,5	6
dk	4,7	5,6	6,5	7,5	8,3	9,2	10,2	11
k	1,5	1,65	1,93	2,2	2,35	2,5	2,75	3
f	0,6	0,75	0,9	1	1,1	1,25	1,4	1,5

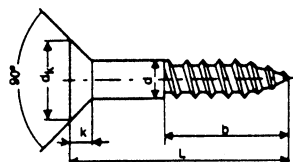
PUURUUVI
DIN 7996



b=0,6l

d	2,5	3	3,5	4	4,5	5	5,5	6
dk	5	6	7	8	9	10	11	12
k	1,7	2,1	2,4	2,8	3,1	3,5	3,8	3,8

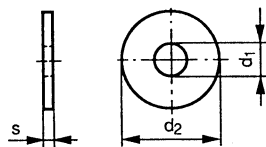
PUURUUVI
DIN7997



b=0,6l

d	2,5	3	3,5	4	4,5	5	5,5	6
dk	4,7	5,6	6,5	7,5	8,3	9,2	10,2	11
k	1,5	1,65	1,93	2,2	2,35	2,5	2,75	3


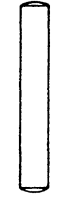


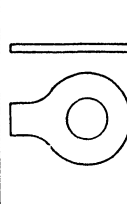
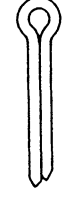



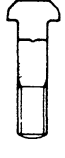

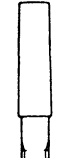
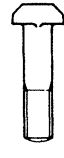
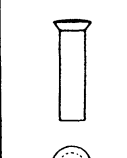
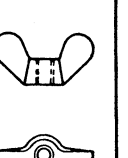
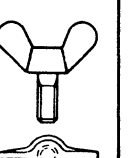
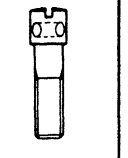
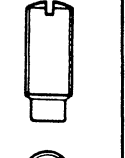
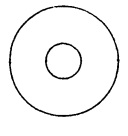
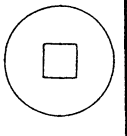

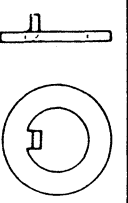

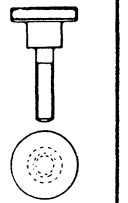
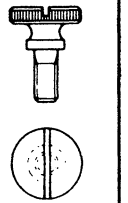
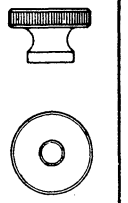
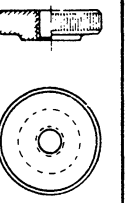


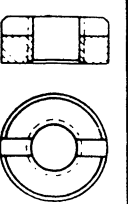
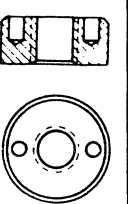
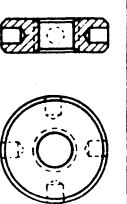
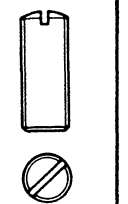
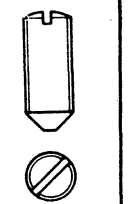
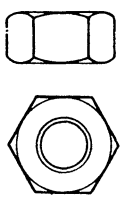
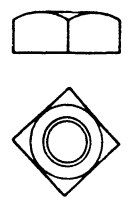
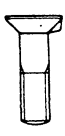
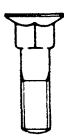


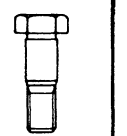
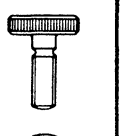
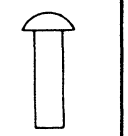
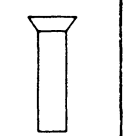
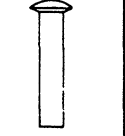









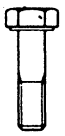
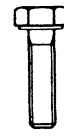
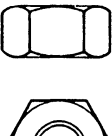
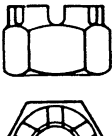
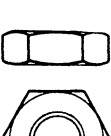
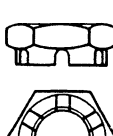
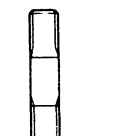
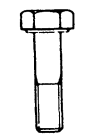
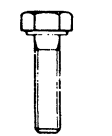
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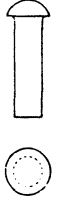
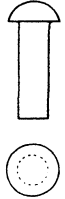
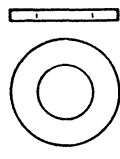
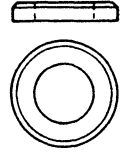
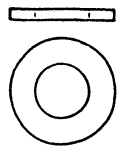
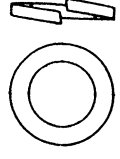




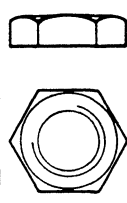
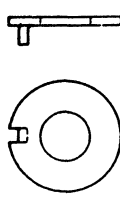
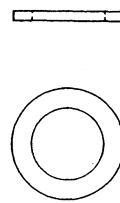
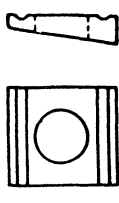
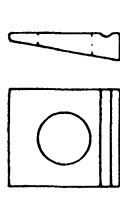
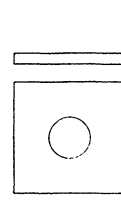
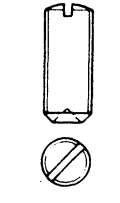
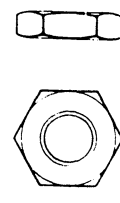
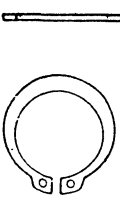
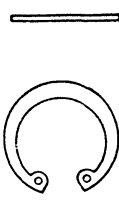


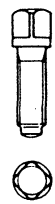
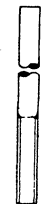


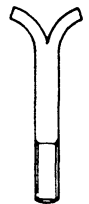
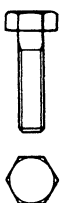
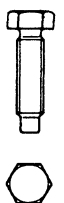
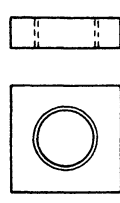
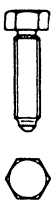




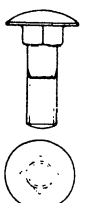
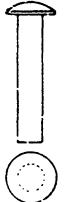
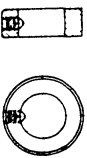
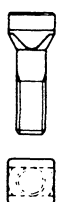


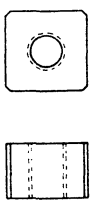
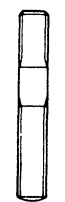
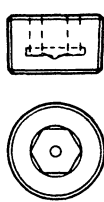
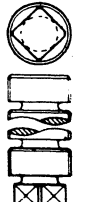
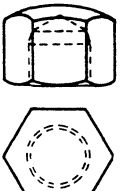
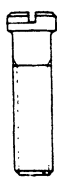
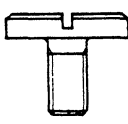
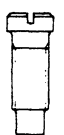
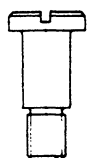
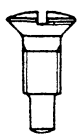
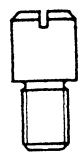
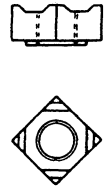




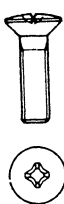





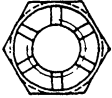









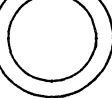

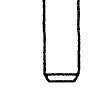

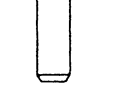

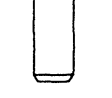
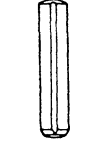

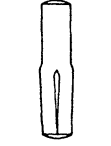

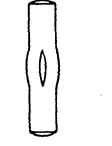

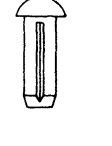

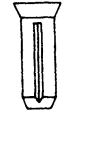

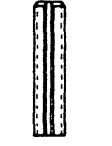

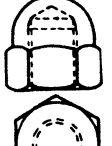

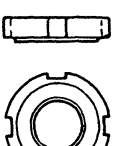

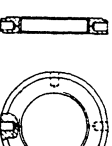

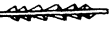
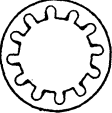


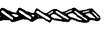
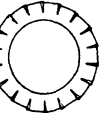
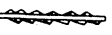
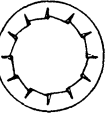

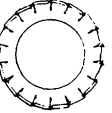
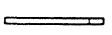


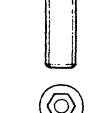
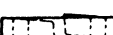
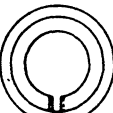

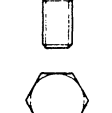
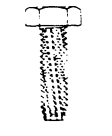

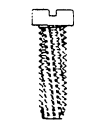

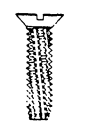

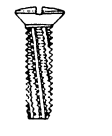

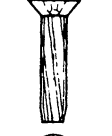

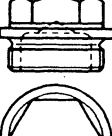

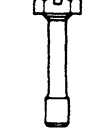

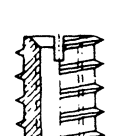
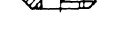
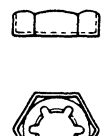







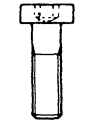

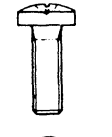

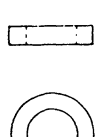

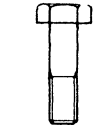

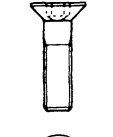

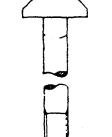

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d1	3,2	4,3	5,3	6,4	8,4	10,5	13	15	17	20	22
d2	9	12	15	18	24	30	37	44	50	56	60
s	0,8	1	1,2	1,6	2	2,5	3	3	3	4	4

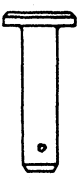

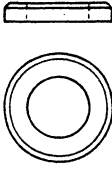
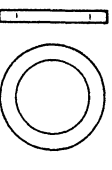


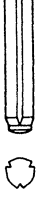
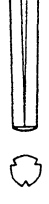
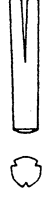
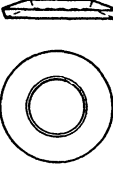
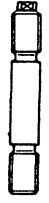
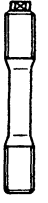
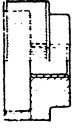

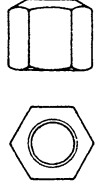
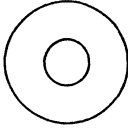
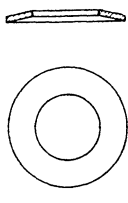
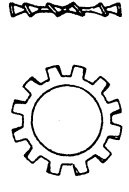



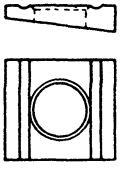
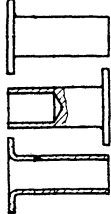
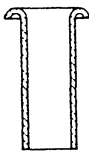
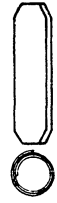
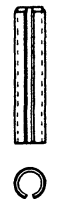
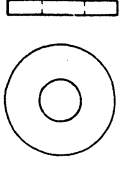







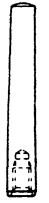
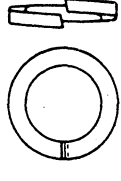



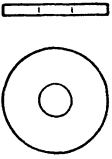
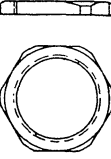


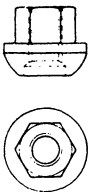
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1	B.VI.2	2339	Kartiosokka
7	B.VI.1	2338	Lieriösokka
84	2176	1207	Uraruuvi, lieriökanta
85	2179	1580	Uraruuvi, liitinkanta
93			Lukituslaatta, 1-lehtinen
94	B.VI.3	1234	Saksiosokka
95	2288	2288	Puuruuvi, kupu-uppokanta
96	2287	2287	Puuruuvi, kupukanta
97	2286	2286	Puuruuvi, uppokanta
123			Niitti, kupukanta
124			Niitti, kupukanta
125	2041	7089	Aluslaatta, tarkkuusluokka m, tyyppi A - B
126	2042	7091	Aluslaatta, tarkkuusluokka g
127			Jousilaatta, tyyppi A - B
128			Jousilaatta, tyyppi A - B
137			Aaltolaatta, tyyppi A - B
186			Vasararuuvi, neliölukitusella
188			Vasararuuvi, 2:lla sakaralla
258			Kartiosokka, kierrepäällä
261			Vasararuuvi, ilman lukitusta
302			Niitti, pienellä kupu-uppokannalla
315	B.V.136		Siipimutteri
316			Siipiruuvi
404			Urallinen ristireikäruuvi
417	B.V.67	7435	Urapidätinruuvi, tappipäinen
427			Varsiruuvi, uralla
431	2449	4035	Kuusiomutteri, R-putkikierteellä
432			Lukituslaatta, sakara ulkokehässä
433		7092	Aluslaatta, kapea tarkkuusluokka m
434	B.V.154		Aluslaatta, U-rautaa varten
435	B.V.153		Aluslaatta, I-rautaa varten
436	B.V.158		Nelikulma-aluslaatta
438	B.V.65	7436	Urapidätinruuvi, kuoppapäinen
439		4035	Kuusiomutteri, matala
440		7094	Aluslaatta, pyöreä reikä, tyyppi R
440			Aluslaatta, nelikulmareikä, tyyppi V
444			Silmukkaruuvi
462			Lukituslaatta, sakara reijässä
463			Lukituslaatta, 2-lehtinen
464			Sormiruuvi
465			Sormiruuvi
466			Sormimutteri
467			Sormimutteri
471			Lukkorengas, akselille
472			Lukkorengas, reikään
478			Neliökantaruuvi, laipallinen
479			Neliökantaruuvi, tappipäinen
480			Neliökantaruuvi, tappipäinen olakkeella
525			Hitsattava ruuvi
529			Peruspultti
546			Pyörömutteri, uralla
547			Pyörömutteri, päätyreijillä
548			Pyörömutteri, sivureijillä
551	B.V.61	4766	Urapidätinruuvi, typpäpäinen
553	B.V.63	7434	Urapidätinruuvi, teräväpäinen
555			Kuusiomutteri, tarkkuusluokka g
557			Nelikulmamutteri
558		4018	Kuusioruuvi, tarkkuusluokka g
561			Kuusioruuvi, tappipäinen
562			Nelikulmamutteri, matala
564			Kuusioruuvi, kupuolakepäinen
571	2248		Kansiruuvi
580		3266	Nostosilmukkaruuvi
582			Nostosilmukkamutteri
601		4016	Kuusioruuvi, tarkkuusluokka g
603	2458	8677	Lukkoruuvi, kupukanta, neliölukitus
604			Lukkoruuvi, uppokanta, ripalukitus
605			Lukkoruuvi, uppokanta, neliölukitus
607			Lukkoruuvi, kupukanta, ripalukitus
608			Lukkoruuvi, uppokanta, matalaneliölukitus
609, 610			Soviteruuvit
653			Sormiruuvi
660	R1051		Niitti, kupukanta
661	R1051		Niitti, uppokanta
662	R1051		Niitti, kupu-uppokanta
674			Niitti, matala kupukanta
703-705			Pidätinrenkaat
787		299	T-uraruuvi
792			Lieriökantaruuvi, nenällä
797			Perusruuvi
798			Perusmutteri
835			Vaamaruuvi
906			Kuusiokolotulppa, kartiomainen
907			Ydintulppa, ydintulppatangot
908			Kuusiokolotulppa, laipallinen
909			Kuusiokantatulppa, kartiomainen
910			Kuusiokantatulppa, laipallinen
911		2936	Kuusiokoloavain
912	2219	4762	Kuusiokoloruuvi, lieriökanta
913	4735	4026	Kuusiokolopidätinruuvi, typpäpäinen
914	4736	4027	Kuusiokolopidätinruuvi, teräväpäinen
915	4737	4028	Kuusiokolopidätinruuvi, tappipäinen
916	4738	4029	Kuusiokolopidätinruuvi, kuoppapäinen
917			Hatsumutteri, matala kupu
920			Pienlieriökantauraruuvi
921			Leveäkantauraruuvit
922			Pienlieriökantauraruuvi, tappipäällä
923			Matalakantauraruuvi, olakkeella
924, 925			Uraruuvi, kupu-uppo/uppok. tappipäinen
926, 927			Urapidätinruuvi, norm. pidem. tapilla/DIN 927-tappiruuvi

DIN	SFS	ISO	
928			Nelikulma hitsausmutteri
929			Kuusiokantamutteri
931	2063	4014	Kuusioruuvi, osakierteinen
933	2064	4017	Kuusioruuvi, täyskierteinen
934	2067	4032	Kuusiomutteri
935	2071		Kuusiokruunumutteri
936	2068	2068	Kuusiomutteri, matala
937, 979			Kuusiokruunumutteri, matala
938, 939			Vaamaruuvit
960	2065	8765	Kuusioruuvi, hienokierre, osakierre
961	2066	8766	Kuusioruuvi, hienokierre, täyskierre
963	2177	2009	Uraruuvi, uppokanta
964	2178	2010	Uraruuvi, kupu-uppokanta
965	2977	7046	Uraruuvi, uppokanta, ristiura
966	2978	7047	Uraruuvi, kupu-uppokanta, ristiura
975			Kierretanko, leikauilla manglaulla kiert.
976			Vaamaruuvit, läpikierteinen
979			Kruunumutteri, matala
980		7042	Kuusiokantamutteri, matala
982		7040	Kuusiokantamutteri Nyloc, korkea
985			Kuusiokantamutteri Nyloc
986			Hatsumutteri Nyloc-lukitusella
988			Sovitealuslevy
1433, 1443			Sokkapultti sokkareijällä
1434, 1444			Sokkapultti, pienellä kannalla/sokkareijällä
1435			Sokkapultti, pienellä kannalla/sokkareijällä
1436			Sokkapultti, leveällä kannalla/sokkareijällä
1438			Sokkapultti, pienellä kannalla/kierteellä
1440			Aluslaatta
1441			Aluslaatta
1470		8739	Uratappi
1471		8744	Uratappi
1472		8745	Uratappi
1473		8740	Uratappi
1474		8741	Uratappi
1475		8742	Uratappi
1476		8746	Uranitiitti
1477			Uranitiitti
1481		8752	Jousiosokka
1587			Hattumutteri
1804			Pyörömutteri, sivu-urilla
1816			Pyörömutteri, sivureijillä
2093, 6796	3737		Lautasjousi
2509			Lämmönkestävät vaarnat
2510			Lämmönkestävät vaarnat kevennetyllä varrella
6303			Sormimutteri
6325		8734	Lieriösokka, hiottu ja karkastu
6330			Kuusiomutteri, sovitekartolla
6340			Aluslaatta
6797			Lukitusaluslevy, tyyppi AZ, IZ, AZV
6798			Tähdialuslevy, tyyppi AZ, IZ, AZV
6799			Lukkorengas, akselille
6912			Kuusiokoloruuvi, matalakanta
6913			Jousilaatta, suojavaipalla
6914		7412	HV-ruuvi
6915		7413	HV-mutteri
6916		7414	HV-aluslevy
6917			HV-aluslevy I-rautaa varten
6918			HV-aluslevy U-rautaa varten
6923		4161	Laippamutteri
6926		7043	Laippalukitusmutteri
6927		7044	Laippalukitusmutteri, täysmetalli
7338, 7339			Putkinitit
7340			Putkinitit
7343, 7344		8750, 8748	Kierretty jousiosokka
7346			Jousiosokka, kevyt malli
7349			Aluslaatta, jousiosokan alle
7513			Isekierteittävät ruuvit
7516			Isekierteittävät ruuvit ristiuralla
7604			Kuusiokantatulppa, laipalla
7964			Kuusiokantaruuvi, ohennettu, uralla
7965			Ulkokierremutteri
7967		1479	Pal-lukitusmutteri
7968			Soviteruuvi
7969			Uraruuvi, uppokanta
7971	2699	1481	Peldiruuvi, lieriökanta
7972	2700	1482	Peldiruuvi, uppokanta
7973	2701	1483	Peldiruuvi, kupu-uppokanta
7976		1479	Peldiruuvi, kuusiokanta
7977	B.VI.5		Kartiosokka, kierteellinen
7978			Kartiosokka, sisäkierteellinen
7980			Jousialuslevy, kapea
7981	2759	7049	Peldiruuvi, lieriökanta, ristiura
7982	2760	7050	Peldiruuvi, uppokanta, ristiura
7983	2761	7051	Peldiruuvi, kupu-uppokanta, ristiura
7984			Kuusiokoloruuvi, matalakanta
7985	2976	7045	Uraruuvi, lieriökanta, ristiura
7989			Aluslaatta, ainevahvuus 8 mm
7990			Kuusioruuvi, lyhyellä kierteellä
7991			Kuusiokoloruuvi, uppokanta
7992			Vasararuuvi, neliölukitusella
7995	2988		Puuruuvi, kupu-uppokanta, ristiura
7996	2987		Puuruuvi, kupukanta, ristiura
7997	2988		Puuruuvi, uppokanta, ristiura
9021		7093	Korialislevy
46258			Vastamutteri, panssarierteellä
46268			Liitinaluslaatta, tyyppi A - B
74361			Kartiolaippamutteri/Laippamutteri

 DIN 1	 DIN 7	 DIN 84	 DIN 85	 DIN 93	 DIN 94	 DIN 95	 DIN 96	 DIN 97
 DIN 186	 DIN 188	 DIN 258	 DIN 261	 DIN 302	 DIN 315	 DIN 316	 DIN 404	 DIN 417
 DIN 440 R	 DIN 440 V	 DIN 444	 DIN 462	 DIN 463	 DIN 464	 DIN 465	 DIN 466	 DIN 467
 DIN 529 D	 DIN 529 F	 DIN 546	 DIN 547	 DIN 548	 DIN 551	 DIN 553	 DIN 555	 DIN 557
 DIN 604	 DIN 605	 DIN 607	 DIN 608	 DIN 609 610	 DIN 653	 DIN 660	 DIN 661	 DIN 662
 DIN 908	 DIN 909	 DIN 910	 DIN 911	 DIN 912	 DIN 913	 DIN 914	 DIN 915	 DIN 916
 DIN 931	 DIN 933	 DIN 934	 DIN 935	 DIN 936	 DIN 937	 DIN 938-939	 DIN 960	 DIN 961

 DIN 123	 DIN 124	 DIN 125 A	 DIN 125 B	 DIN 126	 DIN 127	 DIN 128	 DIN 137 A	 DIN 137 B
 DIN 427	 DIN 431	 DIN 432	 DIN 433	 DIN 434	 DIN 435	 DIN 436	 DIN 438	 DIN 439
 DIN 471	 DIN 472	 DIN 478	 DIN 479	 DIN 480	 DIN 525	 DIN 529 A	 DIN 529 B	 DIN 529 C
 DIN 558	 DIN 561	 DIN 562	 DIN 564	 DIN 571	 DIN 580	 DIN 582	 DIN 601	 DIN 603
 DIN 674	 DIN 703-705	 DIN 787	 DIN 792	 DIN 797	 DIN 798	 DIN 835	 DIN 906	 DIN 907
 DIN 917	 DIN 920	 DIN 921	 DIN 922	 DIN 923	 DIN 924-925	 DIN 926-927	 DIN 928	 DIN 929
 DIN 963	 DIN 964	 DIN 965	 DIN 966	 DIN 975	 DIN 976			

 	 	 	 	 	 	 	 	 
DIN 979	DIN 980	DIN 982	DIN 985	DIN 986	DIN 988	DIN 1433	DIN 1434	DIN 1435
 	 	 	 	 	 	 	 	 
DIN 1473	DIN 1474	DIN 1475	DIN 1476	DIN 1477	DIN 1481	DIN 1587	DIN 1804	DIN 1816
 	 	 	 	 	 	 	 	 
DIN 6797 IZ	DIN 6797 AZV	DIN 6798 AZ	DIN 6798 IZ	DIN 6798 AZV	DIN 6799	DIN 6912	DIN 6913	DIN 6914
 	 	 	 	 	 	 	 	 
DIN 7513 A	DIN 7513 B	DIN 7513 D	DIN 7513 E	DIN 7516	DIN 7604	DIN 7964	DIN 7965	DIN 7967
 	 	 	 	 	 	 	 	 
DIN 7981	DIN 7982	DIN 7983	DIN 7984	DIN 7985	DIN 7989	DIN 7990	DIN 7991	DIN 7992

 DIN 1436	 DIN 1438	 DIN 1440	 DIN 1441	 DIN 1443	 DIN 1444	 DIN 1470	 DIN 1471	 DIN 1472
 DIN 2093	 DIN 2509	 DIN 2510	 DIN 6303	 DIN 6325	 DIN 6330	 DIN 6340	 DIN 6796	 DIN 6797 AZ
 DIN 6915	 DIN 6916	 DIN 6917	 DIN 6918	 DIN 7338-7339	 DIN 7340	 DIN 7343-7344	 DIN 7346	 DIN 7349
 DIN 7968	 DIN 7969	 DIN 7971	 DIN 7972	 DIN 7973	 DIN 7976	 DIN 7977	 DIN 7978	 DIN 7980
 DIN 7995	 DIN 7996	 DIN 7997	 DIN 9021	 DIN 46258	 DIN 46288	 DIN 74361 B	 DIN 74361 A	