

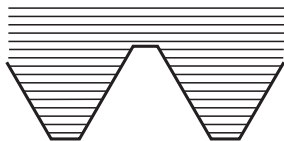
Накатывание внутренних резьб - одна из самых прогрессивных технологий образования резьб. Эта технологию желательно использовать для получения резьбы в материалах, имеющих коэффициент относительного удлинения материала не меньше 10 %

Преимущества процесса накатывания резьбы

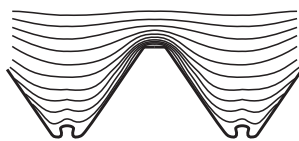
- Формирование резьбы без образования стружки
- Более высокая точность и низкая шероховатость отверстия и резьбы
- Однородная калибровка резьбы
- Более высокая прочность винтового соединения
- Больше прочность бесстружечных метчиков - выше стойкость инструмента
- Выше скорость - выше производительность

Необходимые условия процесса:

- Оптимальный диаметр просверливаемого отверстия
- Эффективное охлаждение
- Эффективные обороты шпинделя/метчика



Нарезанная резьба



Накатанная резьба

## Рекомендуемые диаметры отверстий для накатывания резьбы

Метрическая резьба ISO			
Диаметр резьбы		Диаметр отверстия - Ø	
Ø	P	Минимально	Максимально
мм	мм	мм	мм
M 3	0,5	2,77	2,82
M 3,5	0,6	3,23	3,28
M 4	0,7	3,68	3,73
M 4,5	0,75	4,15	4,21
M 5	0,8	4,63	4,68
M 6	1	5,51	5,59
M 7	1	6,51	6,59
M 8	1,25	7,39	7,48
M 9	1,25	8,39	8,48
M 10	1,5	9,25	9,35
M 11	1,5	10,25	10,35
M 12	1,75	11,12	11,25
M 14	2	13	13,15
M 16	2	15	15,15
M 18	2,5	16,72	16,9
M 20	2,5	18,72	18,9
G 1/8"	28	9,25	9,32

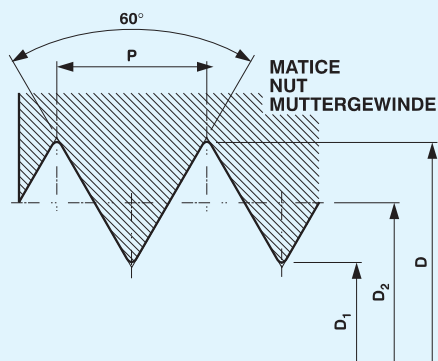
  

Трубная цилиндрическая резьба DIN ISO 228			
Диаметр резьбы		Диаметр отверстия - Ø	
Ø"	P/1"	Минимально	Максимально
мм	мм	мм	мм
G 1/4"	19	12,43	12,53
G 3/8"	19	15,94	16,04
G 1/2"	14	19,96	20,1
G 5/8"	14	21,92	22,08
G 3/4"	14	25,45	25,6
G 7/8"	14	29,2	29,35
G 1"	11	31,97	32,15

Uvedené hodnoty je nutné vždy ověřit s ohledem na tažnost tvářeného materiálu.

Мелкая метрическая резьба ISO			
Диаметр резьбы		Диаметр отверстия - Ø	
Ø"		Минимально	Максимально
мм		мм	мм
M 3,5 x 0,5		3,27	3,32
M 4 x 0,5		3,77	3,82
M 4,5 x 0,5		4,27	4,32
M 5 x 0,5		4,77	4,82
M 5,5 x 0,5		5,27	5,32
M 6 x 0,5		5,78	5,83
M 6 x 0,75		5,65	5,71
M 7 x 0,75		6,65	6,71
M 8 x 0,75		7,65	7,71
M 9 x 0,75		8,65	8,71
M 10 x 0,75		9,65	9,71
M 11 x 0,75		10,65	10,71
M 8 x 1		7,51	7,59
M 9 x 1		8,51	8,59
M 10 x 1		9,51	9,59
M 11 x 1		10,51	10,59
M 12 x 1		11,52	11,6
M 14 x 1		13,52	13,6
M 15 x 1		14,52	14,6
M 16 x 1		15,52	15,6
M 18 x 1		17,52	17,6
M 20 x 1		19,52	19,6
M 10 x 1,25		9,39	9,48
M 12 x 1,25		11,4	11,49
M 14 x 1,25		13,4	13,49
M 12 x 1,5		11,26	11,36
M 14 x 1,5		13,26	13,36
M 16 x 1,5		15,26	15,36
M 18 x 1,5		17,26	17,36
M 20 x 1,5		19,26	19,36
M 22 x 1,5		21,26	21,36
M 24 x 1,5		23,26	23,38
M 25 x 1,5		24,26	24,38
M 26 x 1,5		25,26	25,38
M 28 x 1,5		27,26	27,38
M 30 x 1,5		29,26	29,38
M 18 x 2		17	17,15
M 20 x 2		19	19,15
M 22 x 2		21	21,15
M 24 x 2		23,01	23,16
M 27 x 2		26,01	26,16
M 30 x 2		29,01	29,16

**M** **DIN 13**



D velký průměr závitu matice  
major diameter of nut thread  
Aussendurchmesser des Muttergewindes

D<sub>2</sub> střední průměr závitu matice  
pitch diameter of nut thread  
Flankendurchmesser des Muttergewindes

D<sub>1</sub> malý průměr závitu matice  
minor diameter of nut thread  
Kerndurchmesser des Muttergewindes

P stoupání závitu  
pitch of thread  
Gewindesteigung

d = D

Závit Thread / Gewinde		D <sub>1 max</sub>			D <sub>1 min</sub>
d	P	5H	6H	7H	5H, 6H, 7H
M 3	0,50	2,571	2,599	2,639	2,459
M 3	0,35	2,701	2,721	-	2,621
M 3,5	0,60	2,975	3,010	3,050	2,850
M 3,5	0,35	3,201	3,221	-	3,121
M 4	0,70	3,382	3,422	3,466	3,242
M 4	0,50	3,571	3,599	3,639	3,459
M 4	0,35	3,701	3,722	-	3,622
M 4,5	0,75	3,838	3,878	3,924	3,688
M 4,5	0,50	4,071	4,099	4,139	3,959
M 5	0,80	4,294	4,334	4,384	4,134
M 5	0,50	4,571	4,599	4,639	4,459
M 5,5	0,50	5,071	5,099	5,139	4,959
M 6	1,00	5,107	5,153	5,217	4,917
M 6	0,75	5,338	5,378	5,424	5,188
M 6	0,50	5,570	5,598	5,638	5,458
M 7	1,00	6,107	6,153	6,217	5,917
M 7	0,75	6,338	6,378	6,424	6,188
M 8	1,25	6,859	6,912	6,982	6,647
M 8	1,00	7,107	7,153	7,217	6,917
M 8	0,75	7,338	7,378	7,424	7,188
M 8	0,50	7,570	7,598	7,638	7,458
M 9	1,25	7,859	7,912	7,982	7,647
M 9	1,00	8,107	8,153	8,217	7,917
M 9	0,75	8,338	8,378	8,424	8,188
M 10	1,50	8,612	8,676	8,751	8,376
M 10	1,25	8,859	8,912	8,982	8,647
M 10	1,00	9,107	9,153	9,217	8,917
M 10	0,75	9,338	9,378	9,424	9,188
M 11	1,50	9,612	9,676	9,751	9,376
M 11	1,00	10,107	10,153	10,217	9,917
M 11	0,75	10,338	10,378	10,424	10,188
M 12	1,75	10,371	10,441	10,531	10,106
M 12	1,50	10,612	10,676	10,751	10,376
M 12	1,25	10,859	10,912	10,982	10,647
M 12	1,00	11,107	11,153	11,217	10,917
M 13	1,00	12,108	12,154	12,218	11,918
M 14	2,00	12,135	12,210	12,310	11,835
M 14	1,50	12,612	12,676	12,751	12,376
M 14	1,25	12,859	12,912	12,982	12,647
M 14	1,00	13,107	13,153	13,217	12,917
M 15	1,50	13,612	13,676	13,751	13,376
M 15	1,00	14,107	14,153	14,217	13,917
M 16	2,00	14,135	14,210	14,310	13,835
M 16	1,50	14,612	14,676	14,751	14,376
M 16	1,00	15,107	15,153	15,217	14,917
M 17	1,50	15,612	15,676	15,751	15,376
M 17	1,00	16,107	16,153	16,217	15,917
M 18	2,50	15,649	15,744	15,854	15,294
M 18	2,00	16,135	16,210	16,310	15,835
M 18	1,50	16,612	16,676	16,751	16,376
M 18	1,00	17,107	17,153	17,217	16,917
M 20	2,50	17,649	17,744	17,854	17,294
M 20	2,00	18,135	18,210	18,310	17,835
M 20	1,50	18,612	18,676	18,751	18,376
M 20	1,00	19,107	19,153	19,217	18,917
M 22	2,50	19,649	19,744	19,854	19,294
M 22	2,00	20,135	20,210	20,310	19,835
M 22	1,50	20,612	20,676	20,751	20,376
M 22	1,00	21,107	21,153	21,217	20,917
M 24	3,00	21,152	21,252	21,382	20,752
M 24	2,00	22,135	22,210	22,310	21,835
M 24	1,50	22,612	22,676	22,751	22,376
M 24	1,00	23,107	23,153	23,217	22,917

Závit Thread / Gewinde		D <sub>1 max</sub>			D <sub>1 min</sub>
d	P	5H	6H	7H	5H, 6H, 7H
M 25	2,00	23,135	23,210	23,310	22,835
M 25	1,50	23,612	23,676	23,751	23,376
M 26	1,50	24,612	24,676	24,751	24,376
M 27	3,00	24,152	24,252	24,382	23,752
M 27	2,00	25,135	25,210	25,310	24,835
M 27	1,50	25,612	25,676	25,751	25,376
M 27	1,00	26,107	26,153	26,217	25,917
M 28	2,00	26,135	26,210	26,310	25,835
M 28	1,50	26,612	26,676	26,751	26,376
M 30	3,50	26,661	26,771	26,921	26,211
M 30	2,00	28,135	28,210	28,310	27,835
M 30	1,50	28,612	28,676	28,751	28,376
M 30	1,00	29,107	29,153	29,217	28,917
M 32	1,50	30,612	30,676	30,751	30,376
M 33	3,50	29,661	29,771	29,921	29,211
M 33	2,00	31,135	31,210	31,310	30,835
M 33	1,50	31,612	31,676	31,751	31,376
M 34	1,50	32,612	32,676	32,751	32,376
M 35	1,50	33,612	33,676	33,751	33,376
M 36	4,00	32,145	32,270	32,420	31,670
M 36	3,00	33,152	33,252	33,382	32,752
M 36	2,00	34,135	34,210	34,310	33,835
M 36	1,50	34,612	34,676	34,751	34,376
M 38	1,50	36,612	36,676	36,751	36,376
M 39	4,00	35,145	35,270	35,420	34,670
M 39	3,00	36,152	36,252	36,382	35,752
M 39	2,00	37,135	37,210	37,310	36,835
M 39	1,50	37,612	37,676	37,751	37,376
M 40	3,00	37,152	37,252	37,382	36,752
M 40	2,00	38,135	38,210	38,310	37,835
M 40	1,50	38,612	38,676	38,751	38,376
M 42	4,50	37,659	37,799	37,979	37,129
M 42	3,00	39,152	39,252	39,382	38,752
M 42	2,00	40,135	40,210	40,310	39,835
M 42	1,50	40,612	40,676	40,751	40,376
M 45	4,50	40,659	40,799	40,979	40,129
M 45	3,00	42,152	42,252	42,382	41,752
M 45	2,00	43,135	43,210	43,310	42,835
M 45	1,50	43,612	43,676	43,751	43,376
M 48	5,00	43,147	43,297	43,487	42,587
M 48	3,00	45,152	45,252	45,382	44,752
M 48	2,00	46,135	46,210	46,310	45,835
M 48	1,50	46,612	46,676	46,751	46,376
M 50	3,00	47,152	47,252	47,382	46,752
M 50	1,50	48,612	48,676	48,751	48,376
M 52	5,00	47,147	47,297	47,487	46,587
M 52	3,00	49,152	49,252	49,382	48,752
M 52	2,00	50,135	50,210	50,310	49,835
M 52	1,50	50,612	50,676	50,751	50,376
M 55	2,00	53,135	53,210	53,310	53,835
M 55	1,50	53,612	53,676	53,751	53,376
M 56	5,50	50,646	50,796	50,996	50,046
M 56	4,00	52,145	52,270	52,420	51,670
M 56	3,00	53,152	53,252	53,382	52,752
M 56	2,00	54,135	54,210	54,310	53,835
M 56	1,50	54,612	54,676	54,751	54,376
M 58	2,00	56,135	56,210	56,310	55,835
M 58	1,50	56,612	56,676	56,751	56,376
M 60	5,50	54,326	54,401	54,496	54,046
M 60	4,00	56,145	56,270	56,420	55,670
M 60	3,00	57,152	57,252	57,382	56,752
M 60	2,00	58,135	58,210	58,310	57,835
M 60	1,50	58,612	58,676	58,751	58,376

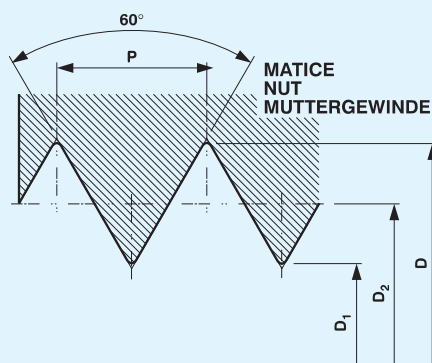


# ZÁVITOVÉ TABULKY

## Threading charts / Gewindetabellen

**UNC**

**ANSI  
B 1.1**



- $D$  velký průměr závitu matice  
major diameter of nut thread  
Aussendurchmesser des Muttergewindes
- $D_2$  střední průměr závitu matice  
pitch diameter of nut thread  
Flankendurchmesser des Muttergewindes
- $D_1$  malý průměr závitu matice  
minor diameter of nut thread  
Kerndurchmesser des Muttergewindes
- $P$  stoupání závitu  
pitch of thread  
Gewindesteigung
- $N$  stoupání závitu v počtu závitů na 1"  
pitch thread in threads per inch  
Gewindesteigung in Gangzahl/1"

$d = D$

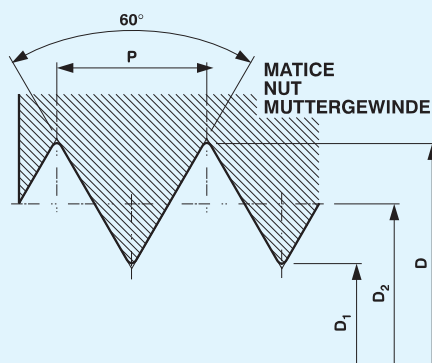
**3B** Přesné / Fine / Fein  
**2B** Střední / Medium / Mittel  
**1B** Hrubé / Coarse / Grob

Závit Thread / Gewinde			$D_{min}$	$D_{1min}$	$D_{1max}$	
$d - N$	$d$ (")	$P$		<b>3B, 2B, 1B</b>	<b>3B</b>	<b>2B, 1B</b>
1 - 64	0,073	0,397	1,854	1,425	1,582	1,582
2 - 56	0,086	0,454	2,184	1,694	4,872	1,872
3 - 48	0,099	0,529	2,515	1,941	2,146	2,146
4 - 40	0,112	0,635	2,845	2,156	2,385	2,385
5 - 40	0,125	0,635	3,175	2,487	2,697	2,697
6 - 32	0,138	0,794	3,505	2,647	2,896	2,896
8 - 32	0,164	0,794	4,166	3,307	3,528	3,531
10 - 24	0,190	1,058	4,826	3,680	3,950	3,962
12 - 24	0,216	1,058	5,486	4,341	4,590	4,597
1/4 - 20	0,250	1,270	6,350	4,976	5,250	5,258
5/16 - 18	0,313	1,411	7,938	6,411	6,680	6,731
3/8 - 16	0,375	1,588	9,525	7,805	8,082	8,153
7/16 - 14	0,438	1,814	11,112	9,149	9,441	9,550
1/2 - 13	0,500	1,954	12,700	10,584	10,881	11,024
9/16 - 12	0,563	2,117	14,288	11,996	12,301	12,446
5/8 - 11	0,625	2,309	15,875	13,376	13,693	13,868
3/4 - 10	0,750	2,540	19,050	16,299	16,624	16,840
7/8 - 9	0,875	2,822	22,225	19,169	19,520	19,761
1 - 8	1,000	3,175	25,400	21,963	22,344	22,606
1 1/8 - 7	1,125	3,629	28,575	24,648	25,082	25,349
1 1/4 - 7	1,250	3,629	31,750	27,823	28,258	28,524
1 3/8 - 6	1,375	4,233	34,925	30,343	30,851	31,115
1 1/2 - 6	1,500	4,233	38,100	33,518	34,026	34,290
1 3/4 - 5	1,750	5,080	44,450	38,951	39,560	39,827
2 - 4 1/2	2,000	5,645	50,800	44,689	45,367	45,593
2 1/4 - 4 1/2	2,250	5,645	57,150	51,039	51,717	51,943
2 1/2 - 4	2,500	6,350	63,500	56,627	57,389	57,582
2 3/4 - 4	2,750	6,350	69,850	62,977	63,739	63,932
3 - 4	3,000	6,350	76,200	69,327	70,089	70,282
3 1/4 - 4	3,250	6,350	82,550	75,677	76,439	76,632
3 1/2 - 4	3,500	6,350	88,900	82,027	82,789	82,982
3 3/4 - 4	3,750	6,350	95,250	88,377	89,139	89,332
4 - 4	4,000	6,350	101,600	94,727	95,489	95,682



**UNEF**

**ANSI  
B 1.1**



- D velký průměr závitu matice  
major diameter of nut thread  
Aussendurchmesser des Muttergewindes
- D<sub>2</sub> střední průměr závitu matice  
pitch diameter of nut thread  
Flankendurchmesser des Muttergewindes
- D<sub>1</sub> malý průměr závitu matice  
minor diameter of nut thread  
Kerndurchmesser des Muttergewindes
- P stoupání závitu  
pitch of thread  
Gewindesteigung
- N stoupání závitu v počtu závitů na 1"   
pitch thread in threads per inch  
Gewindesteigung in Gangzahl/1"

d = D

**3B** Přesné / Fine / Fein  
**2B** Střední / Medium / Mittel  
**1B** Hrubé / Coarse / Grob

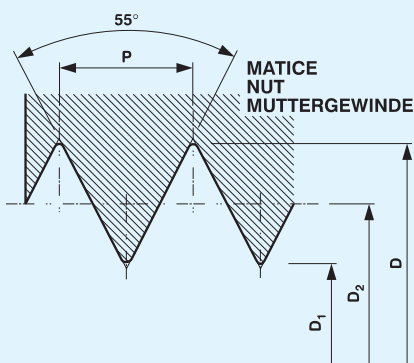
Závit Thread / Gewinde		D <sub>min</sub>	D <sub>1 min</sub>	D <sub>1 max</sub>	
d - N	d (")	P	3B, 2B, 1B	3B	2B, 1B
1 - 64	0,073	0,397	1,854	1,425	1,582
12 - 32	0,216	0,794	5,486	4,628	4,826
1/4 - 32	0,250	0,794	6,350	5,491	5,690
5/16 - 32	0,313	0,794	7,938	7,079	7,264
3/8 - 32	0,375	0,794	9,525	8,666	8,865
7/16 - 28	0,438	0,907	11,112	10,130	10,338
1/2 - 28	0,500	0,907	12,700	11,717	11,938
9/16 - 24	0,563	1,058	14,288	13,142	13,386
5/8 - 24	0,625	1,058	15,875	14,729	14,986
11/16 - 24	0,688	1,058	17,462	16,317	16,561
3/4 - 20	0,750	1,270	19,050	17,676	17,958
13/16 - 20	0,813	1,270	20,638	19,263	19,558
7/8 - 20	0,875	1,270	22,225	20,851	21,133
15/16 - 20	0,938	1,270	23,812	22,438	22,733
1 - 20	1,000	1,270	25,400	24,026	24,308
1 1/16 - 18	1,063	1,411	26,988	25,461	25,781
1 1/8 - 18	1,125	1,411	28,575	27,048	27,381
1 3/16 - 18	1,188	1,411	30,162	28,636	28,956
1 1/4 - 18	1,250	1,411	31,750	30,223	30,556
1 5/16 - 18	1,313	1,411	33,338	31,811	32,131
1 3/8 - 18	1,375	1,411	34,925	33,398	33,731
1 7/16 - 18	1,438	1,411	36,512	34,986	35,306
1 1/2 - 18	1,500	1,411	38,100	36,573	36,881
1 9/16 - 18	1,563	1,411	39,688	38,161	38,481
1 5/8 - 18	1,625	1,411	41,275	39,748	40,081
1 11/16 - 18	1,688	1,411	42,862	41,336	41,656

# ZÁVITOVÉ TABULKY

## Threading charts / Gewindetabellen

**BSW**

**DIN 11**



- D velký průměr závitu matice  
major diameter of nut thread  
Aussendurchmesser des Muttergewindes
- D<sub>2</sub> střední průměr závitu matice  
pitch diameter of nut thread  
Flankendurchmesser des Muttergewindes
- D<sub>1</sub> malý průměr závitu matice  
minor diameter of nut thread  
Kerndurchmesser des Muttergewindes
- P stoupání závitu  
pitch of thread  
Gewindesteigung
- N stoupání závitu v počtu závitů na 1"  
pitch thread in threads per inch  
Gewindesteigung in Gangzahl/1"

Tolerance / Tolerance / Toleranz:  
**Střední / Medium / Mittel**

d = D

d	Závit Thread / Gewinde		D <sub>min</sub>	D <sub>1min</sub>	D <sub>1max</sub>
	N	P			
W 3/32"	48	0,529	2,381	1,704	-
W 1/8"	40	0,635	3,175	2,362	-
W 2/32"	32	0,794	3,969	2,952	-
W 3/16"	24	1,058	4,762	3,407	-
W 7/32"	24	1,058	5,556	4,201	-
W 1/4"	20	1,270	6,350	4,744	5,224
W 5/16"	18	1,411	7,938	6,151	6,661
W 3/8"	16	1,588	9,525	7,512	8,052
W 7/16"	14	1,814	11,113	8,809	9,379
W 1/2"	12	2,117	12,700	10,015	10,610
W 5/8"	11	2,309	15,876	12,948	13,598
W 3/4"	10	2,540	19,051	15,831	16,538
W 7/8"	9	2,822	22,226	18,647	19,411
W 1"	8	3,175	25,401	21,375	22,185
W 1 1/8"	7	3,629	28,576	23,976	24,879
W 1 1/4"	7	3,629	31,751	27,151	28,054
W 1 3/8"	6	4,233	34,926	29,558	30,555
W 1 1/2"	6	4,233	38,101	32,733	33,730
W 1 5/8"	5	5,080	41,277	34,834	35,921
W 1 3/4"	5	5,080	44,452	38,009	39,096
W 1 7/8"	4	5,645	47,627	40,468	41,648
W 2"	4	5,645	50,802	43,643	44,823





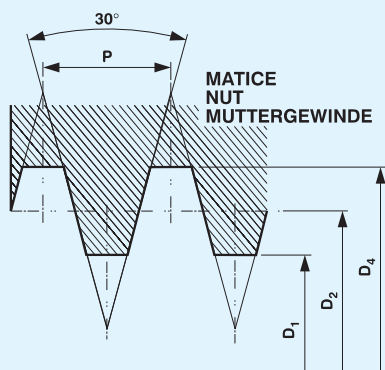
# ZÁVITOVÉ TABULKY

## Threading charts / Gewindetabellen

**Tr**

**DIN**

**103**



- D<sub>4</sub> velký průměr závitu matice  
major diameter of nut thread  
Aussendurchmesser des Muttergewindes
- D<sub>2</sub> střední průměr závitu matice  
pitch diameter of nut thread  
Flankendurchmesser des Muttergewindes
- D<sub>1</sub> malý průměr závitu matice  
minor diameter of nut thread  
Kerndurchmesser des Muttergewindes
- P stoupání závitu  
pitch of thread  
Gewindesteigung

d = D

**7H** Lícování střední  
**7H** Tolerance medium  
**7H** Toleranz mittel

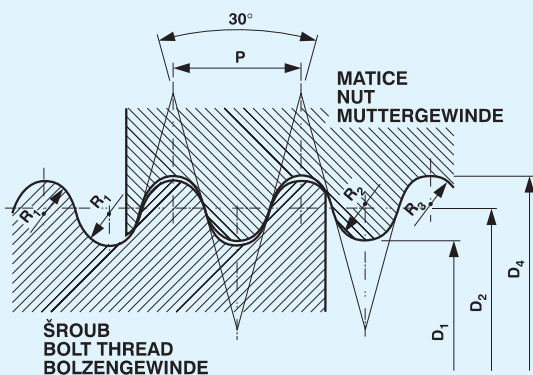
Závit Thread / Gewinde			D <sub>4 min</sub>	D <sub>2 min</sub>	D <sub>2 max</sub>	D <sub>1 min</sub>	D <sub>1 max</sub>
ø	P			7H	7H		
Tr 8	x	1,5	8,300	7,250	7,474	6,500	6,690
Tr 9	x	1,5	9,300	8,250	8,474	7,500	7,690
Tr 9	x	2	9,500	8,000	8,250	7,000	7,236
Tr 10	x	1,5	10,300	9,250	9,474	8,500	8,690
Tr 10	x	2	10,500	9,000	9,250	8,000	8,236
Tr 11	x	2	11,500	10,000	10,250	9,000	9,236
Tr 11	x	3	11,500	9,500	9,780	8,000	8,315
Tr 12	x	2	12,500	11,000	11,265	10,000	10,236
Tr 12	x	3	12,500	10,500	10,800	9,000	9,315
Tr 14	x	2	14,500	13,000	13,265	12,000	12,236
Tr 14	x	3	14,500	12,500	12,800	11,000	11,315
Tr 16	x	2	16,500	15,000	15,265	14,000	14,236
Tr 16	x	4	16,500	14,000	14,355	12,000	12,375
Tr 18	x	2	18,500	17,000	17,265	16,000	16,236
Tr 18	x	4	18,500	16,000	16,355	14,000	14,375
Tr 20	x	2	20,500	19,000	19,265	18,000	18,236
Tr 20	x	4	20,500	18,000	18,355	16,000	16,375
Tr 22	x	3	22,500	20,500	20,800	19,000	19,315
Tr 22	x	5	22,500	19,500	19,875	17,000	17,450
Tr 24	x	3	24,500	22,500	22,835	21,000	21,315
Tr 24	x	5	24,500	21,500	21,900	19,000	19,450
Tr 26	x	3	26,500	24,500	24,835	23,000	23,315
Tr 26	x	5	26,500	23,500	23,900	21,000	21,450
Tr 28	x	3	28,500	26,500	26,835	25,000	25,315
Tr 28	x	5	28,500	25,500	25,900	23,000	23,450
Tr 30	x	3	30,500	28,500	28,835	27,000	27,315
Tr 30	x	6	31,000	27,000	27,450	24,000	24,500
Tr 32	x	3	32,500	30,500	30,835	29,000	29,315
Tr 32	x	6	33,000	29,000	29,450	26,000	26,500
Tr 34	x	3	34,500	32,500	32,835	31,000	31,315
Tr 34	x	6	35,000	31,000	31,450	28,000	28,500
Tr 36	x	3	36,500	34,500	34,835	33,000	33,315
Tr 36	x	6	37,000	33,000	33,450	30,000	30,500
Tr 38	x	3	38,500	36,500	36,835	35,000	35,315
Tr 38	x	7	39,000	34,500	34,975	31,000	31,560
Tr 40	x	3	40,500	38,500	38,835	37,000	37,315
Tr 40	x	7	41,000	36,500	36,975	33,000	33,560
Tr 42	x	3	42,500	40,500	40,835	39,000	39,315
Tr 42	x	7	43,000	38,500	38,975	35,000	35,560
Tr 44	x	3	44,500	42,500	42,835	41,000	41,315
Tr 44	x	7	45,000	40,500	40,975	37,000	37,560
Tr 46	x	3	46,500	44,500	44,855	43,000	43,315
Tr 46	x	8	47,000	42,000	42,530	38,000	38,630
Tr 48	x	3	48,500	46,500	46,855	45,000	45,315
Tr 48	x	8	49,000	44,000	44,530	40,000	40,630
Tr 50	x	3	50,500	48,500	48,855	47,000	47,315
Tr 50	x	8	51,000	46,000	46,530	42,000	42,630
Tr 52	x	3	52,500	50,500	50,855	49,000	49,315
Tr 52	x	8	53,000	48,000	48,530	44,000	44,630
Tr 55	x	3	55,500	53,500	53,855	52,000	52,315
Tr 55	x	9	56,000	50,500	51,060	46,000	46,670
Tr 60	x	3	60,500	58,500	58,855	57,000	57,315
Tr 60	x	9	61,000	55,500	56,060	51,000	51,670

# ZÁVITOVÉ TABULKY

## Threading charts / Gewindetabellen

**Rd**

**DIN  
405**

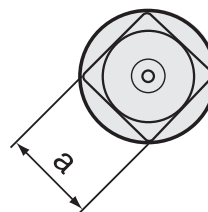
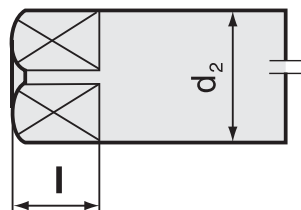


- $D_4$  velký průměr závitu matice  
major diameter of nut thread  
Aussendurchmesser des Muttergewindes
  - $D_2$  střední průměr závitu matice  
pitch diameter of nut thread  
Flankendurchmesser des Muttergewindes
  - $D_1$  malý průměr závitu matice  
minor diameter of nut thread  
Kerndurchmesser des Muttergewindes
  - $P$  stoupání závitu  
pitch of thread  
Gewindesteigung
  - $N$  stoupání závitu v počtu závitů na 1"  
pitch thread in threads per inch  
Gewindesteigung in Ganzzahl/1"
  - $T_{D_1}$  Tolerance  $\varnothing D_1$   
Tolerance  $\varnothing D_1$   
Toleranz  $\varnothing D_1$
- $d = D$

Závit Thread / Gewinde		$D_{4min}$	$D_1$	$R_1$	$R_2$	$R_3$	$T_{D_1}$		
$d$	$N$	$P$					6H	7H	
8	10	2,540	8,254	5,714	0,606	0,650	0,561	0,450	0,560
9	10	2,540	9,254	6,714	0,606	0,650	0,561	0,450	0,560
10	10	2,540	10,254	7,714	0,606	0,650	0,561	0,450	0,560
11	10	2,540	11,254	8,714	0,606	0,650	0,561	0,450	0,560
12	10	2,540	12,254	9,714	0,606	0,650	0,561	0,450	0,560
14	8	3,175	14,318	11,142	0,757	0,813	0,702	0,530	0,670
16	8	3,175	16,318	13,142	0,757	0,813	0,702	0,530	0,670
18	8	3,175	18,318	15,142	0,757	0,813	0,702	0,530	0,670
20	8	3,175	20,318	17,142	0,757	0,813	0,702	0,530	0,670
22	8	3,175	22,318	19,142	0,757	0,813	0,702	0,530	0,670
24	8	3,175	24,318	21,142	0,757	0,813	0,702	0,530	0,670
26	8	3,175	26,318	23,142	0,757	0,813	0,702	0,530	0,670
28	8	3,175	28,318	25,142	0,757	0,813	0,702	0,530	0,670
30	8	3,175	30,318	27,142	0,757	0,813	0,702	0,530	0,670
32	8	3,175	32,318	29,142	0,757	0,813	0,702	0,530	0,670
36	8	3,175	34,318	31,142	0,757	0,813	0,702	0,530	0,670
	8	3,175	36,318	33,142	0,757	0,813	0,702	0,530	0,670
40	8	3,175	38,318	35,142	0,757	0,813	0,702	0,530	0,670
	6	4,233	40,423	36,190	1,010	1,084	0,936	0,630	0,800
44	6	4,233	42,423	38,190	1,010	1,084	0,936	0,630	0,800
	6	4,233	44,423	40,190	1,010	1,084	0,936	0,630	0,800
48	6	4,233	46,423	42,190	1,010	1,084	0,936	0,630	0,800
	6	4,233	48,423	44,190	1,010	1,084	0,936	0,630	0,800
52	6	4,233	50,423	46,190	1,010	1,084	0,936	0,630	0,800
	6	4,233	52,423	48,190	1,010	1,084	0,936	0,630	0,800
55	6	4,233	54,423	51,190	1,010	1,084	0,936	0,630	0,800
	6	4,233	58,423	54,190	1,010	1,084	0,936	0,630	0,800
60	6	4,233	60,423	56,190	1,010	1,084	0,936	0,630	0,800
	6	4,233	62,423	58,190	1,010	1,084	0,936	0,630	0,800
65	6	4,233	65,423	61,190	1,010	1,084	0,936	0,630	0,800
	6	4,233	68,423	64,190	1,010	1,084	0,936	0,630	0,800
70	6	4,233	70,423	66,190	1,010	1,084	0,936	0,630	0,800
	6	4,233	72,423	68,190	1,010	1,084	0,936	0,630	0,800
75	6	4,233	74,423	71,190	1,010	1,084	0,936	0,630	0,800
	6	4,233	78,423	74,190	1,010	1,084	0,936	0,630	0,800
80	6	4,233	80,423	76,190	1,010	1,084	0,936	0,630	0,800
	6	4,233	82,423	78,190	1,010	1,084	0,936	0,630	0,800
85	6	4,233	85,423	81,190	1,010	1,084	0,936	0,630	0,800
	6	4,233	88,423	84,190	1,010	1,084	0,936	0,630	0,800
90	6	4,233	90,423	86,190	1,010	1,084	0,936	0,630	0,800
	6	4,233	92,423	88,190	1,010	1,084	0,936	0,630	0,800
95	6	4,233	95,423	91,190	1,010	1,084	0,936	0,630	0,800
	6	4,233	98,423	94,190	1,010	1,084	0,936	0,630	0,800
100	6	4,233	100,423	96,190	1,010	1,084	0,936	0,630	0,800
	4	6,350	105,635	99,285	1,515	1,625	1,404	0,850	1,060
110	4	6,350	110,635	104,285	1,515	1,625	1,404	0,850	1,060
	4	6,350	115,635	109,285	1,515	1,625	1,404	0,850	1,060
120	4	6,350	120,635	114,285	1,515	1,625	1,404	0,850	1,060

# ČTYŘHRANY PRO ZÁVITNÍKY

## Squares for taps / Vierkantmass für Gewindebohrer



Podle normy DIN

Acc. DIN standard / Nach DIN Norm

ød <sub>2</sub> mm	a mm	l mm
2,50	2,10	5
2,80	2,10	5
3,20	2,40	5
3,50	2,70	6
4,00	3,00	6
4,50	3,40	6
5,00	3,80	7
5,50	4,30	7
6,00	4,90	8
7,00	5,50	8
8,00	6,20	9
9,00	7,00	10
10,00	8,00	11
11,00	9,00	12
12,00	9,00	12
14,00	11,00	14
16,00	12,00	15
18,00	14,50	17
20,00	16,00	19
22,00	18,00	21
25,00	20,00	23
28,00	22,00	25
32,00	24,00	27

Podle normy ISO 529

Acc. ISO 529 standard / Nach ISO 529 Norm

ød <sub>2</sub> mm	a mm	l mm
2,50	2,00	4
2,80	2,24	5
3,15	2,50	5
3,55	2,80	5
4,00	3,15	6
4,50	3,55	6
5,00	4,00	7
5,60	4,50	7
6,30	5,00	8
7,10	5,60	8
8,00	6,30	9
9,00	7,10	10
10,00	8,00	11
11,20	9,00	12
12,50	10,00	13
14,00	11,20	14
16,00	12,50	16
18,00	14,00	18
20,00	16,00	20
22,40	18,00	22
25,00	20,00	24
28,00	22,40	26
31,50	25,00	28

## PŘEVOD PALCE - MILIMETRY

### Conversion inches - millimetres / Umrechnung Zoll in Millimeter

Zlomek palce Inch fraction Zollbruch	Počet palců / Inch units / Zollen			
	0"	1"	2"	
	Milimetry / Milimeters / Millimetern			
0	0,000	0,000	25,400	50,800
1/64	0,016	0,397	25,797	51,197
1/32	0,031	0,794	26,194	51,594
3/64	0,047	1,191	26,591	51,991
1/16	0,063	1,588	26,988	52,388
5/32	0,078	1,984	27,384	52,784
3/32	0,094	2,381	27,781	53,181
7/64	0,111	2,778	28,178	53,578
1/8	0,125	3,175	28,575	53,975
9/64	0,141	3,572	28,972	54,372
5/32	0,156	3,969	29,369	54,769
11/64	0,172	4,366	29,766	55,166
3/16	0,188	4,763	30,163	55,563
13/64	0,203	5,159	30,559	55,959
7/32	0,219	5,556	30,956	56,356
15/64	0,234	5,953	31,353	56,753
1/4	0,250	6,350	31,750	57,150
17/64	0,266	6,747	32,147	57,547
9/32	0,281	7,144	32,544	57,944
19/64	0,299	7,541	32,941	58,341
5/16	0,313	7,938	33,338	58,738
21/64	0,328	8,334	33,734	59,134
11/32	0,344	8,731	34,131	59,531
23/64	0,359	9,128	34,528	59,928
3/8	0,375	9,525	34,925	60,325
25/64	0,391	9,922	35,322	60,722
13/32	0,406	10,319	35,719	61,119
27/64	0,422	10,716	36,116	61,516
7/16	0,438	11,113	36,513	61,913
29/64	0,453	11,509	36,909	62,309
15/32	0,469	11,906	37,306	62,706
21/64	0,484	12,303	37,703	63,103

Zlomek palce Inch fraction Zollbruch	Počet palců / Inch units / Zollen			
	0"	1"	2"	
	Milimetry / Milimeters / Millimetern			
1/2	0,500	12,700	38,100	63,500
33/64	0,516	13,097	38,497	63,897
17/32	0,531	13,494	38,894	64,294
35/64	0,547	13,891	39,291	64,691
9/16	0,563	14,288	39,688	65,088
37/64	0,578	14,684	40,084	65,484
19/32	0,594	15,081	40,481	65,881
39/64	0,609	15,478	40,878	66,278
5/8	0,625	15,875	41,275	66,675
41/64	0,641	16,272	41,672	67,072
21/32	0,656	16,669	42,069	67,469
43/64	0,672	17,066	42,466	67,866
11/16	0,688	17,463	42,863	68,263
45/64	0,703	17,859	43,259	68,659
23/32	0,719	18,256	43,656	69,056
47/64	0,734	18,653	44,053	69,453
3/4	0,750	19,050	44,450	69,850
49/64	0,766	19,447	44,847	70,247
25/32	0,781	19,844	45,244	70,644
51/64	0,797	20,241	45,641	71,041
13/16	0,813	20,638	46,038	71,438
53/64	0,828	21,034	46,434	71,834
27/32	0,844	21,431	46,831	72,231
55/64	0,859	21,828	47,228	72,628
7/8	0,875	22,225	47,625	73,025
57/64	0,891	22,622	48,022	73,422
29/32	0,906	23,019	48,419	73,819
59/64	0,922	23,416	48,816	74,216
15/16	0,938	23,813	49,213	74,613
61/64	0,953	24,209	49,609	75,009
31/32	0,969	24,606	50,006	75,406
63/64	0,984	25,003	50,403	75,803

# Переводная таблица скорость резания – обороты/мин.



		Скорость резания м/мин.																											
		1	2	3	4	5	6	7	8	9	10	12	14	15	16	18	20	22	24	25	26	28	30	32	34	35	40		
M	G	Обороты/мин.																											
2	UN	159	318	478	637	796	955	1115	1274	1433	1592	1911	2229	2389	2548	2866	3185	3503	3822	3981	4140	4459	4777	5096	5414	5573	6369		
2,5		127	255	382	510	637	764	892	1019	1146	1274	1529	1783	1911	2038	2293	2548	2803	3057	3185	3312	3567	3822	4076	4331	4459	5096		
3	No.5	106	212	318	425	531	637	743	849	955	1062	1274	1466	1592	1699	1911	2123	2335	2548	2654	2760	2972	3185	3397	3609	3715	4246		
4	No.8	80	159	239	318	398	478	557	637	717	796	955	1115	1194	1274	1433	1592	1752	1911	1990	2070	2229	2389	2548	2707	2787	3185		
5	No.10	64	127	191	255	318	382	446	510	573	637	764	892	955	1019	1146	1274	1401	1529	1592	1656	1783	1911	2038	2166	2229	2546		
6	1/4	53	106	159	212	265	318	372	425	478	531	637	743	796	849	955	1062	1168	1274	1327	1380	1486	1592	1699	1805	1858	2123		
7		45	91	136	182	227	273	318	364	409	455	546	637	682	728	819	910	1001	1092	1137	1183	1274	1365	1456	1547	1592	1820		
8	1/16"	40	80	119	159	199	239	279	318	358	398	478	557	597	637	717	796	876	955	995	1035	1115	1194	1274	1354	1393	1592		
9	3/8	35	71	106	142	177	212	248	283	318	354	425	495	531	566	637	708	778	849	885	920	991	1062	1132	1203	1238	1415		
10	7/16	32	64	96	127	159	191	223	255	287	318	382	446	478	510	573	637	701	764	796	828	892	955	1019	1083	1115	1274		
12	1/4"	27	53	80	106	133	159	186	212	239	265	318	372	398	425	478	531	584	637	663	690	743	796	849	902	929	1062		
14	9/16	23	45	68	91	114	136	159	182	205	227	273	318	341	364	409	455	500	546	569	591	637	682	728	773	796	910		
16	3/8"	20	40	60	80	100	119	139	159	179	199	239	279	299	316	358	398	438	478	498	518	557	597	637	677	697	796		
18	3/4	18	35	53	71	88	106	124	142	159	177	212	248	265	283	318	354	389	425	442	460	495	531	566	602	619	708		
20	1/2"	16	32	48	64	80	96	111	127	143	159	191	223	239	255	287	318	350	382	398	414	446	478	510	541	557	637		
22	5/8"	14	29	43	58	72	87	101	116	130	145	174	203	217	232	261	290	318	347	362	376	405	434	463	492	507	579		
24	1	13	27	40	53	66	80	93	106	119	133	159	186	199	212	239	265	292	318	332	345	372	398	425	451	464	531		
27	3/4"	12	24	35	47	59	71	83	94	106	118	142	165	177	189	212	236	259	283	295	307	330	354	377	401	413	472		
30	7/8"	11	21	32	42	53	64	74	85	96	106	127	149	159	170	191	212	234	255	265	276	297	318	340	361	372	425		
33	1"	10	19	29	39	48	58	68	77	87	97	116	135	145	154	174	193	212	232	241	251	270	290	309	328	338	386		
36		9	18	27	35	44	53	62	71	80	88	106	124	133	142	159	177	195	212	221	230	248	265	283	301	310	354		
39	1 1/8"	8	16	24	33	41	49	57	65	73	82	98	114	122	131	147	163	180	196	204	212	229	245	261	278	286	327		
42	1 1/4"	8	15	23	30	38	45	53	61	68	76	91	106	114	121	136	152	167	182	190	197	212	227	243	258	265	303		
45	1 3/8"	7	14	21	28	35	42	50	57	64	71	85	99	106	113	127	142	156	170	177	184	198	212	226	241	248	283		
48	1 1/2"	7	13	20	27	33	40	46	53	60	66	80	93	100	106	119	133	146	159	166	173	186	199	212	226	232	265		
52	2	6	12	18	24	31	37	43	49	55	61	73	86	92	98	110	122	135	147	153	159	171	184	196	208	214	245		

Диаметр инструмента

# PŘEVOD TVRDOSTÍ

## Hardness conversion / Härteäquivalent

Vickers HV 30	Brinell HB 30	Rockwell		Tensile strength R <sub>m</sub>	
		HRB	HRC	N/mm <sup>2</sup>	kp/mm <sup>2</sup>
80	80	36,4	-	270	28
85	85	42,4	-	290	30
90	90	47,4	-	310	32
95	95	52,0	-	320	33
100	100	56,4	-	340	35
105	105	60,0	-	360	37
110	110	63,4	-	380	39
115	115	66,4	-	390	40
120	120	69,4	-	410	42
125	125	72,0	-	420	43
130	130	74,4	-	440	45
135	135	76,4	-	460	47
140	140	78,4	-	470	48
145	145	80,4	-	490	50
150	150	82,2	-	500	51
155	155	83,8	-	520	53
160	160	85,4	-	540	55
165	165	86,8	-	550	56
170	170	88,2	-	570	58
175	175	89,6	-	590	60
180	180	90,8	-	600	62
185	185	91,8	-	620	63
190	190	93,0	-	640	65
195	195	94,0	-	660	67
200	200	95,0	-	670	68
205	205	95,8	-	680	70
210	210	96,6	-	710	72
215	215	97,6	-	720	73
220	220	98,2	-	730	75
225	225	99,0	-	750	77
230	230	-	19,2	760	78
235	235	-	20,2	780	80
240	240	-	21,2	800	82
245	245	-	22,1	820	84
250	250	-	23,0	830	85
255	255	-	23,8	850	87
260	260	-	24,6	870	89
265	265	-	25,4	880	90
270	270	-	26,2	900	92
275	275	-	26,9	920	94
280	280	-	27,6	940	96
285	285	-	28,3	950	97
290	290	-	29,0	970	99
295	295	-	29,6	990	101
300	300	-	30,3	1010	103
310	310	-	31,5	1040	106
320	320	-	32,7	1080	110
330	330	-	33,8	1110	113
340	340	-	34,9	1140	117
350	350	-	36,0	1170	120
360	359	-	37,0	1200	123
370	368	-	38,0	1230	126
380	376	-	38,9	1260	129
390	385	-	39,8	1290	132
400	392	-	40,7	1320	135
410	400	-	41,5	1350	138
420	408	-	42,4	1380	144
440	423	-	44,0	1430	146
450	430	-	44,8	1460	149
460	-	-	45,6	-	-
470	-	-	46,3	-	-
480	-	-	47,0	-	-
490	-	-	47,7	-	-
500	-	-	48,3	-	-
510	-	-	49,1	-	-
520	-	-	49,7	-	-
530	-	-	50,4	-	-
540	-	-	51,0	-	-
550	-	-	51,6	-	-
560	-	-	52,2	-	-
570	-	-	52,8	-	-
580	-	-	53,3	-	-
590	-	-	53,9	-	-
600	-	-	54,4	-	-
610	-	-	55,0	-	-
620	-	-	55,5	-	-
630	-	-	56,0	-	-
640	-	-	56,5	-	-
650	-	-	57,0	-	-
660	-	-	57,5	-	-
670	-	-	58,0	-	-
680	-	-	58,5	-	-
690	-	-	59,0	-	-

Vickers HV 30	Brinell HB 30	Rockwell		Tensile strength R <sub>m</sub>	
		HRB	HRC	N/mm <sup>2</sup>	kp/mm <sup>2</sup>
700	-	-	59,5	-	-
720	-	-	60,4	-	-
740	-	-	61,2	-	-
760	-	-	62,0	-	-
780	-	-	62,8	-	-
800	-	-	63,6	-	-
820	-	-	64,3	-	-
840	-	-	65,0	-	-
860	-	-	65,7	-	-
880	-	-	66,3	-	-
900	-	-	66,9	-	-
920	-	-	67,5	-	-
940	-	-	68,0	-	-

ГОСТ	DIN	W. Nr.
Ст 0	St 33	1.0035
11109	9SMn 28	1.0715
A12	10 S 20	1.0721
05кп	D6-2	1.0314
08кп	St 22	1.0320
12K	H I	1.0345
Ст3кп	St 37-2	1.0037
16Д	St 37-3	1.0116
16ГС	H IV	1.0445
C285	St 50-2	1.0050
17ГС	St 52-3	1.0570
Ст6сп	St 60-2	1.0060
C375	St 70-2	1.0070
08	C 10	1.0305
15	C 15	1.1141
35	C 35	1.0501
45	C 45	1.0503
50	C 55	1.0535
85	C 85 E	1.1269
70Г	80 Mn 4	1.1259
35СГ	37 MnSi 5	1.5122
45Г2	46 Mn 7	1.0912
14100	100 Cr 6	1.3505
ШХ15	100 Cr 6	1.3505
18ХГ	16 MnCr 5	1.7131
60С2ХА	54 SiCr 6	1.7102
38ХМ	42 CrMo 4	1.7225
15217	9 CrNiCuP 3-2-4	1.8962
15231	27 MnCrV 4	1.8162
50ХФА	50 CrV 4	1.8159
30ХМФ	30 CrMoV 9	1.7707
38Х2МЮА	41 CrAlMo 7	1.8509
12ХН2	15 CrNi 6	1.5919
38Х2Н2МА	34 CrNiMo 6	1.6582
12Х2Н4А	14 NiCr 14	1.5752
30ХН3А	31 NiCr 14	1.5755
20Х2Н4А	14 NiCr 18	1.5860
12Х13	X 20 Cr 13	1.4021
30Х13	X 30 Cr 13	1.4028
40Х13	X 39 Cr 13	1.4031
12Х17	X 6 Cr 17	1.4016
15Х5М	12 CrMo 19-5	1.7362
15Х25Т	X 8 CrTi 25	1.4746
08Х18Н10	X 5 CrNi 18-10	1.4301
X18Н9	X 10 CrNi 18-8	1.4310
08Х18Н10Т	X 10 CrNiTi 18-10	1.4878
08Х18Н10Т	X 6 CrNiTi 18-10	1.4541
17248	X 6 CrNiTi 18-10	1.4541
20Х20Н	X 15 CrNiSi 20-12	1.4828
17253	X 12 NiCrSi 36-16	1.4864
20Х23Н18	X 8 CrNi 25-21	1.4845
17341	X 6 CrNiMo 17-13	1.4919
08Х16М11Н3	X 5 CrNiMo 17-12-2	1.4401
10Х17Н13М2Т	X 6 CrNiMoTi 17-12-2	1.4571
03Х17Н14М2	X 2 CrNiMo 18-14-3	1.4435
08Х17Н13М2Т	X 5 CrNiMo 17-13-3	1.4436
17353	X 10CrNiMoTi 18-12	1.4573
17359	X 2 CrNiMoN 17-11-2	1.4406
17360	X 2 CrNiMoN 17-13-3	1.4429
17381	X 2 CrNiMoN 22-5-3	1.4462
17436	X 40 MnCr 18	1.3817
55Х20Г9АН4	X 53CrMnNiN 21-9	1.4871
110Г13Л	X 120 Mn 12	1.3401
У101	C 105 W 1	1.1645
У10-1	C 105 W 2	1.1645
У13-1	C 125 W	1.1663
9Г2В	90 MnCrV 8	1.2842
9ХВГ	100 MnCrW 4	1.2510
19356	100 V 1	1.2833
X12	X 210 Cr 12	1.2080
19452	62 SiMnCr 4	1.2101
3Х3М3Ф	X 32 CrMoV 3-3	1.2365
4Х5МФС	X 38 CrMoV 5-1	1.2343
4Х5МФ1С	X 40 CrMoV 5-1	1.2344
19573	X 155 CrVMo 12-1	1.2379
5ХНМ	55 NiCrMoV 6	1.2711
19720	X 30 WCrV 5-3	1.2567
3Х2В8Ф	X 30 WCrV 9-3	1.2581
50ХВ2СФ	45 WCrV 7	1.2542
5ХВ2С	60 WCrV 7	1.2550
19751	X 60 WCrMoV 9-4	1.2622
P16	S 18-0-1	1.3355
19829	S 6-5-2	1.3342

ГОСТ	DIN	W. Nr.
P6M5	S 6-5-2	1.3343
P6M5K5	S 6-5-2-5	1.3243
B440	GGG-40	0.7040
B450-2	GGG-50	0.7050
B460	GGG-60	0.7060
B470-3	GGG-70	0.7070
B480	GGG-80	0.7080
C410	GG-10	0.6010
C415	GG-15	0.6015
C420	GG-20	0.6020
C425	GG-25	0.6025
C430	GG-30	0.6030
C435	GG-35	0.6035
K435-10	GTS-35	0.8135
422536	GTW-35	0.8035
422540	GTW-40	0.8040
K445-7	GTS-45	0.8145
A455-4	GTS-55	0.8155
15Л-1	GS-38	1.0416
25Л	GS-45	1.0443
30Л	GS-52	1.0552
45Л2	GS-60	1.0558
35Г	GS-30 Mn 5	1.1165
20ГЛ	GS-20 Mn 5	1.1133
20ХМФЛ	G 17 CrMo 5-5	1.7357
20Х5МЛ	GX 15 CRMo 5	1.7365
ЮН13ДК24С	AlNiCo 44-5	
15Х13Л	X 12 Cr 13	1.4006
110Г13Л	GX 120 Mn 13	1.3802
7Х18Н9Л	GX 5 CrNi 18-9	1.6901
07Х18Н10Г2С2М2Л	GX 6 CrNiMo 18-12	1.4437
20Х25Н	GX 40 CrNiSi 25-20	1.4848
423000	Cu 99,95	
423003	Cu 99,85	
M3	Cu 99,5	
423009	Cu 99,2 As	
БрА5	CuAl 5 As	2.0918
БрА3Н10-4-4	CuAl 10 Ni 5 Fe 4	2.0966
423054	CuNi 2 Si	
БрС30	CuPb 30	
Л96	CuZn 5	2.0220
Л85	CuZn 15	2.0240
Л80	CuZn 20	2.0250
Л70	CuZn 30	2.0265
Л63	CuZn 37	2.0321
Л60	CuZn 40	2.0360
ЛС59-1	CuZn 39 Pb 1	2.0380
ЛС60-2	CuZn 40 Pb 2	2.0410
423560	ZnAl 4 Cu 1	2.2143
423562	ZnAlCu 3	2.2144
АД000	Al 99,8	3.0285
АД00	Al 99,7	3.0275
АД0	Al 99,5	3.0255
Д1	AlCuMg 1	3.1325
В95	AlZnMgCu 1,5	3.4365
АК9	G-AlSi 11	3.2211
АК7	G-AlSi 7 Mg	3.2371
АК12М2МгН	G-AlSi 12	3.2581
424338	GD-AlSi 8 Cu 3	3.2162
424339	G-AlSi 9 Cu 3	3.2163
424381	G-AlSi 5 Cu 1 Mg	3.2134
424384	G-AlSi 10 Mg	3.2381
424400	AlMgSi 1	3.2315
424412	AlMg 1	3.3315
424413	AlMg 3 Mn	3.3535
424415	AlMg 4 Mn	3.3545
424432	AlMn 1	3.0515
444357	G-AlSi 6 Cu 4	3.2151
HARDOX 400		
Inconel 718	NiCr 19 Fe 19 NbMo	2.4668

Kat. č. / Cat. No. / Kat. Nr.	Závít / Thread / Gewinde	Strana / Page
0200	M	70
0204	UNC	75
0290	M	71
0300	MF	72
0302	G	74
0305	UNF	76
0550	M	67
0600	M	67
0650	M	67
1000	M	30
1000 EG	EG-M	77
1004	UNC	62
1010	M	30
1014	UNC	62
1080	M	46
1080 IKZ	M	46
1130	M	46
1130 IKZ	M	46
1500	M	32
1504	UNC	62
1510	M	32
1514	UNC	62
1540	M	32
1580	M	42
1590	M	42
1610	M	45
1660	M	38
1690	M	38
1710	M	48
1750	M	32
1870	M	38
1870	M	38
1920	M	44
2050	M	34
2054	UNC	64
2060	M	34
2064	UNC	64
2090	M	34
2210	M	48
2260	M	40
2290	M	40
2320	M	40
2320 IKZ	M	40
2360	M	36
2390	M	36
2400	M	36
2410	M	36
2680	M	42
2690	M	42
2710	M	45
2820	M	44
2870	M	44
2910	M	68
2960	M	68
3000	M	31
3000	MF	49
3000 EG	EG-M	77
3002	G	59
3004	UNC	63
3005	UNF	65
3010	M	31
3010	MF	49
3012	G	59
3014	UNC	63
3015	UNF	65
3080	M	47
3080	MF	57
3080 IKZ	M	47
3080 IKZ	MF	57
3130	M	47
3130	MF	57
3130 IKZ	M	47
3130 IKZ	MF	57
3500	M	33
3500	MF	49
3502	G	59
3504	UNC	63
3505	UNF	65
3510	M	33
3510	MF	49
3512	G	59
3514	UNC	63
3515	UNF	65

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3540	M	33
3540	MF	49
3580	M	43
3580	MF	55
3590	M	43
3590	MF	55
3610	M	45
3660	M	39
3660	MF	53
3662	G	61
3690	M	39
3690	MF	53
3692	G	61
3710	M	48
3870	M	39
3870 IKZN	M	39
3920	M	44
4050	M	35
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4052	G	60
4054	UNC	64
4055	UNF	66
4060	M	35
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4062	G	60
4064	UNC	64
4065	UNF	66
4090	M	35
4090	MF	51
4210	M	48
4260	M	41
4260	MF	53
4262	G	61
4290	M	41
4290	MF	53
4292	G	61
4320	M	41
4320 IKZ	M	41
4360	M	37
4390	M	37
4400	M	37
4410	M	37
4680	M	43
4680	MF	55
4690	M	43
4690	MF	55
4710	M	45
4820	M	44
4870	M	44
5000	M	69
5706	Tr	77
9500	M	82
9500	MF	83
9501	W	87
9502	G	84
9504	UNC	85
9505	UNF	86
9550	M	82
9550	MF	83
9552	G	84
9900	M	79
9910	M	79
9920	M	79
9930	M	80
9940	M	80
9950	M	80
9960	M	81