Formula for RPM = $\frac{\text{Vc (m/min)} \times 1000}{\text{d (∅ mm)} \times 3{,}14}$

Through-holes
Hole deph
TiN-coated
Fluteless taps
With coolant

Material group		Material examples (bold printed numbers: according to DIN EN 10027)	Tensile strenght N/mm²
Common structural steels		**1.0035** St 33, **1.0254** St 37.0, **1.0486** StE 285, **1.0345** H1, **1.0425** H2 **1.0050** St 50-2, **1.0070** St 70-2, **1.8937** WStE500	≤500 >500–850
Free-cutting steels		**1.0718** 9SMnPb28, **1.0723** 15 S20, **1.0736** 9 SMn36 **1.0727** 45 S20, **1.0728** 60 S20, **1.0757** 45SPb20	≤850 850–1000
Unalloyed heat-treatable steels		**1.0402** C22 **1.1178** Ck30 **1.0503** C45 **1.1191** Ck45 **1.0601** C60 **1.1221** Ck60	≤700 700–850 850–1000
Alloyed heat-treatable steels		**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4 **1.5710** 36NiCr6, **1.0735** 41Cr4, **1.7225** 42CrMo5	850–1000 >1000–1200
Unalloyed case-hard steels		**1.0301** C10, **1.1121** Ck10, **1.1140** Cm15	≤750
Alloyed case-hard steels		**1.5919** 15CrNi6, **1.7012** 13Cr2, **1.7015** 15Cr13 **1.5752** 14NiCr14, **1.7131** 16MnCr5, **1.7264** 20CrMo5	850–1000 >1000–1200
Nitriding steels		**1.8504** 34CrAl6, **1.8506** 34CrAlS5, **1.8509** 41CrAlMo7 **1.8507** 34CrAlMo5, **1.8519** 31CrMoV9, **1.8550** 34CrAlNi7	≥850–1000 >1000–1200
Tool steels		**1.1750** C75W, **1.2067** 100Cr6, **1.2307** 29CrMoV **1.2080** X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	≤850 >850–1000
High-speed steels		**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≥650–1000
Stainless steels	sulphured austenitic martensitic	**1.4005** X12CrS13, **1.4104** X2CrMoS17, **1.4105** X4CrMoS18, **1.4305** **1.4301** X5CrNi1810, **1.4541** X6CrNiTi1810, **1.4571** X6CrNiMoTi 1712 2 **1.4057** X20CrNi17 2, **1.4122** X35CrMo17, **1.4521** X2CrMoTi18 2	≤850 ≤850 ≤850
Cast iron	≤ 240 HB < 300 HB	GG 10 – GG 20 GG 25 – GG 45	
Spheroidat and malleable cast iron		GTW 35, GTS 55, GGG 50 GTW 65, GTS 70, GGG 70	
Ti and Ti alloys		**3.7024** Ti99,5, **3.7114** TiAl5Su2,5, **3.7124** TiCu2 **3.7154** TiAl6Zr5, **3.7164** TiAl6V4, **3.7184** TiAl4Mo45Su2, - TiAl8Mo1V1	≤850 >850–1200
Aluminum and Al alloys		**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤400
Aluminum wrought alloys		**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤450
Aluminum cast alloys	≤ 10 % Si < 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9 **3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, - G-AlSi12CuNiMg	≤600 ≤600
Magnesium alloys		MgMn2, G-MgAl18Zn1, G-MgAl6Zn3	≤450
Copper, low alloys		**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤400
Brass	short-chipping long-chipping	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2 **2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤600 ≤600
Bronze, short-chipping		**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn **2.0790** CuNi18Zn19Pb	≤600 >600–850
Bronze, long-chipping		**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10 **2.0980** CuAl11Ni, 2.1247 CuBe2	≤850 850–1000
Plastic	a = duroplastics b = thermoplastics	Bakelit, Resopal, Pertinax, Moltopren Plexiglas, Hostalen, Novodur, Makralon	

							≥2×D	≥2×D	>2×D	>2×D	>2×D	>2×D	>2×D
	<2×D	<2×D	≥2×D	≥2×D	≥2×D	≥2×D							
	TiN		TiN				TiN		TiN		TiN		
	F								F				
						X							
													
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
	m/min	m/min	m/min	m/min	m/min	m/min	m/min	m/min	m/min	m/min	m/min	m/min	m/min
	18 15	25 25	18 15	25 25	30 30	18 15	18 15		18 15	25 25			30 30
	18 15	25 25	18 15	25 25	30 30	18 15	18 15		18 15	25 25	8 6		30 30
	8 8 6	12 10 8	8 8 8	15 15 12	20 20 18	8 8 6	8 8 6		8 8 6	12 10 8			14 12 12
	8 6	12 10	15		12 12	8 6	8 6		8 6	12 10			
	15	25		25	30				20	25	8		30
	12 8		8	10		15 12	15 12		15 12	20 20			
	8 8				30 30				8 8	12 10		10 10	12 12
	6 4		6 6		12 12	6 4					6 4	8 8	
	4					4					4		
	8 6 6		8 6 6		12 12 12	8 6 6			6 6 6	8 8 6		10 8 8	
	15 12		12	40 30		20 15	20 15	40 30		30 20			
	20 15	40 30						20 15	20 15				
	20		20	25	40	20	25						40
	18		16							25			
	16 15	40 25		40 25		20			20 12				
			6		8	12			15				40
	25 20					25 20	25 20		25 20		4 4		40
	12 10		4 4			4 4			12 12	15 15			
			12 12			12 12			15 15	20 20			
	8 8						8	12					